



PATH CENTRE

The Western Australian Centre for Pathology and Medical Research

**ANNUAL REPORT
JUNE 2005**

CONTENTS

VISION AND MISSION STATEMENTS

REPORT ON OPERATIONS

- Statement of Compliance**
- Operational Summary**
- Organisational Chart**
- Senior Staff**
- PathCentre Lunch Time Forums**

PERFORMANCE INDICATORS

- Opinion of Auditor General**
- Certification of Performance Indicators**
- Performance Indicators**

FINANCIAL STATEMENTS

- Opinion of the Auditor General**
- Certification of Financial Statements**
- Operating Statement**
- Statement of Financial Position**
- Statement of Cash Flows**
- Notes to and forming part of the Financial Statements**
- Annual Estimates**

APPENDICES

- National and International Lectures and Scientific Presentations by Staff**
- Publications**
- Research Grants**
- Research Projects**
- Election to Office in Professional Organisations**
- Editorial Boards**
- Teaching**

OUR VISION

PathCentre will provide world-class pathology services supported by innovative research and development.

OUR MISSION

PathCentre is committed to improving the health of the people of Western Australia by providing quality pathology services that are customer focussed, competitive and supported by excellence in teaching and research.

OUR CORE VALUES

OUR CLIENTS

Our clients are fundamental to our success. We will respect them and their needs.

OUR PATIENTS

We will be sensitive to patients' needs, respect their dignity and ensure confidentiality.

OUR PEOPLE

Our people are our most valuable asset. We will support them to achieve their full potential in an environment of equal opportunity.

We will foster an environment of open communication, participation and respect for individual opinions and contributions.

OUR WORKPLACE

Our workplace will be safe and will be based on honesty, courtesy, teamwork and adaptability to change.

THE COMMUNITY

We will actively serve the community and be responsive to its needs.

PROFESSIONALISM

We will operate ethically and at the highest levels of professionalism.

REPORT ON OPERATIONS

STATEMENT OF COMPLIANCE

The Hon JA McGinty BA, BJuris(Hons), LLB, JP, MLA
MINISTER FOR HEALTH

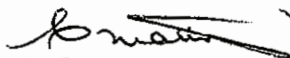
In accordance with Section 66 of the *Financial Administration and Audit Act 1985*, I hereby submit for your information and presentation to Parliament the Report of The Western Australian Centre for Pathology and Medical Research (PathCentre) for the year ended 30 June 2005.

The report has been prepared in accordance with the provisions of the *Financial Administration and Audit Act 1985*.

Signed at Perth this 30 day of August 2005



Mr AJ Griffiths
Acting Chairman



Mr C Mathews
PathCentre Board member

OPERATIONAL SUMMARY

Enabling legislation and responsibility

The Western Australian Centre for Pathology and Medical Research (PathCentre) was established as an agency on 10 April 1995 by the *Agencies (PathCentre) Notice 1995*, made by the Lieutenant-Governor and Deputy of the Governor in Executive Council under Section 7B of the *Hospitals and Health Services Act 1927*.

Subsequent to the period covered by this report PathCentre was abolished and all its operations, assets and liabilities were transferred to the Metropolitan Health Service.

PathCentre had no subsidiary bodies.

PathCentre was responsible to the Minister for Health.

Mission, outcomes and objectives

PathCentre's government-desired outcomes and broad objectives were specified in its establishing Notice, as follows:

- (a) To provide pathology services to meet the requirements of the (Health) Department, public hospitals, private hospitals, public patients, private patients, medical practitioners and any other person or body;
- (b) To provide clinical teaching or research facilities or both for pathology services;
- (c) To act as reference centre and centre of excellence for pathology services;
- (d) To provide public health services and advice to the Department, any other department of the State or Commonwealth, any local authority and any other person or body;
- (e) To provide forensic science services to the public and private sectors;
- (f) To undertake commercial exploitation of any research undertaken by, or of any intellectual property rights belonging to, PathCentre for any purpose relating to the carrying on of the agency.

Board and management defined PathCentre's Vision in the following terms:

PathCentre will provide world-class pathology services supported by innovative research and development.

PathCentre's Mission statement was as follows:

PathCentre is committed to improving the health of the people of Western Australia by providing quality pathology services that are customer focussed, competitive and supported by excellence in teaching and research.

ADMINISTRATIVE STRUCTURE

The Board

Members of the Board were appointed by the Executive Council under section 7C of the *Hospitals and Health Services Act 1927*. The Board met on 8 occasions during 2004/05.

The following Board members held office during the year. Their terms of appointment and attendance at Board meetings were:

| <i>Board Member</i> | <i>Expiry date of appointment</i> | <i>Number of meetings attended</i> |
|---|-----------------------------------|------------------------------------|
| Dr Brian Lloyd <i>MBBS, PhD, FRACP, FACC</i> | 30 June 2006 | 1 |
| Ms Julie M Feeney <i>BBus</i> | 30 June 2006 | 8 |
| Mr A John Griffiths <i>BBus, FCPA</i> | 30 June 2006 | 8 |
| Mr A Clete Mathews <i>BBus</i> | 30 June 2005 | 7 |
| Ms Elizabeth Rohwedder <i>BSc, GradDipStats, MURP, GradDipComp</i> | 30 June 2005 | 7 |
| Dr Keith B Shilkin, Chief Executive Officer <i>MBBS, FRCPA, FRCPPath, FHKCPath</i> | <i>ex officio</i> | 6 |

The terms of appointment of two Board members expired on 30 June 2005. All other Board members ceased to hold office consequent on the abolition of the agency on 15 July 2005.

Senior Officers

The senior executive officers of PathCentre and their responsibilities were:

Chief Executive Officer: Dr KB Shilkin

Director of Operations: Mr DR Taylor

Director of Finance: Mr JS Fryer

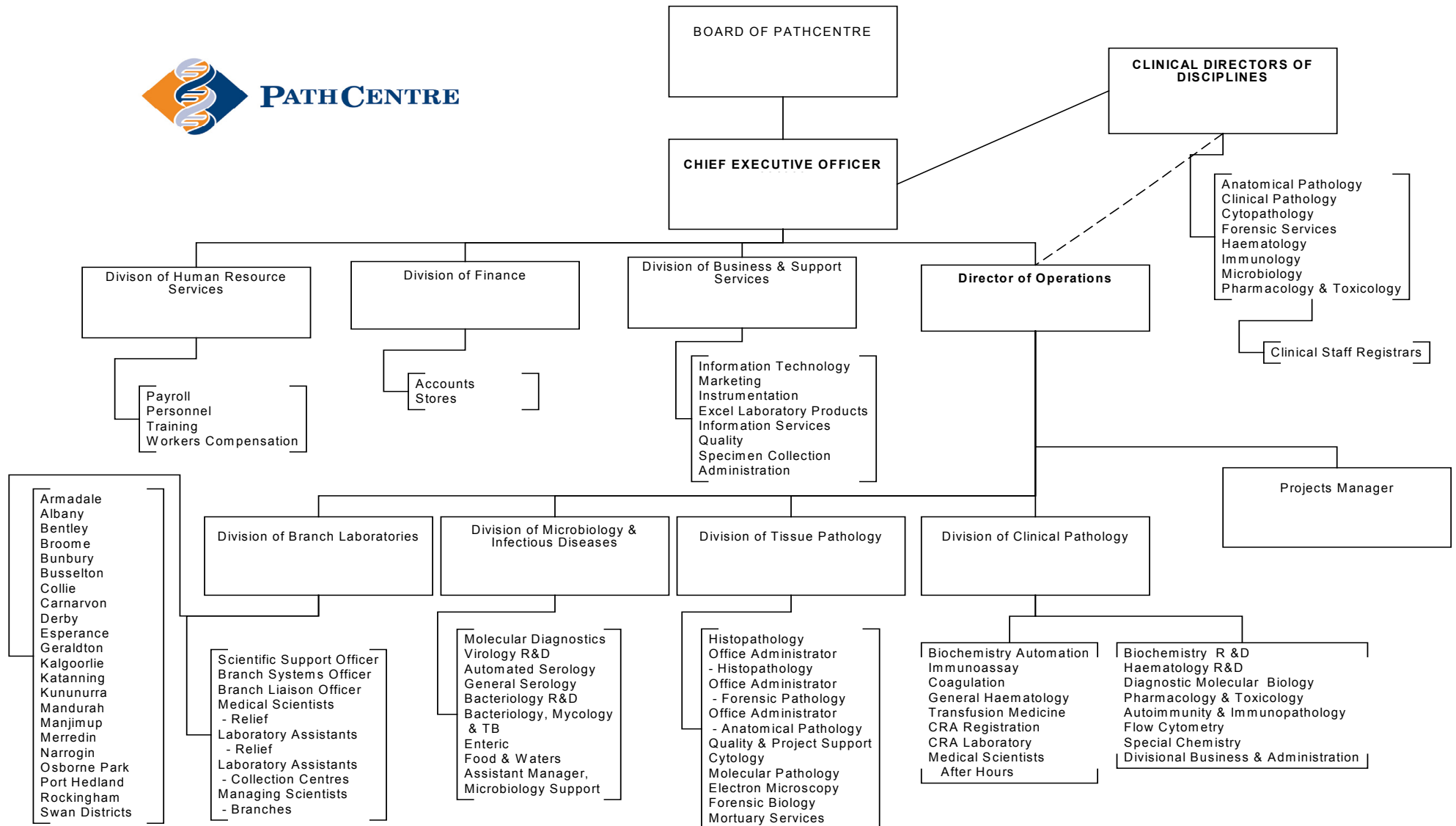
Clinical Directors:

| | |
|---------------------|---|
| Dr DV Spagnolo | <i>Anatomical Pathology</i> |
| Dr CI Bhagat | <i>Biochemistry</i> |
| Dr FA Frost | <i>Cytology</i> |
| Dr CT Cooke | <i>Forensic Pathology</i> |
| Dr J Finlayson | <i>Haematology</i> |
| Dr PN Hollingsworth | <i>Immunology</i> |
| Dr DW Smith | <i>Microbiology & Infectious Diseases</i> |
| Assoc Prof DA Joyce | <i>Pharmacology/Toxicology</i> |

General Managers

| | |
|----------------|--|
| Mr JM Fogarty | <i>Branch Laboratories Division</i> |
| Dr GN Kent | <i>Clinical Pathology Division</i> |
| Mrs FE Brogden | <i>Laboratory Support Division</i> |
| Mr RA Bowman | <i>Microbiology & Infectious Diseases Division</i> |
| Dr P Caterina | <i>Tissue Pathology Division</i> |

ORGANISATIONAL CHART



Principal Office

PathCentre's principal office and central laboratory complex were at The Queen Elizabeth II Medical Centre, Hospital Avenue, Nedlands, telephone (08) 9346 3000. It also maintained Branch Laboratories and collection centres in 51 other locations, principally within hospitals, throughout Western Australia.

Publications

A listing of publications by staff members can be found as part of this Annual Report. The agency also published a quarterly newsletter, *PathCentre News*, for the medical and health community. All these publications are available from the Metropolitan Health Service.

Contracts with Senior Officers

Other than normal contracts of employment or service, the former Board is not aware of any existing or proposed contract which a senior officer, or a firm of which the senior officer is a member, or an entity in which the senior officer has a substantial financial interest, made with PathCentre.

Ministerial directives

No Ministerial directives were received during the year.

Operations

PathCentre's operations were structured so as to achieve the three main desired outcomes specified in the Government's Policy on Pathology Services, which were:

- first, to establish one unified laboratory service on the Queen Elizabeth II Medical Centre site;
- second, to ensure the Western Australian community received the best possible return on its investment by ensuring that the laboratories work to best practice and on a commercial basis; and
- third, to ensure there was no reduction in service levels and no adverse effect on laboratories, teaching, research, community service or public health work.

Government made no changes to these desired outcomes.

As can be seen from the administrative structure chart, PathCentre provided services through four operating laboratory divisions – Branch Laboratories, Clinical Pathology, Microbiology and Infectious Diseases, and Tissue Pathology. Each division was under the direct control of a General Manager with responsibility for the day to day operations of the division and reporting to the Director of Operations, who in turn reported to the Chief Executive Officer. Clinical Directors for each pathology discipline had responsibility for professional and clinical issues but were not directly involved in management.

Pricing of Services

Diagnostic pathology testing was generally charged on a fee for service basis at prices based on the Commonwealth Medical Benefits Schedule (CMBS) issued by the Health Insurance Commission. Other, generally non-medical, testing was priced on a commercial basis designed to recover direct and indirect costs and an appropriate margin of profit where appropriate.

Major Capital Projects

No major capital projects were undertaken or completed during the year

Matters arising since the end of the financial year

As noted previously, PathCentre was abolished on 15 July 2005 by the *Agencies (PATHCENTRE Abolition) Notice 2005* made by the Governor in Executive Council under section 7B(4) of the *Hospitals and Health Services Act 1927*. All its operations, assets and liabilities were transferred to the Metropolitan Health Service.

Changes

There were no major changes during the year to Government desired outcomes, objectives or functions of PathCentre, nor in its operations, nor in any written law affecting its operations or the users of its services.

Staffing

Full Time Equivalent staffing was 784 as at 30 June 2005.

Industrial Relations

No industrial disputes arose within PathCentre during the reporting period.

Workers' Compensation

The number of active workers' compensation claims has increased during 2004-2005 (24 compared to 20). While the number increased, good handling of these claims resulted in a decrease in the average lost time rate. Staff are coming forward at an earlier stage to ask for advice regarding physical strains. This has resulted in supervisors implementing changes that will benefit all staff. Consultant ergonomists have been used during the year in management of cases, review of workstations and general training of staff. It must be noted that although there has been less time off work, there has been an overall increase in the cost to the organisation of these claims.

Public Sector Standards

PathCentre has ensured compliance with Public Sector Standards in relation to Human Resource Management, the Western Australian Public Sector Code of Ethics and PathCentre's Code of Conduct through continuous internal process review. Those processes include:

- Development of effective access to human resource management policies through PathCentre's Intranet.
- Regularly reviewing human resource policies to ensure requirements of public sector standards are met.
- Conducting induction and orientation programs that introduce PathCentre's Code of Ethics, Code of Conduct and Human Resource Policies. All employees receive regular updates on issues that require their support and compliance.
- Provision of training programs that enhance employee's awareness and understanding of processes and procedures necessary to meet Public Sector human resource management compliance requirements.
- Updating Human Resource Services staff skills relevant to delivery of effective human resource advice and services to management and employees.

Submissions and outcomes relating to breaches of Public Sector human resource management standards for the reporting period are:

| | |
|--|-----|
| Number of applications lodged with the Public Sector Standards Commission: | 1 |
| Number of breaches found: | Nil |
| Provision of satisfactory relief: | Nil |
| Number of applications under review: | Nil |

Equal Employment Opportunity Outcomes

Management Plan 2003 – 2005 Results:

1. Job Descriptions for management and supervisory positions have been amended so that statements of duty include 'Capacity to manage EEO and Diversity'.
2. *Training*
Training is provided for staff in non-discriminatory selection processes.
3. *Monitoring of recruitment processes and Induction*
New employees are provided with an EEO questionnaire at Induction. EEO data is captured on a confidential basis and recorded on Lattice HRIS.
4. *Performance management training for all managers*
A new annual Performance Planning and Review process has been introduced. Staff are currently undertaking training and implementing this process.

Cultural Diversity and Language Services Outcomes

Diversity:

1. *Greater female representation Second Tier Management*
Position at CSA Level 8 established and appointed.
2. *12% increase in Branch/Section Manager female representation*
On going, as positions become vacant.
3. *1% increase in Indigenous staffing representation in remote regional branches*
Research and networking being undertaken to identify methods.

Language Services:

Contact numbers for 'On site Interpreter Service', plus 'Off site Interpreter Service' contact numbers for after business hours have been incorporated into Telephone Etiquette Standards Policy for PathCentre. In accordance with that policy, information in relation to Telephone Etiquette is provided to all employees. This incorporates the appropriate procedures for dealing with customer service language issues and information on interpreter services.

Youth Outcomes

PathCentre provides work experience placements for students at High School, TAFE and University level. This helps to improve their understanding of public pathology and to encourage employment in PathCentre. Forty-eight placements have been undertaken this reporting year.

Disability Services

A major initiative in late 2003 was the construction of the PathCentre Patient Carpark. The carpark is adjacent to J Block, PathCentre Nedlands and the nearest bay to the patient entrance is set aside for use by the disabled. No further discrete enhancements were made in 2004/05. However, a boom gate was installed at the PathCentre Patient Carpark in an effort to preserve the carpark for PathCentre patients, in particular disabled and frail patients.

