

**2002 QUINQUENNIAL REVIEW OF THE
NATIONAL CENTRE IN HIV VIROLOGY
RESEARCH**

**Professor Rodney E Phillips
Emeritus Professor Ed G Westaway
Professor Tony Basten**

5.1 SUMMARY AND RECOMMENDATIONS

5.1.1 Summary

Since its inception the National Centre in HIV Virology Research has been involved in internationally competitive research. A number of members of the Centre have established international reputations in the field of HIV/AIDS and the consortium represents a major asset to Australian medical science.

The Melbourne-based laboratories' relocation to the Alfred Hospital site and the new prospects for close collaboration with clinicians at the Burnet Institute for Medical Research and Public Health (formerly the Macfarlane Burnet Centre) and the Alfred Hospital are exciting developments.

The current transitional arrangements for funding require scientists in the Centre to apply for personal Fellowships as well as project and program support in the competitive environment of the NHMRC system. The resignation of the Director of the National Centre in HIV Virology Research, Professor John Mills, necessitates the appointment of an interim Director, who should work closely with the newly appointed Director of the Burnet Institute to support the National Centre in HIV Virology Research scientists during this time.

The continuing global threat of HIV/AIDS—with its evolving biological characteristics—provides a compelling argument for Australia to retain the technical capacity to study the virology of HIV/AIDS at the national level. The Review Panel strongly recommends the continuation of support for a virology and immunology centre in Australia beyond 2003, when current funding ends.

The successful investment in high-level technical capacity for HIV/AIDS virology at the Centre represents a major achievement that can continue to provide a powerful means of investigating the epidemic in Australia and internationally.

5.1.2 Recommendations

The following is recommended:

122. That the National Centre in HIV Virology Research be sustained beyond 2003, with a nodal structure, as part of a strategic approach to the international HIV/AIDS epidemic.
123. That, following the resignation of the current Director, effective 31 December 2002, an interim Director be appointed for the transition period, who will be asked to maintain the scientific excellence at the Centre and to support the scientific staff, in collaboration with the incoming Director of the Burnet Institute.
124. That the interim Director be chosen from among the current principal investigators of the Centre.
125. That new applications for core support of the Centre be opened up for competitive bidding within the wider HIV virology and immunology community.

126. That the appointment of a new Director be incorporated in the new application process.
127. That responsibility for hepatitis C strategy research remain outside the Terms of Reference of the National Centre in HIV Virology Research and that an alternative mechanism be established to earmark funding for hepatitis C virology research.
128. That the HIV virology core research by the Centre be clearly defined, as outlined in this report, and that contracts for provision of this service very clearly describe the work required and the reporting structure.
129. That the role of the Scientific Advisory Committee be strengthened to oversee and monitor both strategic planning and scientific standards, and to provide regular written reports to ANCAHRD.
130. That services provided by the Centre, as outlined in this report, be incorporated in an annual work plan and include support for overseas collaborations and immunovirology monitoring for clinical studies of the molecular characterisation of HIV.
131. That links between this Centre, clinical groups and the National Centre in HIV Epidemiology and Clinical Research be fostered.
132. That Dr Stephen Kent's formal linkage to the Centre be a priority for the future.
133. That an administrative mechanism be established that allows scientists providing core virology services 'under contract' access to peer-reviewed grant support, including from the NHMRC.
134. That administrative arrangements for the Centre beyond 2003 be clearly defined and transparent from the outset.

5.2 THE REVIEW PROCESS

The members of the Review Panel were:

Chair: Professor Rodney E Phillips
The Peter Medawar Building for Pathogen Research
Oxford, UK

Members: Emeritus Professor Ed G Westaway
Sir Albert Sakzewski Virus Research Centre
Brisbane

Professor Tony Basten
Centenary Institute
Sydney

Secretariat support was provided by Dr Robyn Biti, Commonwealth Department of Health and Ageing.

Professor Peter McDonald, Chair of the Clinical Trials and Research Committee of ANCAHRD was available to provide advice.

The Terms of Reference for the review are set out in Section 5.6 (Appendix A).

The Centre was asked to make two written submissions to the Review Panel. The first submission dealt with the Centre's past achievements in research and training, its contribution to HIV/AIDS Strategy activities, and future goals, particularly in the Strategy area. The second submission was in the format of an NHMRC Program Grant, detailing the Centre's projects, achievements and future plans.

