

The Pathology Advisory Working Party (PAWP). A ten year review¹

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Formation

The Pathology Advisory Working Party (PAWP) held its first meeting at Victoria Barracks in Sydney on 24 September 1987. It had evolved from the Pathology Advisory Sub-Committee (PASC) of the Services Health Policy Committee (SHPC) which comprised the three Directors General of Health when each held two-star rank and the chairmanship of SHPC was rotated among them. It could be said that the evolution to the concept of an Office of the Surgeon General ADF was a natural progression from the concept of a chairman of the SHPC.

The working party concept was introduced soon after the establishment of the office of the SGADF in February 1987. There were considerable practical, technical, scientific and administrative advantages in the working party concept. The Chairman of PAWP was the Surgeon General's Consultant in Pathology, and the other two members were the respective Service consultants in Pathology.

Terms of Reference

PAWP's Terms of Reference were set out in a draft Policy Directive in 1990 and included the provision of advice to the Surgeon General on:

- Pathology equipment
- Clinical policy
- The selection of pathology equipment
- Statutory standards relating to protection of personnel
- Laboratory performance and pathology policies
- Joint Service standardisation and interoperability and training.

PAWP Activities

In the ten years since its inception, PAWP has had on its agenda a wide range of matters relating directly, and sometimes indirectly, to pathology. Retrospective perusal of the minutes of PAWP meetings indicate that the major items of its consideration could be classified in the following areas:

- Blood transfusion, blood banking and blood supply to the ADF;
- Advice on pathology equipment, purchasing and standardisation;
- ADF laboratories participation in quality assurance programmes;
- NATA accreditation of ADF laboratories;
- Introduction of data management systems;
- Advice on ADF policy for infectious disease screening and management;
- Maintenance of communication networks and meetings with laboratory scientific officers;
- Personal PAWP review of particular ADF laboratories;
- Continuous communications with the office of SGADF for the purpose of offering advice on a wide range of matters relating to the practice of pathology in the ADF.

Blood Transfusion and Blood Supply

Blood Banking Materials

Although blood transfusion is infrequently performed in the current ADF environment, PAWP has, over the years, spent considerable time on the various safety and technical aspects of transfusion medicine and the supply of blood to the ADF.

Blood transfusion in the ADF is a matter which, in times of conflict, would rapidly become a very important practical matter for ADF laboratories and units, both mobile and static. Accordingly, the decision was taken to make use of the Army Blood Transfusion Manual as a valuable starting point of reference for general methodologies. This manual was expanded, modified and developed with considerable help from Colonel Robert Beal AM, the Army consultant in blood transfusion. Eventually, using the Manual as a gold standard, the PAWP developed the concept of an ADF Blood Transfusion Manual and a Blood Banking Methods Manual. After several years of arduous staff work by a wide range of people, PAWP was instrumental in the development of both these documents as Joint Service Publications (now Australian Defence Force Publications – ADFP), and they became, respectively:

- ADFP 711. Blood Transfusion Manual
- ADFP 710. Blood Banking Methods Manual

These Manuals were published in the period 1990 to 1991. It is of note that the Australasian Society of Blood Transfusion and the previous Commonwealth Serum Laboratories gave permission to incorporate guidelines on pre-transfusion testing and blood grouping techniques.

PAWP has always been keen, for the primary purpose of patient safety and uniformity of standards, to adhere to the classical methods of blood banking techniques throughout the ADF. The last two to three years has seen the development of modified techniques for grouping and cross matching. PAWP has recently sanctioned the possible introduction of the Diamed Micro typing system that allows blood grouping and cross matching techniques to be performed in a gel agglutination system.

Blood Supply to the ADF

A corollary to PAWP's continuing interest in blood transfusion medicine has been considerable input to the SGADF on various aspects of blood supply to the ADF. Because of inherent difficulties with blood supply and blood transport in times of conflict, the concept of ADF personnel as mobile blood donors has been espoused by PAWP.

This approach automatically introduces the issue of screening for infectious diseases for all Defence Force personnel as potential blood donors in an emergency or conflict situation, or prior to deployment. Hence, much attention has been paid to HIV, HCV and HBV screening, and more latterly screening for HTLV-1. Mobile blood fridges for transport of blood have been on the PAWP agenda and these were put to the test for the Rwanda deployment in 1994.

The other concept for a fundamental source of blood supply to the ADF in times of deployment and emergency is the Red Cross National Blood Transfusion Service. This is based on the major Blood Banks' pool of voluntary donors in all capital and provincial cities in Australia. These concepts, which have emanated from the deliberations of PAWP, are contained in the HPD 703, Blood Supply to the ADF.