Freedom of Information

All requests for information available under the *Freedom of Information Act 1992* must be made in writing to the Freedom of Information Officer, PathCentre, Locked Bag 2009, Nedlands WA 6909. Twelve requests were received in 2004/2005. In eleven cases information was supplied. In one case the information sought could not be supplied. Daily work sheets from a date in 1999 had been destroyed in accordance with Accreditation guidelines.

Public Interest Disclosures

This Public Interest Disclosure Officer is Miss Marion Woods, PathCentre Nedlands. PathCentre policies and procedures are in place and information has been distributed to all staff members and is part of the induction kit. There were no disclosures in 2004/05.

Record Keeping Plan

In 2004/2005 year, PathCentre's Record Keeping Plan was passed by the State Records Office. A Retention and Disposal Schedule was also passed by State Records Standing Committee.

Training of clerical staff in the use of the Records Management System continues on an adhoc basis. The Senior Records Officer, who holds a Diploma in Records Management, conducts training sessions and advises staff on standards and procedures.

Clerical staff assisting in the Records Sections have also undertaken short courses run by private consultants in Basic Record Keeping Practices.

Energy Saving

Problems were encountered with Eco Energy Saver installed in previous years that caused loss of most lighting in Transfusion Medicine. No further expansion of Eco Energy Saver was attempted.

Advertising and Sponsorship

During the 2004/05 financial year PathCentre incurred \$78,510.95 for the use of media advertising agency Marketforce and \$24,787.07 for the use of direct mailing organisations; Post Data and Computershare Document Service.

Research and Development

A summary of research and development activities and outputs is contained elsewhere in this Annual Report.

Promotional, Public Relations and Marketing Activities

PathCentre continued during the year to promote and market its services to the medical profession and other users. In particular PathCentre continued to hold regular professional seminars and lectures held for clinicians and other service users in metropolitan Perth and in several rural centres in Western Australia.

Corruption Prevention

The following statement is included in all JDFs:

Conducts duties in a manner that is ethical and promotes a positive image of PathCentre.

In addition the Director of Human Resources is the Senior Integrity Officer and attends Integrity Forums with the Auditor General, Crime and Corruption Commission and Administrative Ombudsman in that capacity.

SENIOR STAFF

Division of Clinical Pathology

Biochemistry

Dr CI BHAGAT *MD, MBChB, MSc, MAACB, FRCPA* Clinical Director
Dr JP BEILBY *BSc(Hons), PhD, FAACB* [Adjunct Senior Lecturer – UWA]
Dr GN KENT *BSc(Hons), PhD, FAACB*
Dr EM LIM *MBBS, FRCPA, FRACP* (Part time)
Dr E ROSSI *BSc(Hons), PhD, MAACB*
Dr BGA STUCKEY *MBBS, BA, FRACP* (Endocrine Biochemist – Part time)
Dr SD VASIKARAN *MBBS, MD, MSc, FRCPA* (Honorary Clinical Biochemist)
Dr JP WALSH *MBBS, BA(Hons) PhD, FRACP* (Endocrine Biochemist – Part time)

Haematology

Dr J FINLAYSON *MBChB, FCPPath(SA)* Clinical Director (from January 2005)
Dr WN ERBER *MD, DPhil(Oxon), FRCPA* Clinical Director [Clinical Associate Professor – UWA] (until October 2004)
Dr BM AUGUSTSON *MBBS, FRCPA, FRACP* (Part time SCGH)
Dr CH COLE *MBBS, FRACP, FRCPA* (Paediatric Haematologist – Part time)
Dr GM CULL *MBBS, FRACP, FRCPA, DM* (Part time SCGH)
Dr RP HERRMANN *MBBS, FRACP, FRCPA* (Honorary Haematologist)
Dr DJL JOSKE *MBBS, FRACP, FRCPA* (Part time SCGH)

Immunology

Dr PN HOLLINGSWORTH *MBBS, DPhil(Oxon), FRACP, FRCPA* Clinical Director (Part time SCGH)

Pharmacology & Toxicology

Associate Professor DA JOYCE *MBBS, MD, FRACP* Clinical Director (UWA)
Associate Professor KF ILETT *BPharm, MPS, PhD* (UWA)

Division of Microbiology & Infectious Diseases

Dr DW SMITH *MBBS, BMedSc, FRCPA* Clinical Director [Clinical Associate Professor – UWA]
Dr VC D'ABRERA *MBBS, FRCPPath, FRCPA* (Locum – Part time)
Dr CL GOLLEDGE *MBBS (Hons), BSc(Med), MRCP(UK), FRCPA, FACTM, DTM&H*
Dr GB HARNETT *PhD, MASM, FIBS, FAIMS*
Dr TJJ INGLIS *BMDM, PhD, FRCPPath, DTM&H, FRCPA*
Professor TV RILEY *PhD, BAppSc, MAppEpid, FRCPPath, MAIMS, FASM, FAAM* (Joint appointment with UWA)
Dr DJ SPEERS *MBBS, BSc(Hons), FRACP, FRCPA* (Part time SCGH)

Division of Tissue Pathology

Anatomical Pathology

Dr DV SPAGNOLO *MBBS, FRCPA* Clinical Director [Clinical Professor – UWA]
Dr B AMANUEL *MD, FRCPA*
Dr WB DE BOER *MBBS, BMedSc, FRCPA*
Dr FA FROST *MBBS, FRCPA, FIAC*
Associate Professor JM HARVEY *MBBS, FRCPA* (UWA)
Dr F HUGHES *MBBCh, BAO, FFPPath, MRCPPath*
Dr JA LEWIS *MBChB, BSc, FRCPA* (Part time)
Dr A KEE *MBBS, FRCPA* (Part time)
Dr J MA WYATT *MBBS, FRCPA*

Dr A NARAN *MBChB, FFPATH, FRCPA, MRCPath*,
Professor JM PAPADIMITRIOU *AM, MBBS, BA, MD, PhD, FRCPA, FRCP, FRCPath, FIBiol, CBiol*
(Part time)
Dr M PLUNKETT *MBBS, FRCPA*
Dr PD ROBBINS *MBBS, FRCPA* [Clinical Senior Lecturer – UWA]
Dr W ROBINSON *MBBS, FRCPA*
Dr A SEGAL *MBBS, FRCPA*
Dr KB SHILKIN *MBBS, FRCPA, FRCPath, FHKCPath* [Clinical Professor – UWA]
Dr R SINIAH *DSc, PhD, MD, MBBCh, BAO, FRCPI, FRCPA, FRCPath* (Locum – Part time)
Dr B SNOWBALL *MBBS, DCH, FRCPA*
Dr SA SPARROW *MBBS, FRCPA, MIAC* (Part time)
Dr GF STERRETT *MBBS, FRCPA, FIAC* [Clinical Associate Professor – UWA]
Dr MN-I WALTERS *AM, JP, MBBS, MD, FRACP, FRCPA, FRCPath* (Emeritus Consultant)
Dr D WHITAKER *FIMLS, PhD, FRCPath, MAIMS, CFIAC*
Dr L YU *MBBS, FRCPA, DipRCPath* (Honorary Dermatopathologist)

Forensic Pathology

Dr CT COOKE *MBBS, BMedSc, FRCPA* Clinical Director [Clinical Senior Lecturer – UWA]
Dr AM BUCK *DipTech, BAppSc, MSc, PhD* (Forensic Anthropologist – Part time)
Dr GA CADDEN *MB, ChB(Glas), DMJ(Path)*
Dr IR DADOUR *BSc(Hons), PhD* (Honorary Forensic Entomologist)
Dr S KNOTT *BDS, DipForOdont* (Forensic Odontologist – Part time)
Dr KA MARGOLIUS *BSc, MBBCh, FFPPath(SA), MIAC, FRCPA, FACLM, LLB*
Professor GR STEWART *BSc, PhD, DSc* (Honorary Forensic Botanist)

Corporate

Dr KB SHILKIN *MBBS, FRCPA, FRCPath, FHKCPath* Chief Executive Officer
Mr DR TAYLOR *BAppSc, GradDipComp, MAIMS* Director of Operations
Mr JS FRYER *FCA* Director of Finance
Mr RC BOUGOURE *BA, BEd, DipEd, GradCertDefStudies, AdvCertVocTrngSys, AssDipAdminStudies* Director of Human Resources
Mr H CARMAN *BAppSc, GradDipBus, MAIMS* Quality Officer
Miss MS WOODS *BAppSc, GradDipBus* Projects Manager
Mr RA BOWMAN *BAppSc, MSc, GradDipMgt, FASM* General Manager, Microbiology & Infectious Diseases Division
Mrs FE BROGDEN *BSc, MSc, MBA* Director of Business & Support Services
Dr P CATERINA *BAppSc, PhD* General Manager, Tissue Pathology Division
Mr JM FOGARTY *AssocDip(Med Tech), APTCMedTech, MAIMS* General Manager, Branch Laboratories Division
Dr GN KENT *BSc(Hons), PhD, FAACB* General Manager, Clinical Pathology Division