Three independent experts were asked to assess the Program Grant submission and to rate the Centre's achievements, research plan, team, and cooperation, as described in the submission. The Director of the Centre had the opportunity to respond to the comments of two of the assessors before the interview.

A number of applications for Project Grants and Fellowships were submitted to the NHMRC in parallel with the Program Grant submission. The Panel received a list of the Project Grant applications but did not have access to the text or the assessors' reports at the time of interview. In the Panel's opinion, however, sufficient information was provided in the two submissions to permit a fair assessment of the Centre's performance.

Public submissions dealing with the Centre's operations were sought from stakeholders and interested parties. Written submissions were received from:

- ◆ the Victorian Department of Human Services
- ◆ the Australian Federation of AIDS Organisations
- ◆ the Australian Hepatitis Council
- ◆ the Australian Liver Association of the Gastroenterological Society of Australia

- ◆ the National Association of People Living with HIV/AIDS
- ◆ the Australasian Society for HIV Medicine
- ◆ the Australian Injecting and Illicit Drug Users League
- ◆ the Australian Red Cross Blood Service
- ◆ People Living with HIV/AIDS (NSW) Inc.
- ◆ the Burnet Institute for Medical Research and Public Health Ltd (Dr N Crofts)
- ◆ the Office for Aboriginal and Torres Strait Islander Health.

These submissions were available to the Review Panel at the time of interview.

The Review Panel met with the Centre's principal investigators on Monday 2 June 2002 and continued its deliberations on Tuesday 3 June. It also interviewed Professor Steve Wesselingh, the incoming Director of the Burnet Institute; Professor Jim McCluskey, representing the University of Melbourne; Ms Susan Best, Senior Scientist at the National Serology Reference Laboratory; and Dr Stephen Kent.

The draft report containing the Review Panel's recommendations was submitted by the Chair, Professor Rodney Phillips, to the Strategy Research Review Team on Wednesday 4 June 2002; this was followed by a complete report in mid-June.

5.3 BACKGROUND

5.3.1 Preamble

The National Centre in HIV Virology Research was created in 1986, as the NHMRC Special Unit in HIV Virology; it was renamed in 1989. Its founding Director was Professor Ian Gust, who left the position in 1990. Professor Ed Westaway acted in the role until November 1992, when the present Director, Professor John Mills, took up his appointment. The 1992 Review Panel recognised that the uncertainty caused by management changes and annual funding arrangements should be rectified, and on its recommendation the Centre was funded for five years, with provision for review in the fourth year. The 1997 Review Panel noted the exceptionally high-level performance of the Centre in the preceding five years and unequivocally recommended the continuation of the funding agreement, to include another five years of stable funding, due to expire at the end of 2003.

5.3.2 Inclusion of hepatitis C

In an effort to deal with the rapidly growing threat of hepatitis C virus in Australia, and in recognition of the strong links between the National Hepatitis C Strategy and population health policies dealing with HIV/AIDS, the Commonwealth Government has attempted to encourage incorporation of hepatitis C strategy research in the role of the National Centres in HIV Research during the current funding period. However, the National Centre in HIV Virology Research received no earmarked funding for this hepatitis C component.

5.3.3 Transfer of non-strategy research to the NHMRC

The current funding period has also seen the beginning of a transition to 'mainstreaming' of non-strategy research, requiring submission of competitive applications to the NHMRC for funding of investigator-driven research. The National HIV/AIDS Strategy 1999–2000 to 2003–04 defines *strategy research* as follows:

research into the replication, pathogenesis and transmission of HIV and other viruses that have a clear and direct impact on HIV progression or transmission, to facilitate the development of vaccines, immuno-modulatory agents and antiretroviral drug treatments.

The Review Panel notes that this definition corresponds to only one of the eight points in the Centre's Terms of Reference (see Section 5.7 (Appendix B)), while three others (points 2, 3 and 6) could also be categorised as strategy research. In the Panel's view this administrative subdivision has led to a degree of uncertainty among the Centre's staff on which projects fit where, since any tightly knit program will involve significant overlap between strategy and non-strategy research.