Proposed structural changes in management of Australian Blood Banks may warrant modification of procurement methods for blood for the ADF from the new Australian blood transfusion network.

Representatives of PAWP have presented their ideas on blood transfusion in the ADF at meetings of the Australian Society of Blood Transfusion in Canberra in July 1992, and at the Australian Counter Disaster college at Mount Macedon in late 1992.

Frozen Blood

Although not immediately applicable to the ADF, Australian personnel deployed in USS Comfort during the Gulf conflict had experience with this technology. PAWP has been in communication with the Ministry of Defence in London, and has received updates on progress with hydroxy ethyl starch methodology from their Director of Medical Information Systems. Much of this research is first rate and was being conducted by the Royal Army Medical Corps in Aldershot.

ADF-Wide Commonality of Pathology Equipment

ADF-wide commonality of pathology equipment is an issue that PAWP has considered extremely important and has been a critical agenda item since its inception.

Despite the apparent logic of commonality of equipment, particularly in regard to biochemical analysers, cell counters and antibody screening equipment, PAWP has met considerable difficulty over the years in endeavouring to ensure that this concept is accepted by the ADF. Scientific officers, who meet in close proximity to PAWP, have in general endorsed the philosophy of commonality of equipment.

Some of the difficulties we have met in regard to ADF laboratories embracing the logical proposal for ADF-wide standardisation of pathology equipment relate to the preferred contract tender method used by the ADF. There has been interesting correspondence between the Health Materiel Working Group (HMWG) and PAWP in regard to particular desirable items. HMWG have been at pains to point out that specifications cannot incorporate "lock-out" or restrictive clauses.

Review of PAWP minutes reveals some interesting situations in regard to equipment. One such incident involved the Ektachem analyser. At one stage these were extensively used by ADF laboratories and on RAN ships. In RAN ships, the level of diagnostic support offered far exceeded that required for care of problems with calibration and control of this equipment and a considerable degree of operational skill was required. The RAN eventually removed the Ektachem from ships.

The replacement item was the Reflotron which was in many ways far more suitable for a ship board platform. No sooner was this item, ideal for near patient testing, embraced by the ADF as a result of PAWP recommendations, that criticism was received from one or two medical practitioners that the Reflotron did not offer a wide enough range of biochemical parameters.

For the last two to three years, there has been much more valuable liaison between PAWP and Health Materiel Logistics staff in the Office of the Surgeon General. With this liaison, the Combined Medical Capital Equipment Programme has been much more effective in regard to the activities of PAWP and considerable effective and efficient rationalisation has recently occurred.

Quality Assurance Programme

All the major ADF laboratories participate in the Quality Assurance Programmes of the Royal College of Pathologists of Australasia (RCPA). This ensures that ADF laboratories all pursue strict quality control procedures and that our laboratory units are comparable to peer group laboratories across the country. Participation in quality assurance programmes is not only essential for maintenance of laboratory standards and the service they provide to ADF personnel, but is a *sine qua non* of NATA registration.

Participation in QAP for ADF laboratories was an initiative of both PAWP and its predecessor the PASC.

PASC noted in March 1983 that after visits to various Defence laboratory establishments over the previous three years a need was identified for participation in quality control programmes. Involvement of various laboratories proceeded soon after but then the question of collation of ADF results arose. A little over two years later interchange of results was not occurring, but with the passage of time and close collaboration between PAWP and the respective scientific officers there is now good correlation of results and feedback from the RCPA QA group.

ADF laboratories are participating in Haematology, Blood Bank Serology, clinical Chemistry and Microbiology Quality Assurance. It is interesting to look at the degree of sophistication now in existence in ADF laboratories and their excellent WAP record, and relate this to the comments from ADF laboratory managers in 1982-83 that ADF laboratories could not achieve the necessary standard to participate in RCPA QA. This participation now happens regularly.

In March 1995, it was noted by PAWP that the ADF was spending some \$60,000 per annum in QAP. Following an initiative from 1 Field Hospital, PAWP accepted the view that the ADF should review its QAP participation to perhaps better reflect our environment and technical functions and facilities. WAP is an ongoing commitment activity and important agenda item.

NATA Registration

NATA registration of ADF laboratories is a matter that has continually been before PAWP and on the agenda since 1986.