PATHCENTRE LUNCH TIME FORUMS

| DATE | SPEAKER | TOPIC |
|--------------|--|---|
| 14 July | Anthea Downs <i>Haematology R&D /Microarray</i> | Multiplex Diagnostics Genome → Transcriptome → Proteome |
| 28 July | Dr Maria Franchina <i>School of Biomedical and Chemical Sciences, and WAIMR</i> | Molecular clues to CD30+ve lymphoma |
| 25 August | A/Prof Gary Jeffrey and Dr Ric Rossi. <i>Biochemistry</i> | Hepatitis C. Advances in Treatment and Biochemical Markers of Progression. |
| 8 September | Professor Tom Riley <i>Microbiology</i> | Costing healthcare related infections in Belgium |
| 22 September | Maxine Dennis Chelsea Longbottom <i>Post-Graduate Student Presentations</i> | Sex Hormone Receptors and Atherosclerosis Resistance of <i>Pseudomonas aeruginosa</i> to tea tree oil |
| 29 September | Professor Michael Oellerich <i>PathCentre Visiting Lecturer Pharmacology/Toxicology</i> | Use of LC-MC/MS in immunosuppressive drug monitoring in adult and paediatric patients. |
| 3 November | Dr David Joske <i>Haematology</i> | What is the role of Complementary and Alternative Medicine in Modern Cancer Care? |
| 17 November | Dr John Walsh <i>Biochemistry</i> | Autoimmune Thyroid Disease |
| 23 March | Dr Alanah Buck <i>Forensic Pathology</i> | Ancient Egypt: Mummies & Skeletons from a Theban Tomb |
| 6 April | Dr Jill Finlayson <i>Haematology</i> | The Battered Stem Cell - Models for leukaemogenesis |
| 20 April | Dr Peter Hollingsworth <i>Immunology</i> | Vasculitis |
| 4 May | Dr Jenny Ma Wyatt <i>Anatomical Pathology</i> | Lung cancer - overview and pathology reporting |
| 1 June | Dr Joey Kaye <i>Biochemistry</i> | Type I Diabetes Mellitus – Update |
| 15 June | Sean O'Halloran and Professor David Joyce <i>Pharmacology and Toxicology</i> | A switch on-line saves time!" HPLC column switching in TDM and "COX II inhibitors – Dangerous revelations |
| 29 June | Dr Felicity Frost Dr Patrick Lai <i>Cytology</i> | Quality Assurance (QA) in Cervical Biopsies: Use of Ancillary Testing |

PERFORMANCE INDICATORS



AUDITOR GENERAL

INDEPENDENT AUDIT OPINION

To the Parliament of Western Australia

THE WESTERN AUSTRALIAN CENTRE FOR PATHOLOGY AND MEDICAL RESEARCH FINANCIAL STATEMENTS FOR THE YEAR ENDED 30 JUNE 2005

Audit Opinion

In my opinion,

- (i) the controls exercised by The Western Australian Centre for Pathology and Medical Research provide reasonable assurance that the receipt, expenditure and investment of moneys, the acquisition and disposal of property, and the incurring of liabilities have been in accordance with legislative provisions; and
- (ii) the financial statements are based on proper accounts and present fairly in accordance with applicable Accounting Standards and other mandatory professional reporting requirements in Australia and the Treasurer's Instructions, the financial position of the Centre at 30 June 2005 and its financial performance and cash flows for the year ended on that date.

Scope

The Board's Role

The Board is responsible for keeping proper accounts and maintaining adequate systems of internal control, preparing the financial statements, and complying with the Financial Administration and Audit Act 1985 (the Act) and other relevant written law.

The financial statements consist of the Statement of Financial Performance, Statement of Financial Position, Statement of Cash Flows, and the Notes to the Financial Statements.

Summary of my Role

As required by the Act, I have independently audited the accounts and financial statements to express an opinion on the controls and financial statements. This was done by looking at a sample of the evidence.

An audit does not guarantee that every amount and disclosure in the financial statements is error free. The term "reasonable assurance" recognises that an audit does not examine all evidence and every transaction. However, my audit procedures should identify errors or omissions significant enough to adversely affect the decisions of users of the financial statements.

D D R PEARSON
AUDITOR GENERAL
31 October 2005

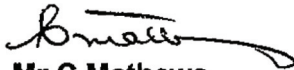
CERTIFICATION OF PERFORMANCE INDICATORS

I certify that the performance indicators presented in the following pages are based on proper records, are relevant and appropriate for assisting users to assess the performance of The Western Australian Centre for Pathology and Medical Research (PathCentre), and fairly represent the performance of PathCentre for the year ended 30 June 2005.

Signed at Perth this 30 day of August 2005



Mr AJ Griffiths
Acting Chairman



Mr C Mathews
PathCentre Board Member

PERFORMANCE INDICATORS

PathCentre is required by the *Financial Administration and Audit Act 1985* to disclose performance indicators. These are intended to assist interested parties with their assessment of the agency's performance in the production of its outputs and the achievement of its government desired outcomes.

PathCentre's principal government desired outcome is the provision of pathology and laboratory testing services to meet the needs and expectations of the Western Australian community.

The indicators set out below have been developed to meet the requirements of the Act and therefore to provide information as to the quantity, quality, timeliness and cost of PathCentre's outputs. Audited key performance indicators of efficiency and of effectiveness are presented separately.

Quantity

Laboratory testing accounts for approximately 95% of PathCentre's operations. Outputs from laboratory testing for clinical diagnostic purposes are measured in Commonwealth Medical Benefits Schedule (CMBS) items and from other testing in test numbers. On this basis of measurement outputs showed an increase of 7.3% over the previous year (2003/04 – 8.7% over 2002/03). It should be noted that these calculations are based on counts of items, which vary considerably in complexity and value.

Quality

The most appropriate indicator of quality is provided by NATA (National Association of Testing Authorities) accreditation, which involves periodic independent assessment of a laboratory's procedures and operations to determine whether they meet highest quality standards. All PathCentre's laboratories are NATA accredited.

Timeliness

In order to provide an indication of timeliness in laboratory processing, a sample of common pathology tests performed in the central laboratories was selected and a target turnaround time for delivery of results was set. 94% of results for the tests selected were delivered within the targeted time. The same exercise recorded a 94% rate the previous year.

Cost

Total costs as disclosed in the Statement of Financial performance rose from \$66,152,919 to \$73,697,892, an increase of 11.4%.

AUDITED PERFORMANCE INDICATORS

PathCentre is required by the *Financial Administration and Audit Act 1985* to develop and present key performance indicators of efficiency and of effectiveness to be submitted to and audited by the Auditor General. These are intended to assist interested parties with their assessment of the agency's performance in the production of its outputs and the achievement of its government desired outcomes.

PathCentre's principal government desired outcome is the provision of pathology and laboratory testing services to meet the needs and expectations of the Western Australian community. Outputs from such testing account for approximately 95% of the agency's operations. The indicators set out below have been developed to meet the requirements of the Act and to inform the reader as to PathCentre's efficiency and effectiveness. They relate only to pathology and other laboratory testing. It should be noted that some of these calculations are based on counts of items, which vary considerably in complexity and value.

Efficiency indicators

An overall indicator of efficiency is provided by relating outputs, measured in Commonwealth Medical Benefit Schedule (CMBS) items or equivalents, to total operating costs. Operating cost per item in 2004/05 was \$32.93, an increase of 3.6% over the equivalent figure of \$31.79 in 2003/04. This increase compares favourably with the overall increase in operating costs of 11.4% shown in the financial statements (in 2003/04 the operating cost per CMBS decreased by 0.8% in comparison to an increase in operating cost of 6.3%) and demonstrates a continuing improvement in overall cost efficiency in comparison to the increase in the operating cost.

Since staff costs account for most of PathCentre's total operating costs it is also relevant to measure staff cost efficiency by relating outputs, in CMBS items, to total staff costs. Staff cost per item in 2004/05 was \$21.72, an increase of 6.3% over the equivalent of \$20.44 in 2003/04. This percentage increase compares favourably with the overall increase in staff costs of 14.1% shown in the financial statements (in 2003/04 staff costs per item decreased by 4.3% compared to a 4.1% increase in staff costs), and demonstrates a continuing improvement in staff cost efficiency.