5.3.4 Administration

The Centre is administered through the University of Melbourne and the secretariat is based at the Burnet Institute, which is in the process of moving to new facilities at the Alfred Hospital. In September 2001 a formal MoU was signed by the University and the Centre, and the Centre now receives a substantial share (85 per cent) of infrastructure funds from a

Commonwealth Department of Education, Science and Training grant to the University for its research programs. The Centre is made up of a network of laboratories around Australia, with eight units across five states and territories, as shown in Table 5.1.

Table 5.1 National Centre in HIV Virology Research laboratories

Unit	Location	Principal Investigator
AIDS Research Laboratory	Sir Albert Sakszewski Virus Research Centre, Brisbane	Dr David Harrich
Centre for Virus Research	Westmead Millennium Institute, Sydney	Prof. Tony Cunningham
Genetic Vaccines and Immunobiology Unit	John Curtin School of Medical Research, Canberra	Prof. Ian Ramshaw
AIDS Pathogenesis Research Unit	Burnet Institute	Prof. Suzanne Crowe
AIDS Molecular Biology Unit	Burnet Institute	Assoc. Prof. Nick Deacon
AIDS Cellular Biology Unit	Burnet Institute	Assoc. Prof. Dale McPhee
AIDS Research Laboratory	Institute of Medical and Veterinary Science, Adelaide	Prof. Chris Burrell Dr Peng Li
AIDS Research Laboratory	Hanson Centre, Adelaide	Prof. Matthew Vadas Prof. Angel Lopez

5.4 PERFORMANCE AND ACHIEVEMENTS

5.4.1 General comments

The Review Panel appreciated the quality of the documentation presented to it by the Director and his colleagues and commends them on a well-planned interview conducted in a professional, cooperative manner. During the interview a number of important matters relating to the Centre's administration, staff and scientific goals emerged.

Administrative issues

The nodal structure of the Centre has continued to work well and should be preserved in the future, even if the structure undergoes some revision. On the other hand, it is clear that there have been tensions between the Centre, the University of Melbourne, and the Population Health Division of the Commonwealth Department of Health and Ageing, particularly with respect to:

- ◆ management responsibilities
- ◆ 'mainstreaming' of non-strategy research with the transfer to the NHMRC
- ◆ the role of the Scientific Advisory Committee.

Some clarity was achieved by the commissioning of the Hirshorn report in 2001 and the more recent signing of a formal MoU between the relevant bodies.

Centre staff

A general concern about future options was evident among the staff; this had affected their confidence and the strategy adopted for grant submissions. In a sense this has been compounded by the recent resignation of Professor Mills from his dual positions as Director of the Burnet Institute and Director of the National Centre in HIV Virology Research. The Panel does not see the apportioning of blame for this situation as part of its remit. Nevertheless, it does wish to draw attention to the importance of Population Health Division and the NHMRC ensuring an equitable transition for the 18 career scientists affected by the mainstreaming exercise.

Scientific goals

The National Centre in HIV Virology Research has proposed expanding the mandate of the Centre to include hepatitis C strategy research, through the inclusion of Professor Eric Gowans. Despite Professor Gowans' high-quality project on dendritic cell immunotherapy on hepatitis C infection, in the Panel's opinion, hepatitis C does not sit easily from a scientific perspective alongside retroviruses such as HIV when strategy research is the issue. Although the two diseases are prevalent among overlapping populations, the causative agents are radically different, as are the clinicians responsible for patient care.

5.4.2 Non-strategy research achievements

The Panel was favourably impressed with the quality of the individual basic research projects of Centre staff over the past three years. This was echoed by all three assessors of the Program Grant application, who drew particular attention to:

- ◆ the strong performance of the Director, Professor John Mills
- ◆ the internationally recognised contributions of Professors Cunningham and Crowe to the roles of dendritic cells and monocytes/macrophages respectively in HIV immunopathology
- ◆ the excellent studies of Dr David Harrich on the role of reverse transcription and TAR in HIV replication, and tat mutant strains that have implications for the design of novel anti-retroviral drugs
- ◆ Professor Ian Ramshaw's substantial achievements in the HIV vaccine field, particularly the development of the prime boost strategy and the novel SAVINE approach, and his involvement in the National Institutes of Health vaccine trial Australian consortium
- ◆ Professor Chris Burrell and Dr Li Peng's continuing contributions to knowledge about early events in HIV replication
- ◆ the sustained role played by Associate Professor Nick Deacon and several of his Centre colleagues in molecular analysis of the Sydney Blood Bank cohort of non-progressors.