In November 1986 the Commonwealth Chief Medical Officer of Health advised the Department of Defence that the Prime Minister agreed that all Commonwealth laboratories should seek registration with the National Association of Testing Authorities (NATA). This related to recommendations of the Ross inquiry into the Health Insurance Act pertaining to procedures to accredit all Pathology Laboratories in Australia whose services attract Medicare benefits. Although ADF laboratories would not be attracting Medicare benefits, the Commonwealth Chief Medical Officer of Health requested Department of Defence support in ensuring that all pathology laboratories under the Department's control seek accreditation.

A little later, requisite funding was obtained for NATA registration of ADF laboratories.

It is fair to say that the resultant efforts necessary for NATA registration have been a continuing saga within the remit of PAWP. We have been most fortunate to have had Colonel E.D. Rothfield ED RAAMC (Ret List), former Director of Biochemistry at St Vincent's Hospital in Sydney and with vast Army experience and considerable clinical chemistry and clinical pathology expertise, as a member of PAWP. he has been of great assistance to PAWP and the ADF in helping to organise the NATA registration of certain laboratories.

Registration involves a major documentation and coordination of the laboratories' procedures and procedure manuals and standards, and preliminary inspection by independent NATA inspectors, and a final NATA inspection which must be satisfactory at all levels prior to NATA registration.

The following ADF laboratories have received, or are applicants for, NATA/RCPA accreditation/registration:

- 1 Field Hospital
- 3 RAAF Hospital
- 6 RAAF Hospital
- 2 Field Hospital
- Balmoral Naval Hospital
- 1 Recruit Training Battalion
- Malaria Research Institute
- HMAS Cerberus
- HMAS Albatross
- RAAF Tindal
- RAAF Williamstown

Scientific Officers

Since its inception, PAWP has considered it vital to have a close working relationship with the Scientific Officers staffing ADF laboratories. In its earliest days PAWP strongly encouraged the formation of a tri-Service Scientific Officers' Group that would meet regularly to review the wide range of technical, methodological and equipment matters affecting their laboratories.

Within two years of PAWP's first meeting in September 1987, the Scientific Officers were meeting regularly and a few weeks prior to the next scheduled PAWP meeting, so their discussions could be considered by PAWP.

Once the Scientific Officers meeting became a regular fixture it was suggested by PAWP and approved by the Scientific Officers that one of their members be appointed annually to represent the Scientific Officers as an invited attendee at PAWP meetings. This has now been happening for some six years. This Scientific Officer has been most valuable to PAWP for the first hand feedback that is then available to PAWP. It is hoped that feedback in the opposite direction from PAWP to the Scientific Officers is of similar value. Over the past two years, Ms Cathy Cavanagh, Scientific Officer from Balmoral naval Hospital, and Capital Carolyn Jones from 1 Military Hospital, have been attending the PAWP meetings.

Ms Cavanagh undertook some scientific projects for PAWP and provided most comprehensive reports. She has been extremely valuable in the coordination of the introduction of laboratory management systems to ADF laboratories. Her laboratory has conducted valuable Defence laboratory testing programmes for antibodies to HTLV-1 and has put forward a proposal for centralised screening for infectious diseases in the ADF.

Captain Jones has given reports on technicalities of G6PD screening and other pertinent matters for PAWP.

It is obvious that the symbiosis of PAWP and the Scientific Officers is beneficial to the smooth functioning of ADF laboratories.

In the latter days of PASC and the earlier days of PAWP, valuable analytical papers were written by Wing Commander P. White RAAF on the issue of advisory committees and the management of Defence Pathology Services. Here a strong case was made for a tri-Service laboratory manager. A later paper by Wing Commander White challenged the role of the PAWP Service consultants who he regarded as clinical pathologists and as such may not have a role in the management of ADF laboratories. In this latter paper, he proposed a Laboratory Management Advisory Sub-Committee and a redefined Pathology Advisory Group.

Suffice to say that, despite all these issues, the PAWP agenda and activities have expanded considerably and together with the regular meetings of Scientific Officers fulfill an eminently suitable laboratory management group.

Clinical Matters

The foundations of modern pathology certainly overlap much of clinical medicine and accordingly PAWP has been tasked with providing opinions on a variety of primarily clinical matters affecting the ADF. These tasks have mostly related to clinico-pathological aspects of infectious conditions such as hepatitis B, HIV-I infection and hepatitis C infection. Arising very much out of the deliberations has been ADF policy on screening for infectious diseases in all recruit entries and ADF members on deployment and posting to RAN ships.