It is also relevant to measure staff productivity. This is best expressed in terms of outputs, measured in items, per average staff numbers during the year, measured in full-time equivalents (FTE). In 2004/05 outputs per FTE improved by 0.7% to 2,903 from 2,883 in 2003/04 (1.8% in 2003/04 from 2,831 in 2002/03). This demonstrates a small but continuing improvement in staff productivity and therefore efficiency.

Effectiveness indicators

A measure of effectiveness is provided by calculating PathCentre's market share. This is the increase in the volume (in CMBS items) of pathology tests ordered by medical practitioners in cases where the patient and/or the ordering doctor has a choice of using either PathCentre or a competing pathology provider. Such tests are mostly bulk billed to the Health Insurance Commission (Medicare). They showed an increase in volume over previous year of 15.5% (14.1% in 2003/04). In comparison the comparative pathology market in Western Australia as reported by the Health Insurance Commission increased by 5.9% in volume (2.6% in volume 2003/04). Our market share therefore continued to increase, indicating a higher level of effectiveness than our competitors.

Summary of Research, Teaching and Reference Centre Activity

| | 2004/2005 Clinical Pathology | 2004/2005 Micro- biology | 2004/2005 Tissue Pathology | 2004/2005 TOTALS | 2003/2004 TOTALS |
|-------------------------------------|------------------------------------|--------------------------------|----------------------------------|---------------------|---------------------|
| Research | | | | | |
| Post-graduate students | 11 | 7 | 6 | 24 | 20 |
| Original/Scientific publications | 42 | 27 | 6 | 75 | 95 |
| Conference presentations | 21 | 15 | 13 | 49 | 40 |
| Teaching | | | | | |
| Undergraduate lectures | 60 | 96 | 224 | 380 | 404 |
| Other lectures | 16 | 24 | 189 | 229 | 248 |
| Reference centre | | | | | |
| Specialist lectures | 5 | 3 | 1 | 9 | 14 |
| Advisory bodies | 7 | 19 | 5 | 31 | 70 |
| Invited papers | 12 | 37 | 17 | 66 | 63 |
| Awards | 0 | 0 | 2 | 2 | 2 |

FINANCIAL STATEMENTS



AUDITOR GENERAL

INDEPENDENT AUDIT OPINION

To the Parliament of Western Australia

THE WESTERN AUSTRALIAN CENTRE FOR PATHOLOGY AND MEDICAL RESEARCH PERFORMANCE INDICATORS FOR THE YEAR ENDED 30 JUNE 2005

Audit Opinion

In my opinion, the key effectiveness and efficiency performance indicators of The Western Australian Centre for Pathology and Medical Research are relevant and appropriate to help users assess the Centre's performance and fairly represent the indicated performance for the year ended 30 June 2005.

Scope

The Board's Role

The Board is responsible for developing and maintaining proper records and systems for preparing performance indicators.

The performance indicators consist of key indicators of effectiveness and efficiency.

Summary of my Role

As required by the Financial Administration and Audit Act 1985, I have independently audited the performance indicators to express an opinion on them. This was done by looking at a sample of the evidence.

An audit does not guarantee that every amount and disclosure in the performance indicators is error free, nor does it examine all evidence and every transaction. However, my audit procedures should identify errors or omissions significant enough to adversely affect the decisions of users of the performance indicators.

A handwritten signature in black ink, appearing to read 'D D R Pearson'.

D D R PEARSON
AUDITOR GENERAL
31 October 2005

CERTIFICATION OF FINANCIAL STATEMENTS

The accompanying financial statements of The Western Australian Centre for Pathology and Medical Research (PathCentre) have been prepared in compliance with the *Financial Administration and Audit Act 1985* from proper accounts and records to present fairly the financial transactions for the year ended 30 June 2005 and the financial position as at 30 June 2005.

At the date of signing we are not aware of any circumstances which would render the particulars included in the financial statements misleading or inaccurate.

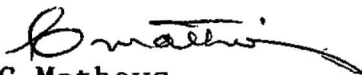
Signed at Perth this **30** day of August 2005



Mr AJ Griffiths
Acting Chairman



Mr John Fryer
Principal Accounting Officer, PathCentre



Mr C Mathews
PathCentre Board member

ANNUAL ESTIMATES

ANNUAL ESTIMATES

As PathCentre is being abolished on the 14th July 2005 under Section: 7 of the Hospitals and Health Services Act 1927, no annual estimates have been included.

APPENDICES

NATIONAL AND INTERNATIONAL SCIENTIFIC LECTURES AND SCIENTIFIC PRESENTATIONS BY STAFF

In addition to the following list, PathCentre staff have attended and participated in other State, National and International meetings and conferences. Only formal presentations are listed here.

Ms S Altman:

September 2004

Poster: "Sporotrichosis – outbreak or new endemic area in WA". Australian Society for Microbiology Annual Meeting, Sydney, NSW.

Dr J Beilby:

September 2004

Poster Presentation: "Calculated free testosterone compared with free androgen index."

Beilby J, Lim EM, Bhagat CI. 10th Asian Pacific Congress of Clinical Biochemistry and 42nd Annual Scientific Conference of the Australasian Association of Clinical Biochemists, Perth, WA.

September 2004

Poster Presentation: "CETP gene haplotypes are associated with plasma HDL-cholesterol levels in several community populations." Beilby J, Palmer L, McCaskie P, Hung J, Chapman C, McQuillan B, Thompson P. 10th Asian Pacific Congress of Clinical Biochemistry and 42nd Annual Scientific Conference of the Australasian Association of Clinical Biochemists, Perth, WA.

September 2004

Oral Presentation: "Prostate specific antigen (PSA) and prostate cancer risk among men participating in a cancer prevention trial." Beilby J, Ambrosini G, Reid A, Fletcher S, de Klerk N, Musk AW. 10th Asian Pacific Congress of Clinical Biochemistry and 42nd Annual Scientific Conference of the Australasian Association of Clinical Biochemists, Perth, WA.

September 2004

Poster Presentation: "Stromelysin-1 (MMP-3) gene 5a/6a promoter polymorphism is associated with blood pressure in a community population." Beilby J, Hung J, Palmer L, Chapman C, McQuillan B, Thompson P. 10th Asia Pacific Congress of Clinical Biochemistry and 42nd Annual Scientific Conference of the Australasian Association of Clinical Biochemists, Perth, WA.

Ms C Boyder:

September 2004

Poster Presentation: "Haemoglobin D and E variants interfere with haemoglobin A1c Analysis by an ion exchange method." Boyder C, Joseph J, Rossi, E Bhagat C. 10th Asian Pacific Congress of Clinical Biochemistry and 42nd Annual Scientific Conference of the Australasian Association of Clinical Biochemists, Perth, WA.

Dr G Cadden:

July – August 2004

Invited speaker: Forensic Pathology Course, Centre for Forensic Science, UWA, Perth, WA.

August 2004

Invited speaker: Nursing Education SCGH, Perth, WA.

November 2004

Invited speaker: Health Consumer's Council Workshop, Perth, WA.

November 2004

Invited speaker: Nursing Federation Annual Meeting, Perth, WA.

Ms G Chidlow:

September 2004

Poster: "A multiplex Taqman method for the detection of HSV-1, HSV-2 and varicella-zoster DNA".

Chidlow GR, Harnett GB, Smith DW. Australian Society for Microbiology Annual Meeting, Sydney, NSW.

Mr S Ching:

June 2005

Poster Presentation: "The effects of retinol supplementation in *P. berghei*-infected Swiss mice." Hamzah J, Davis T, Batty K, Ilett K, Croft K, Mori T, Ching S, Davis W. Australian Society for Medical Research, Perth, WA.

Dr JH Crawford:

March 2005

Poster Presentation. "The utility of platelet autoantibody testing in the investigation of thrombocytopenic patients – a single institution review." Pathology Update. Sydney, NSW.

March 2005

Poster presentation. "Tandem autologous peripheral blood stem cell transplantation in non-Hodgkin lymphoma - a single institution experience. European society of Bone Marrow Transplantation." Prague. Czechoslovakia.

May 2005

Oral Presentation. "Drug Induced thrombocytopenia – what have we learnt?" Haematology Society of Australia and New Zealand WA Meeting. Perth, WA.