The Panel noted the assessors' concern that the basic research program lacked cohesion. This was reflected in the use of such terms as 'The performance of this team in providing a concerted and multifaceted approach to specific scientific questions was not readily apparent'; 'Each aim tended to reflect aspects of the relevant [principal investigator's] personal research program, rather than to reflect an integrated and cohesive and matrix research initiative'; 'The material provided indicates that collaborations within the National Centre in HIV Virology Research have not been developed to a high level'; and 'A possibly disconcerting pattern of overlap in both previous research activities and future plans was apparent'. The outcome of these comments was that the Program Grant application to the NHMRC was unsuccessful.

The Director's response to the assessors' comments went some way to allaying these concerns, particularly in relation to the suggestions of redundancy of certain elements of the work plan. After 2003 the issue will only be relevant with respect to any future Program Grant applications that may emanate from current Centre staff. The Panel suggests that members of the eight HIV-related nodes that make up the existing Centre consider alternative groupings, which could well incorporate principal investigators from other organisations.

The Panel's attention was drawn to the confusion surrounding submission of Project Grants to the NHMRC, which had resulted in some applications in the 2001 round being incorrectly classified ineligible. With one exception, this matter has now been resolved, and Centre staff submitted a number of project grants in parallel with the Program Grant application this year. The exception concerns a project from the Vadas-Lopez laboratory that does not fall within the strategy research ambit. This project, although deemed to be of high scientific merit by the Panel, remains ineligible for NHMRC funding since the principal investigators currently

hold a Program Grant awarded under the previous scheme. The Panel recommends that this impediment to access to competitive funding be removed.

In the past the Centre was successful in attracting very substantial industry support through the now defunct Research and Development syndication scheme for development of a live attenuated HIV vaccine based on the Sydney Blood Bank cohort virus. Overseas funds were also obtained from the International AIDS Vaccine Initiative, for DNA vector work; the Fogarty Foundation, for investigating the relationship between malaria and HIV transmission from mother to child in Malawi; and a National Institutes of Health grant for hepatitis C virology. Most recently, Professor Crowe and her colleagues have been awarded a prestigious National Institutes of Health grant for their work in collaboration with overseas centres (see Section 5.4.4). Overall, the Panel considered that these successes represent a very creditable effort in what is a highly competitive marketplace.

Productivity, as measured in terms of publications, has been creditable: 126 papers have been published during the current quinquennium, including a steady flow in high-impact specialist journals such as *Nature Immunology*, the *Journal of Virology*, the *Journal of Immunology*, *AIDS* and the *Journal of Infectious Disease*. These publications encompassed both non-strategy and strategy research. The Panel did not concur with the suggestion of one assessor of the Program Grant that productivity 'is on a gentle downward trend'. Rather, it has been maintained at a very good, albeit not outstanding, level.

5.4.3 Strategy scientific achievements

The Centre's submission to the review contained significant detail on its strategy research-related achievements, which effectively encompassed the relevant services specified in its Terms of Reference (points 2, 3 and 6). Attention is drawn in particular to:

- ◆ molecular epidemiology—including subtype and linkage analyses, sequencing of isolates, and HIV resistance genotyping
- ◆ immunovirology—for example, neutralising antibody assays (with the National Centre in HIV Epidemiology and Clinical Research and the National Serology Reference Laboratory)
- ◆ support for HIV vaccine development
- ◆ anti-retroviral susceptibility testing—for example, in HAART recipients (with the National Centre in HIV Epidemiology and Clinical Research)
- ◆ seminal transmission analysis
- ◆ technology transfer to Asia-Pacific and African countries.

Provision of these services was a team effort between nodes and between the National Centre in HIV Virology Research and the National Centre in HIV Epidemiology and Clinical Research, involving several senior investigators. The Panel notes the valuable contributions made by McPhee, Crowe, Ramshaw, Burrell, Deacon and Harrich, and it considers that the Centre has fulfilled its obligations well here, except with respect to the National Institutes of

Health vaccine trial (see below) and clinically oriented studies conducted outside the Centre and requiring immunovirology monitoring.

Following the 1997 review, Dr Stephen Kent left the Centre, apparently because of a lack of funding, which meant that the Centre was deprived of ready access to the subhuman primate facility he manages. As a consequence, the only direct link into the National Institutes of Health HIV vaccine initiative has been restricted to Professor Ian Ramshaw's laboratory, and makeshift arrangements had to be made to ensure adequate immunovirological support for the initiative. The Panel recommends that Dr Kent's relinking to the Centre be a priority for the future.