The resultant workload of screening has had major impacts on ADF laboratories, providing considerable stimulus to staff. It has also provided a stimulus to the Combined Medical Capital Equipment Programme because the necessity to have available the latest techniques and technology.

A research paper produced by Ms Cavanagh at BNH, ADF laboratories in their screening profile for infectious diseases were shown to be testing some 37,000 people per year. ADF laboratories currently performing infectious disease screening tests are:

- 1 Field Hospital, Ingleburn NSW
- 2 Field Hospital, Ennogerger QLD
- 3 RAAF Hospital, Richmond NSW
- Balmoral Naval Hospital NSW

Tests undertaken by these laboratories are shown in Table 2.

Table 2. ADF screening tests and target populations

Test	Target Population
HIV-1/HIV-2 antibodies	*
Hepatitis C antibody	*
Hepatitis B surface antigen	*
RPR	*
Glucose 6-phosphate-dehydrogenase enzyme	*
Blood Grouping	*
Pregnancy test	Female recruits
Rubella antibodies	Army female recruits
HTLV-1 antibody	RAN

* All Services

Malaria is such an important infectious disease on a world basis and change in malarial incidence is so critical that PAWP has long had a watching brief on this matter. We have had the opportunity to review some of these matters on at least two separate occasions with MRI (formerly AMRU) and have had the Director of MRI, Professor Karl Reickmann, attend a PAWP meeting.

Malaria abuts on PAWP directly in relation to G6PD screening of recruits and personnel since malaria therapy and prophylaxis may trigger haemolytic anaemia in those who are G6PD deficient. Although screening has taken place, haemolytic events have already occurred within the ADF, which we recognise now has a flavour of a multi-cultural and multi-ethnic background.

DNA Storage and Profiling

PAWP has been in active contact with the Surgeon General United States Army, and also the laboratories of the Armed Forces Institute of Pathology (AFIP) Washington, in regard to the possibility of storage of DNA of all serving Defence Force personnel. This is to allow for possible future forensic identification and not for any research purposes or law enforcement. AFIP uses PCR techniques and a DQ-alpha-dot/biot for amplifying and DNA testing.

HIV and HCV

In regard to HIV screening and infection, considerable attention was paid to this matter in the latter days of the PASC and the earlier days of PAWP. PAWP's advice, particularly on methods and feasibility of testing for antibodies to HIV, gave considerable assistance to the genesis of Defence policy on screening and testing for HIV infection, and also on the processing and documentation of such testing and screening results.

Over the last few years the problems relating to HCV infection and screening for HCV antibodies, as well as the management of ADF personnel who are HCV antibody positive, has occupied a great deal of PAWP's time. PAWP is the first to realise that knowledge of HCV infection is continually evolving and HPD 217, which relates to management and screening of HCV infection, will require continual review. For example, the knowledge of HCV genotypes and their clinical variability and response to interferon therapy will require incorporation.

PAWP Meetings

The aim has been to hold PAWP meetings twice per year. By and large this has occurred. The limiting factor to the occurrence of meetings is availability of funds principally to cover members' travel expenses to the meeting location.

PAWP has held meetings as far west as RAAF Pearce, and as far north as 1 Military Hospital at Yeronga. However, meetings have been held predominantly in NSW and Victoria Establishments to limit travel costs.

Approximately half of the PAWP meetings have been held in Establishments at which an ADF laboratory is situated. PAWP takes the opportunity to make a familiarisation visit to that particular laboratory. Such a visit serves a number of purposes:

- It enables PAWP members to view the laboratory facilities and equipment at first hand,
- It enables PAWP members to meet the Scientific Officer and laboratory staff personally and vice versa,
- It enables PAWP to gauge the functioning and work load activities of the laboratory and to discuss at first hand any particular problems or issues which may be present.

PAWP meetings held where laboratory facilities also exist have been most successful for all concerned.

ADF Pathology in Rwanda

Following the tragedies in Rwanda in 1994, the Australian government decided to provide a medical team to the United Nations mission in that country. A four-person pathology laboratory was prepared, packed and deployed to the war ravaged country as part of the ADF medical support force.