Dr GM Cull:

May 2005

Invited Speaker: "New biological insights into chronic lymphocytic leukaemia". Haematology Society of Australia and New Zealand WA Meeting. Perth, WA.

Dr AM Downs:

May 2005

"Cytogenetics, Microarray and Survival Analysis in Multiple Myeloma" Haematology Society of Australia and New Zealand WA Meeting. Perth, WA.

Dr CL Golledge:

July 2004

Invited speaker: "Current issues with genital herpes – Your questions answered". General Practitioner Meeting, Old Swan Brewery, Perth, WA.

Invited speaker: "Antibiotic Updates" Geraldton Postgraduate Breakfast Talks, Mid West Division of General Practice, Geraldton, WA.

August 2004

Invited speaker: "Clinical cases in Infectious Diseases, a pictorial overview". PathCentre Clinical Pathology Forum, Mandurah, WA.

September 2004

Invited speaker: "Infectious Diseases Quiz". Western Australian Centre for Remote and Rural Medicine Pilbara Weekend, Karratha, WA.

October 2004

Invited speaker: "Infectious Diseases Quiz". PathCentre Clinical Pathology Forum, Albany, WA.

November 2004

Invited speaker: "A rational approach to the treatment of community-acquired pneumonia". PathCentre Clinical Pathology Forum, Esperance, WA.

February 2005

Invited speaker: "Microbiological aspects of group B streptococcal disease in the neonate". PathCentre Clinical Pathology Forum, Osborne Park, WA.

March 2005

Invited speaker: "CJD & sterilization: What are the implications?" Sterilizing Research and Advisory Council of Australia (WA) State Conference, Fremantle, WA.

Invited speaker: "Choosing the right antibiotic and antibiotic sensitivity patterns". PathCentre, Clinical Pathology Forum, Katanning, WA.

April 2005

Invited speaker: "Microbiology Workshop / Case Studies in Infectious Diseases". Updates in Clinical Practice, General Practitioners Educational Meeting, Bunker Bay, WA.

May 2005

Invited speaker: "Wound Management"

Invited speaker: "The empiric management of suspected community-acquired septicaemia".

PathCentre Clinical Pathology Forum, Broome, WA.

PathCentre Clinical Pathology Forum, Derby, WA.

PathCentre Clinical Pathology Forum, Kununurra, WA.

June 2005

Invited speaker: "Creutzfeldt Jacob Disease". 6th Annual Infection Control Seminar, St John of God Healthcare, Subiaco, WA.

Invited speaker: "Community Acquired Pneumonia". Intensive Care Unit, Hollywood Private Hospital, Nedlands, WA.

Mr LP Hackett:

August 2004

Poster presentation: "Population Pharmacokinetic modelling of Citalopram taken in Overdose." Isbister GK, Dawson AH, **Hackett LP**, White IM. 8th World Congress on Clinical Pharmacology & Therapeutics, Brisbane, QLD.

October 2004

Poster presentation: "Interethnic comparison of Clozapine Treatment in Schizophrenia." Ng C, Chong SA, Lambert T, Fan A, **Hackett LP**, Mahendran R, Subramaniam M, Schweitzer I. 11th Meeting of the Pacific Rim College of Psychiatrists, Hong Kong.

February 2005

Oral Presentation: "Pharmacokinetic-Pharmacodynamic Modelling of QT-Prolongation after Deliberate Self-Poisoning with Citalopram." Friberg LE, Isbister GK, **Hackett LP**, Duffull SB. 7th Annual Meeting of the Population approach group in Australia and New Zealand, Brisbane, QLD.

April 2005

Poster Presentation: "Infant dose and safety of breastfeeding for dexamphetamine and methylphenidate in mothers with attention deficit hyperactivity disorder." **Hackett LP**, **Ilett KF**, Kristensen JH, Hale TW. 9th International Congress of Therapeutic Drug Monitoring and Clinical Toxicology, Louisville, USA.

April 2005

Poster Presentation: "Estimation of infant dose and Assessment of Breastfeeding Safety for Escitalopram Use in Postnatal Depression." **Ilett KF**, **Hackett LP**, Kristensen JH, Rampono J. 9th International Congress of Therapeutic Drug Monitoring and Clinical Toxicology, Louisville, USA.

Mr S O'Halloran:

November 2004

Invited Speaker: "Medico-legal drug testing – Analysis and interpretation." The Stipendiary Magistrates' Society of Western Australia Conference, Fremantle, WA.

February 2005

Invited Speaker: "Urinalysis – Understanding the testing procedure and interpreting the laboratory report." Community Justice Services Office, Mount Lawley, WA.

April 2005

Oral Presentation: "Development of a GC-MS method for confirmation of methamphetamine in oral fluid and its use in assessment of the performance of an On-Site saliva immunoassay testing system." 9th International Congress of Therapeutic Drug Monitoring and Clinical Toxicology, Louisville, USA.

Dr GB Harnett:

August 2004

Presentation: "Development of a real-time quantitative assay for human cytomegalovirus (HCMV) and assessment of its reproducibility". **Harnett GB**, Williams SH, Chidlow GR. 22nd National Reference Laboratory Workshop on Serology, Melbourne, Vic.

Ms K Howard:

September 2004

Poster: **Howard K**, Foster NF and Inglis TJJ. "Isolation of *Burkholderia pseudomallei* from Australian soil using selective culture techniques". 4th World Melioidosis Congress, Singapore.

Dr T Inglis:

August 2004

Invited speaker: "The cellular pathogenesis of melioidosis". National Institutes of Allergy and Infectious Diseases, Office of Rare Diseases, International Conference on Burkholderia Pathogenesis: Approaches and Opportunities for Research on Glanders and Melioidosis. Bethesda, MD, USA.

September 2004

Invited speaker: "White powder". Western Australian Department of Environment, Perth, WA.

Invited speaker: Plenary: "The environmental microbiology of melioidosis". 4th World Melioidosis Congress, Singapore.

November 2004

Invited speaker: "The Public Health Laboratory Network". State Health Disaster Management Committee, Health Aspects of Chemical, Biological and Radiological Incidents Course, East Fremantle, WA.

December 2004

Invited speaker: Plenary: "Melioidosis as an occupational health risk". Australian Institute of Occupational Hygienists Annual Meeting, Fremantle, WA.

March 2005

Invited speaker:

1 "Infecções emergentes em vigência de desastre global".

2 "O Ambiente em Mudança e o Melioidose".

Florianopolis Tropical Medicine Congress 2005, Tejuoca, Brazil.

Prof KF Ilett:

August 2004

Poster Presentation: "Effects of a high-fat meal on the bioavailability of piperazine in healthy volunteers." 8th World Congress on Clinical Pharmacology and Therapeutics, Brisbane. Also *Clin Exp Pharmacol Physiol* 31(Supplement 1):A180-181.

February 2005

Invited Speaker: "Treating malaria in children in Papua New Guinea 2005-2007." Joint seminar with TME Davis to the Rotary Club of Nedlands, Nedlands, WA.

February 2005

Invited Speaker: "Antidepressants in pregnancy and lactation" – contributor to symposium on "Antidepressant guidelines: who needs them"? Sponsored by the Western Australian Therapeutics Advisory Group and Pfizer Australia, Nedlands, WA.

April 2005

Poster Presentation: "Estimation of infant dose and assessment of breastfeeding safety for escitalopram use in postnatal depression." 9th International Congress of Therapeutic Drug Monitoring and Clinical Toxicology, Louisville, USA.

April 2005

Invited Speaker: "Antidepressants in pregnancy and lactation." 9th International Congress of Therapeutic Drug Monitoring and Clinical Toxicology, Louisville, USA.

Dr D Joske:

May 2005

HSANZ (WA) Scientific Meeting (Chromosomes & Cancer & Haematology Updates) Bunker Bay, WA.

A/Prof D A Joyce:

April 2004

Invited Speaker: "Clinical Update in Musculoskeletal Diseases for Health Professionals: Introduction to the Biological Agents." Arthritis Foundation of Western Australia, Shenton Park, WA.

September 2004

Invited Speaker: "Mixed Signals: Macrophage survival in the presence of TNF- α ." Annual State Scientific Meeting of Australian Rheumatology Association, Perth, WA.

October 2004

Invited Speaker: "Workplace Drug and Alcohol Surveillance." Australian Human Resources Institute, Perth, WA.

May 2005

Invited Speaker: "Mechanism of transrepression of TNF- α promoter in macrophages by glucocorticoids." Asthma and Allergy Research Institute, QEII Medical Centre, Nedlands, WA.