5.4.4 Research dissemination and exchange

Training

The Centre, in conjunction with the Burnet Institute, has a very commendable track record, both in the training of graduate students and in establishing postdoctoral research fellows on career paths in HIV/AIDS. Thus it has fulfilled one of the most important Terms of Reference specified by ANCAHRD. In the future it will be vital for this process to continue if the National HIV/AIDS Strategy is to remain on track.

Service of Centre staff

Senior staff have contributed on a regular basis to the activities of various national committees, international agencies (such as the WHO and UNAIDS) and training programs. The Centre has also been involved in the organisation of national meetings and workshops that collectively have not only maintained its profile but have also contributed to the effectiveness of ANCAHRD's activities in Australia and the region.

Collaborations

As noted, collaboration between nodes within the Centre and between the Centre and the other National Centres has been short of optimal. On the other hand, the Panel acknowledges that the situation is improving, that joint publications (12 in the current quinquennium) do not necessarily give an accurate estimate of the real extent of collaboration, and that interaction has been limited by the constraints imposed by the recent changes in funding mechanisms. Innovative groupings within the new NHMRC Program Grant scheme have the potential to foster transdisciplinary collaboration in the future.

The Scientific Advisory Committee

The Panel acknowledges the Scientific Advisory Committee's long-standing contributions to the running of the Centre. Professors Shellam, Moss and Canavan attended the interview and participated in discussions, which was most helpful. On the other hand, the Panel was informed that the Scientific Advisory Committee had not met as frequently as it should have during the current quinquennium.

The Scientific Advisory Committee's Terms of Reference were deemed appropriate by the Panel. It would, however, be sensible to review the role of this Committee if the structure of

the Centre were to be revised in the future, particularly with respect to the Committee's input in budgetary and administrative matters, since funding is currently determined by the Population Health Division and the University of Melbourne is the administrating body. Moreover, a brief written report prepared annually for circulation to relevant parties would be most desirable, so that there is a formal record of the Committee's deliberations.

5.4.5 Conclusions

The Centre represents a major asset in the medical science scene in Australia. It will therefore be important to preserve the technical capacity the Centre embodies when future structures are under consideration. The Panel recommends that the Centre and its multi-site structure be maintained. In doing so, the Panel notes the strong support for such a recommendation from the great majority of stakeholders. The Panel considers, however, that the Centre's activities should be restricted to HIV/AIDS and that a separate system should be developed to meet the needs of the National Hepatitis C Strategy.

5.5 FUTURE DIRECTIONS

5.5.1 Preamble

The Panel's comments on future directions are predicated on the following assumptions:

- ◆ The Centre will continue in its current form, at least until the end of 2003.
- ◆ The transfer of current staff's non-strategy research to the NHMRC will largely be completed by the end of 2003.
- ◆ A national centre with a nodal structure is essential in the future to underpin the National HIV/AIDS Strategy.
- ◆ Funding for such a centre after 2003 will be directed to supporting core strategy research activities (as specified in the current Terms of Reference) whereas basic research will be funded through the NHMRC.

Reference is made in Section 5.4 to Program Grant funding for non-strategy research that could be done by Centre staff in conjunction with colleagues from other organisations. With respect to strategy research, the requirements can be divided into short term (the next 18 months) and longer term.

5.5.2 Short-term plans

An interim Director

Given that Professor Mills has announced his resignation from the directorship of the Centre as well as the Burnet Institute, an urgent priority is to seek an interim Director whose primary tasks will be to oversee National Centre in HIV Virology Research activities and to mentor existing staff as they transfer to the NHMRC between the departure of the incumbent Director and the end of 2003. In the Panel's opinion, a senior member of the current Centre would be the most suitable choice, but that member need not be located in one of the Melbourne nodes. His or her responsibilities should be enunciated precisely, to ensure clarity for the various stakeholders, particularly the scientific staff. Regardless of who is chosen, it would make good sense to continue with the existing administrative arrangements.

The Scientific Advisory Committee will have a crucial role to play in providing advice to the interim Director and written reports through that person to ANCAHRD (via the Clinical Trials and Research Committee) and the NHMRC. This should include exploring new strategic relationships with colleagues outside the Centre as a means of developing alternative groupings for Program Grant applications.