A report on this deployment written by the Scientific Officer, Captain Caroline Bathgate RAAMC, gave detail of the technical staff and equipment deployed to Rwanda. PAWP was delighted to receive this report and to compliment Captain Bathgate and her Army team on this very fine activity. PAWP was also proud to be able to learn that many of its deliberations and recommendations had been available to the team. It is reasonable to say that much of the foundation for this pathology activity arose from advice offered by PAWP over the preceding years. Equipment deployed was as follows:

- Biochemistry – a Reflotron and Gen Primer Gas analyser;
- Haematology – Symex F500; and
- Blood Bank – DIAMED gel agglutination system

All this equipment was most valuable in the environment of the Kiagli Hospital. An average total of some 1,200 pathology tests per month were performed. It is interesting to note the value of the Reflotron system in this environment, again a product of PAWP deliberations after the incompatibility of the earlier biochemistry analysers. In total, some 60 per cent of the workload was represented by Haematology and Biochemical analyses.

The laboratory operated 24 hours a day and in emergency cases, such as land mine victims and vehicle accidents, was called upon to provide blood and stat parameters. The pathology laboratory operated a

blood bank and held 30 units of blood – the DIASMED system being used for cross matching. It is interesting in relation to blood supply to the ADF, that although originally sourced from the Australian Red Cross Blood Transfusion Service, there were in-country delays to the supply system and an alternative source became the Netherlands Blood Bank.

Captain Bathgate concluded that for six months the ADF provided an efficient and reliable laboratory to the United Nations Aid Mission in Rwanda. The laboratory maintained the standards set by the category 3 Army laboratory derived from and affiliated with the 1 Field Hospital Pathology Laboratory. Certainly PAWP was a long way from the practical day to day action, but can take some joy in being able to observe the effectiveness and efficiency of one of their team of ADF laboratories under the most trying of conditions and circumstances.

PAWP and the Future

It would seem that whatever happens to the structure of the ADF health service there will be a continuing need for PAWP to offer guidance and advice to the ADF in matters relating to the practice and implementation of pathology in its broadest sense. PAWP members have always been keen and willing to serve the ADF within a format dictated by the demands and command structure of the ADF. PAWP members have been the various Navy, Army and Air Force consultants in pathology acting under the chairmanship of the Surgeon General's Consultant in Pathology who so far has been the senior member of PAWP.

In the final analysis, bound by its terms of reference, PAWP is an advisory committee. It cannot set policy or make executive decisions but simply offer advice as it deems appropriate. Buried in the PAWP files is a comment that PAWP might be more effective if it had a higher profile in the Health Services of the ADF. It is somewhat of a vicious circle – if funds are not available to PAWP to meet, it becomes difficult to present a high profile. However, a higher profile enables PAWP advice to have somewhat more strength in future ADF discussions regarding pathology matters. Certainly, PAWP members are happy to meet the needs of the ADF, ADF personnel and ADF laboratories in the future.

Summary

The Pathology Advisory Working Party is a tri-Service group of senior officers who are all consultants in pathology and individual service consultants who work in close collaboration with senior staff officers from the Office of the Surgeon General. PAWP has been offering advice on the practical, technical, management and clinical aspects of pathology to the Surgeon General and his staff and hence the ADF over the past 10 years. With great pleasure and participation, PAWP has been involved with and seen the implementation of a number of very positive steps in the improvement of the practice of pathology in the ADF environment. PAWP has participated with ADF laboratories in the implementation of Quality Assurance Programmes, NATA registration, a strong movement towards commonality of pathology equipment, active participation in the combined medical equipment programme, production of an ADF Blood Transfusion Manual and Blood Banking Techniques Manual, policy guidelines on infectious disease management and screening, coordination with Scientific Officers in laboratory management and to a limited extent some clinical research in regard to the medical status of Defence Force personnel. A gold standard for PAWP and a forceful desire is that benchmark standards of pathology practice in the ADF laboratories should be the same as their peer group in civilian practice. PAWP has held strongly to the

view that the standards and accuracy of diagnostic and screening pathology available to any member of the ADF should be exactly as good as that available to the general public, and the Australian citizens in the ADF are well served by ADF laboratories and pathology practices.

References

1. Rickard K.A. The Pathology Advisory Working Party (PAWP). A ten year review. *Aust Mil Med* 1998; 7(3)11-17. Address for correspondence: Dr K A Rickard, Department of Haematology, Royal Prince Alfred Hospital, Missenden Road, Camperdown NSW.
2. Associate Professor K.A. Rickard RFD****, is Associate Professor of Haematology at the University of Sydney and a Consultant Haematologist at the Royal Prince Alfred Hospital. He is a Captain in the RANR, with over 35 years' service, and has been Consultant Haematologist to the Director General Naval Health Services. He was recently awarded a Chief of Navy' commendation for outstanding service.