Dr G N Kent:

September 2004

Invited speaker: "Sources of poor specimen quality including causes of haemolysis and other preanalytical issues in clinical chemistry". 10th Asian Pacific Congress of Clinical Biochemistry and 42nd Annual Scientific Meeting of the Australasian Association of Clinical Biochemists, Perth, WA.

Dr E Lim:

August 2004

Poster Presentation. "Haemoglobinopathies in Christmas Islanders" and "Haemoglobinopathies in Cocos Islanders" Genetics and Population Health Conference, Fremantle, WA.

Dr K Margolius:

July 2004

A Buck and KA Margolius:

Presentation: Estimation of Time Since Death: Myth or Magic, KA Margolius & A Buck, 44th Annual Conference Federation of South African Societies of Pathology, Stellenbosch, South Africa.

July 2004

GA Cadden, CT Cooke and KA Margolius:

Presentation: Diving Down Under: Pearls, Problems and Insights, KA Margolius, CT Cooke & GA Cadden, 44th Annual Conference Federation of South African Societies of Pathology, Stellenbosch, South Africa.

August 2004

Presentation: Virtue or Villainy: The Expert Witness Revisited, 15th World Congress on Medical Law, Sydney, Australia.

August 2004

R Blackham and KA Margolius:

Presentation: The Roadside Patient: Emergency Treatment Outside the Hospital Setting, 15th World Congress on Medical Law, Sydney, NSW.

August 2004

R Blackham and KA Margolius:

Presentation: Medical Treatment of the Incapacitated Patient in the Emergency Setting, 15th World Congress on Medical Law, Sydney, NSW.

Mr N Michalopoulos:

July 2004.

Invited Speaker along with Mr Jim Thom, Mrs Grace Glimore (RPH): "D-Dimer: Thrombosis answered?" Australian Institute of Medical Scientists National Workshop, Perth, WA.

Mr B Moon:

October 2004

Presentation: Pap smear histories of women with invasive squamous carcinoma of the cervix. Australian Society of Cytology – National Scientific Meeting, Brisbane, QLD.

Mr P Phillips:

August 2004

Invited speaker: "Evaluation of the architect® quantitative hepatitis B surface antigen system using hepatitis B surface antigen reactive sera". 21st National Reference Laboratory Meeting, Melbourne, Vic.

Mr J Prior:

August 2004

Poster Presentation. "Haemoglobinopathies in Christmas Islanders" and "Haemoglobinopathies in Cocos Islanders" Genetics and Population Health Conference, Fremantle, WA.

August 2004

Poster Presentation. "Haemochromatosis Mutations in Cambodian", "Alpha Thalassaemia in Western Australia" and "The Incidence of Alpha Thalassaemia in an Indigenous Australian Community" Genetics and Population Health Conference, Fremantle, WA.

Dr P Robbins:

October 2004

Invited Speaker: Pathogen Free Inflammatory Pseudotumours of the Central Nervous System. XXV Congress of the International Academy of Pathology, Brisbane, QLD.

October 2004

Invited Speaker: Cerebral Langerhans Cell Histiocytosis. XXV Congress of the International Academy of Pathology, Brisbane, QLD.

October 2004

Invited Speaker: Rhabdoid Meningioma. XXV Congress of the International Academy of Pathology, Brisbane, QLD.

June 2005

Invited Speaker: Papillary neuroepithelial tumour of the pineal region. Annual Scientific Meeting, Australasian Division, International Academy of Pathology, Sydney, NSW.

June 2005

Invited Speaker: Atypical Teratoid / Rhabdoid tumour of the CNS. Annual Scientific Meeting, Australasian Division, International Academy of Pathology, Sydney, NSW.

Prof TV Riley:

February 2005

Invited speaker: "Antibiotic resistance in *Clostridium difficile* and other anaerobes". Australian Society for Antimicrobials Annual Scientific Meeting, Lorne, Vic.

April 2005

Invited speaker: "The evolution of community-MRSA in Western Australia". European Congress of Clinical Microbiology and Infectious Diseases, Copenhagen, Denmark.

Invited speaker: "Antibiotic resistance in *Clostridium difficile*". Department of Microbiology, Glasgow Royal Infirmary, Glasgow, Scotland.

June 2005.

Invited speaker: "Community-MRSA in Western Australia". Princess Margaret Hospital for Children Infectious Diseases Breakfast Meeting, Perth, WA.

Invited speaker: "Surveillance for healthcare-related infections". School of Population Health, University of Western Australia, WA.

Dr E Rossi:

September 2004

Oral Presentation: "A serum marker score predicts liver fibrosis in chronic hepatitis patients." Rossi E, Adams, L, Bulsara M, de Boer B, George J, Farrell G, McCaughan G, Jeffrey G. 10th Asian Pacific Congress of Clinical Biochemistry and 42nd Annual Scientific Conference of the Australasian Association of Clinical Biochemists, Perth, WA.

Dr DW Smith:

September 2004

Invited speaker: "SARS a global challenge". Microbiology Seminar Lecture, University of Western Australia, WA.

Invited speaker: "Application of NAD tests to respiratory virus surveillance". Australian Society for Microbiology Annual Meeting, Sydney, NSW.

December 2004

Invited speaker: "*M. genitalium* and *T. vaginalis* PCR." Around the Labs, Australian Society for Microbiology, Perth, WA.

January 2005

Invited speaker: "Preparing for the worst: Influenza surveillance and pandemic preparedness in Australia". Singapore Society for Microbiology and Biotechnology, Singapore.

March 2005

Chair.

Invited speaker: "Molecular diagnosis of infection: Holy Grail or headache?" Pathology Update, Royal College of Pathologists of Australasia, Darling Harbour, Sydney, NSW.

Invited speaker: "HPV genotype distribution in Australia". Symposium: The role of Human Papilloma Virus in Genital Neoplasia, Sir Charles Gairdner Hospital, Perth, WA.

Conference Convenor.

Speaker: "Overview of gonococcal NADT and expected outcomes of the workshop". Public Health Laboratory Network Workshop, Carlton, Vic.

April 2005

Invited speaker: "Norovirus infections". Australian Society for Infectious Diseases Annual Meeting, Busselton, WA.

May 2005

Invited speaker: "Antenatal Infectious Diseases in the Indigenous Population". Viruses in May, Prince of Wales Hospital, Katoomba, NSW.

Invited Speaker: "Influenza, the virus". Mercy Medical Study Day, Mercy Medical Centre, Perth, WA.

Dr DV Spagnolo:

March 2005

Invited speaker: "T-cell and NK-cell neoplasms. Update and diagnostic approach." Pathology Update, Royal College of Pathologists of Australasia, Sydney, NSW.

March 2005

Invited speaker: "Aggressive B-cell lymphoma workshop". Pathology Update, Royal College of Pathologists of Australasia, Sydney, NSW.

June 2005

Invited speaker: The Dr Vincent McGovern Lecture 2005. "The Dark Side of Innate and Adaptive Immunity – attack of the clones". International Academy of Pathology (Australasian Division), 30th Annual Scientific Meeting, Sydney, NSW.

Dr D Whitaker:

March 2005

Invited Speaker "The cytodiagnosis of serous effusions" Australian Society of Cytology-Tasmanian Branch, Hobart, TAS.

April 2005

Invited Speaker " The cytology of Malignant Mesothelioma" Australian Society of Cytology-Tasmanian Branch. Hobart, TAS.

October 2004

Invited Speaker "The validity of a cytological diagnosis of Mesothelioma - the PathCentre experience" International Academy of Pathology, Brisbane, QLD.

October 2004

Invited Speaker " FNA in the diagnosis of GIST " Australian Society of Cytology Annual Scientific Meeting, Brisbane, QLD.

October 2004

Invited speaker "Serous effusion Cytology" ASC Tutorial. Brisbane, QLD.

PUBLICATIONS

2004/05 articles endorsed as 'in press' have not been included.

Alfonso HS, Fritschi L, de Klerk NH, Ambrosini G, **Beilby J**, Olsen N, Musk B. Plasma retinol, carotene and vitamin E concentrations and lung function in a crocidolite-exposed cohort from Wittenoom, Western Australia: a cohort study. *Nutr J* 2005 May 11;4(1):16 [Epub ahead of print]

Baird R, **Smith D**. Use of the laboratory in diagnosis and management of infectious diseases. In *Infectious Diseases: A clinical approach* (2nd ed) ed Yung, A, McDonald M, Spelman D, Street A, Johnson P, Sorrell T, McCorman J. IP Communications, East Hawthorn, Vic.