The Panel had the opportunity to interview Professor Steve Wesselingh, incoming Director of the Burnet Institute, and was favourably impressed with his grasp of the situation and his willingness to cooperate during the interim period, until the end of 2003.

Strategy research program

During the next 18 months it will be important for the Centre to have the ability to continue providing the services outlined in points 2, 3 and 6 of its Terms of Reference and to make some adjustments based on the comments and suggestions outlined in the earlier sections of this report. In particular, the Panel considers it will be important, for the sake of both the research staff and the National HIV/AIDS Strategy, to:

- ◆ work vigorously on the interface with the National Centre in HIV Epidemiology and Clinical Research
- ◆ strengthen the links with the National Institutes of Health vaccine trial consortium
- ◆ improve the immunovirology support for clinical studies
- ◆ establish a formal link with the subhuman primate facility managed by Dr Kent.

Budget

Adequate funding should be provided by the Population Health Division in 2003 (and if necessary part of 2004) to maintain the strategy research activities of the Centre and to support existing staff during their transition to the NHMRC. The Panel notes the budget requested in the quinquennial review submission:

- ◆ \$1 080 000 for the eight nodes
- ◆ \$291 673 representing 'glue' funding.

The former amount is reasonable and will facilitate the smooth transition of Centre staff to the NHMRC. The latter figure includes an allocation for the salaries of the Director and Deputy Director, plus essential administrative support. If the Population Health Division and ANCAHRD approve the appointment of an interim Director, this figure will need to be revised. When doing so, it is suggested that the Scientific Advisory Committee be consulted about the specific allocations to individual nodes.

5.5.3 Longer term plans

A remodelled Centre

The Panel developed the view that the time is ripe for remodelling the Centre. The two essential elements of such a proposal are:

- ◆ to keep hepatitis C strategy research separate from the Centre for the reasons given previously
- ◆ to seek expressions of interest from consortiums of scientists around the country with expertise in HIV virology and immunology.

The second element is not intended as an indictment of either the existing Centre or its senior staff. Rather, it is seen as offering them (and other groups) the opportunity to build on past

experience, to develop new interactions, and to put forward an innovative proposal that can meet the new challenges posed by management of HIV/AIDS in this country. If approved, the appointment of a new Director would need to follow the tendering process.

The Panel recommends as follows:

- ◆ that a remodelled Centre retain a nodal structure
- ◆ that the remodelled Centre's headquarters need not be located at the Burnet Institute and that it need not be managed by the University of Melbourne
- ◆ that the remodelled Centre be designed to provide core expertise needed for essential strategy services, with non-strategy research being funded by the NHMRC
- ◆ that the remodelled Centre incorporate greater depth in immunology, with a view to providing adequate immunovirology support for clinical studies and collaborations with the National Centre in HIV Epidemiology and Clinical Research.

Strategy research priorities

The strategy research program should continue to comply with the objectives of the National HIV/AIDS Strategy, including items 3.4.1, 3.4.5, and 3.5. Given a nodal structure, this is clearly feasible. The Terms of Reference should incorporate the following:

- ◆ providing the molecular component of epidemiology, including subtype analysis, linkage studies and sequencing of isolates—further examples are well summarised in the submission to the quinquennial review
- ◆ acting as the Australian repository of research reagents and providing specialised facilities for HIV research projects
- ◆ maintaining and creating links with HIV/AIDS programs in developing countries, particularly in the Asia–Pacific region
- ◆ providing expertise for immunovirological monitoring of patients (including sero-epidemiology) and cohort studies
- ◆ drug resistance phenotyping
- ◆ capability for supporting development of vaccines and biological response modifiers
- ◆ fostering a relationship with the National Serology Reference Laboratory on quality assurance.

In emphasising strategy research objectives, the Panel acknowledges that it can be difficult to separate service-related research from basic research being conducted within the nodes of a national centre. This difficulty can be resolved by ensuring that the Centre provides a work plan for each year that would require approval from the funding authority on the recommendation of the Scientific Advisory Committee.

With respect to the value of this type of research activity, it should be stressed that it represents a classic example of translational research endorsed in the Wills report, provides viable links to industry, and is a conduit for promoting collaborative work.

Funding

Separation of strategy and non-strategy research has obvious implications for funding and management of the National Centres. The Panel considers that creation of a remodelled National Centre in HIV Virology Research should be accompanied by a review of funding and management procedures. In particular, the role of the NHMRC and the Australian Research Council as potential funders and managers should be investigated and a mechanism assured of securing a substantial component of infrastructure funding if a university retains any managerial role.

5.6 APPENDIX A THE REVIEW PANEL'S TERMS OF REFERENCE

Following are the Terms of Reference for the Review Panel:

In the context of assessing the scientific quality and international competitiveness of research, each Discipline Specific Review Panel will review and make recommendations on:

Research goals and priorities

- ◆ The current strategic planning processes, goals and priorities and progress made towards meeting the stated goals/priorities;
- ◆ The relationship of current and projected research activities to the stated goals and priorities of the Centres and the extent to which they reflect, and can inform, emerging priorities;
- ◆ The extent to which the goals and activities reflect the needs of key stakeholders (ie Commonwealth and State/Territory policy makers, ANCAHRD, AFAO (Australian Federation of AIDS Organisations), Hepatitis C organisations, NAPWA (National Association of People Living With HIV/AIDS), the medical and research communities (including ASHM (Australasian Society for HIV Medicine)), and Aboriginal people and Torres Strait Islanders);
- ◆ The contribution of each Centre's organisation and management structure to the attainment of the goals and its role in fostering interaction with each other and with ANCAHRD;
- ◆ To assess the effectiveness and appropriateness of Centre mechanisms for providing scientific guidance and accountability with respect to research objectives, including the Scientific Advisory Committees where relevant.

Research dissemination and exchange

- ◆ The nature, appropriateness and effectiveness of Centre mechanisms for disseminating research findings and information policy developments.
- ◆ The extent and value of the collaboration of the Centres with researchers in the HIV/AIDS, hepatitis C and related areas (eg Drug and Alcohol Research Centres) and the Centres' success in encouraging leading researchers to focus attention on HIV, hepatitis C and related research.
- ◆ The extent and value of Centres' relationships/collaborative arrangements with other key organisations, such as
 - centres funded under the Public Health Education and Research Program;
 - funding bodies;
 - government departments.
 - the host university; and
 - international bodies, such as UNAIDS, WHO and overseas universities/research centres.
- ◆ The extent and value of additional funding attracted by National Centres including:

- the extent to which this funding contributes to the Centre’s primary goals;
 - the value to Australia of such external funding; and
 - the capacity of existing Centres to attract and maintain external funding.
- ◆ The extent and value of the training opportunities provided by the Centres for researchers and those working in areas relevant to the Centres’ activities.

Other

- ◆ Other matters considered relevant or which emerge during the review.

5.7 APPENDIX B THE CENTRE'S TERMS OF REFERENCE

Following are the Terms of Reference for the National Centre in HIV Virology Research:

1. To conduct research on the basic virology, pathogenesis and immunology of HIV and related immunodeficiency retroviruses in order to increase our understanding of the disease processes and to assist in the development of new diagnostic and monitoring strategies, new treatment modalities and new methods for blocking transmission of and infection with, these viruses.
2. To develop collaborative research internationally, particularly in the Asia-Pacific region.
3. To act as an Australian repository for research reagents for the HIV/AIDS fundamental research effort, and to make those reagents available to Australian scientists conducting such research. To link with overseas HIV/AIDS and other research reagent programs, to facilitate the access of Australian investigators to those reagents and to make Australian reagents available to overseas colleagues.
4. To provide specialised, scarce or expensive research facilities which are required for HIV/AIDS research and to make those facilities available to other investigators as appropriate.
5. To collaborate with the National Centre in HIV Epidemiology and Clinical Research and other groups and individual researchers as appropriate in the clinical studies of the biology, natural history, pathogenesis, treatment and prevention of HIV infection.
6. To provide tangible opportunities and encouragement for postgraduate and postdoctoral training of scientific and medical staff in all aspects of retrovirology.
7. To disseminate the results of the Centre's research through all possible means, including presentations at national and international meetings, publications, through the media, and in an annual report.
8. To perform other roles in the study of HIV/AIDS infection and retrovirology which may be determined from time to time by the Director, in consultation with the ANCAHRD Research Advisory Committee and approved by the Department of Health and Family Services.