Baxter EJ, Scott LM, Campbell PJ, East C, Fourouclas N, Swanton S, Vassiliou G, Bench AJ, Boyd EM, Curtin N, Scott MA, **Erber WN**, Green AR. Acquired mutations of the tyrosine kinase JAK2 in human myeloproliferative disorders. *The Lancet*. 2005;365:1054-1061.

Beilby JP, Chapman CM, Palmer LJ, McQuillan BM, Thompson PL, Hung J. Stromelysin-1 (MMP-3) gene 5A/6A promoter polymorphism is associated with blood pressure in a community population. *J Hypertens* 2005;23(3):537-42.

Bhagat CI (Review). Diagnosis and Complications of Cushing's Syndrome: A Consensus Statement. *Clin Biochem Rev* 2004;25:149-151.

Branford S, Rudzki Z, Parkinson I, Grigg A, Taylor K, Seymour JF, Durrant S, Browett P, Schwarzer AP, Arthur C, Catalano J, Leahy M, Filshie R, Bradstock K, Herrmann R, **Joske D**, Lynch K, and Hughes T. Real-time quantitative PCR analysis can be used as a primary screen to identify imatinib-treated patients with CML who have BCR-ABL kinase domain mutations. *Blood* 2004 Nov 1;104(9):2926-32. Epub 2004 Jul 15.

Brestovac B, Harnett GB, Smith DW, Shellam GR, **Frost FA**. Human Papillomavirus Genotypes and their association with cervical neoplasia in a cohort of Western Australian women. *J Med Virol* 2005;76:106-110.

Brestovac B, Harnett GB, Smith DW, Shellam GR, **Frost FA**. Multiplex Nested PCR (MNP) assay for the detection of 15 high risk genotypes of human papillomavirus. *J Clin Virol* 2005;33:116-122.

Broom AK, Smith DW. The influenza surveillance program in Western Australia, 2003. *Commun Dis Intell* 2004;28:169-174.

Bulsara C, Ward A, **Joske D**. Patient perceptions of the GP role in cancer management. *Australian Physician* April 2005 34:4 299-301.

Chan CF, Page-Sharp M, Kristensen JH, O'Neil G, **Ilett KF**. Transfer of naltrexone and its metabolite 6,β-naltrexol into human milk. *J Hum Lactation* 2004;20:322-26.

Chetty-Raju N, Cook, R, **Erber WN**. Vacuolated neutrophils in ethanol toxicity. *British Journal of Haematology*. 2004; 127(5):478

Daly F, **Inglis TJ**. Protocols for Hospital Management of Chemical and Biological External Incidents. 2004. Protocols for Hospital Management of Chemical and Biological External Incidents Booklet, Department of Health, Western Australia.

Davis TME, Hung T-Y, Sim I-K, Karunajeewa HA, **Ilett KF**. Piperaquine: a resurgent antimalarial drug. *Drugs* 2005;65:75-87.

Davis TME, Karunajeewa H, **Ilett KF**. Artemisinin-based combination therapies for uncomplicated malaria. *Med J Aust* 2005;182:181-85.

Devine A, Dick IM, Dhaliwal SS, Naheed R, **Beilby J**, Prince RL. Prediction of incident osteoporotic fractures in elderly women using the free estradiol index. *Osteoporos Int* 2005;16(2):216-21.

Dey J, **Aravena-Roman M**, Mee B, Fromont J, Sutton D. Bacterial diversity and antibiotic activity in temperate Australian marine sponges. *Boll Mus Ist Biol Univ Genova* 2004;68:263-277.

Dick IM, Devine A, **Beilby J**, Prince RL. Effects of endogenous estrogen on renal calcium and phosphate handling in elderly women. *Am J Physiol Endocrinol Metab* 2005 Feb;288(2):E430-5.

Edwards NA, Quigley P, **Hackett LP**, James R. Death by oral ingestion of iodine. *Emerg Med Australas* 2005;17:173-7.

Erber WN, **Buck AM**, Threlfall TJ. The haematology of indigenous Australians. *Hematology*. 2004; 9(5/6):339-350.

Fernandes LB, D'Aprile ACD, Self GJ, **Harnett GB**, Goldie RG. The impact of respiratory syncytial virus infection on endothelin receptor function and release in sheep bronchial explants. *J Cardiovasc Pharmacol* 2004;44;Sup1:S202-S206.

Funke G, **Aravena-Roman M**, Frodl R. First description of *Curtobacterium* spp. isolated from human clinical material. *J Clin Microbiol* 2005;43:1032-1036.

Gilbert A, **Prior JF**, **Bennett J**, **Lim E**, **Erber WN**. Haemoglobinopathies in the Christmas Island Population. *Hemoglobin*. 2004;28(4): 357-361.

Goh S, **Riley TV**, Chang BJ. Isolation and characterisation of temperate bacteriophages of *Clostridium difficile*. *Appl Environ Microbiol* 2005;71:1079-83.

Goh S, Chang BJ, **Riley TV**. Effect of phage infection on toxin production by *Clostridium difficile*. *J Med Microbiol* 2005;54:129-135.

Grey D, **Davies J**, **Connolly M**, **Fong E**, **Erber WN**. Detection of weak D red cells by anti-D flow cytometry: the importance of RhD agglutination and flow cytometric peak separation. *Clinical and Laboratory Haematology*. 2005; 27(2):127-33.

Grieu F, Powell B, **Beilby J**, Iacopetta B. Methylenetetrahydrofolate reductase and thymidylate synthase polymorphisms are not associated with breast cancer risk or phenotype. *Anticancer Res* 2004;24(5B):3215-9.

Gudgin E, Rashbass J, Pulford K, **Erber WN**. Primary anaplastic large cell lymphoma of the bone marrow. *Leukaemia and Lymphoma* 2005;46:461-463.

Hamzah J, Davis TM, Skinner-Adams TS, **Beilby J**. Characterization of the effect of retinol on Plasmodium falciparum in vitro. *Exp Parasitol* 2004;107(3-4):136-44.

Haverkort F. Experience with *Mycobacterium haemophilum* in Australia, 1977-2003. *Micro Aust* 2004;25:4.

Haverkort F, Gilpin C. A unique strain of *Mycobacterium tuberculosis* and a cautionary tale for users of molecular techniques. *Micro Aust* 2004;25:4.

Haverkort F, Traynor P. Guidelines for Assuring Quality of Solid Media used in Australia for the Cultivation of Medically Important Mycobacteria. [A Joint Venture of the Culture Media and Mycobacteria Special Interest Groups of the Australian Society for Microbiology. September 2004, endorsed by the ASM 2005.]

Hickling S, Hung J, Knuiman M, Jamrozik K, McQuillan B, **Beilby J**, Thompson P. Impact of voluntary folate fortification on plasma homocysteine and serum folate in Australia from 1995 to 2001: a population based cohort study. *J Epidemiol Community Health* 2005;59(5):371-6.

Hien TT, Davis TME, Chuong LV, **Ilett KF**, Sinh DXT, Phu NH, Agus C, **Chiswell GM**, White NJ, Farrar J. Comparative pharmacokinetics of intramuscular artesunate and artemether in severe falciparum malaria. *Antimicrob Agents Chemother* 2004;48:4234-39.

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CURRENT RESEARCH GRANTS

Beilby J, Ambrosini G, Musk B.

A longitudinal study of plasma carotenoids, folate and prostate cancer risk.

PathCentre Medical and Research Committee 2004 (\$2,290.50)

Beilby J, Chapman C, Palmer L and Thompson P

Genetic polymorphisms and environmental factors that affect HDL metabolism.

National Heart Foundation 2005-2006 (\$112,940)

Carnley B, Downs AM, Sturm M, Herrmann R

Essential Thrombocythemia – a study of genetic determinants with a view to a diagnostic test

Royal Perth Hospital Trust Fund (\$75 000)

Carson CF, **Riley TV**

Tolerance of *Pseudomonas aeruginosa* to tea tree oil.

Rural Industries Research and Development Corporation 2003-4 (\$88,000)

Chapman C, Beilby J

Infrastructure Funding, University of WA

Round 8 of the Medical & Health Research Infrastructure Funding 2005 (\$11,520)

Cull G

Analysis of genomic and immunophenotypic markers as prognostic indicators in chronic lymphocytic leukaemia.

Sir Charles Gairdner Research Fund.

Davis TME, Karunajeewa H, Reeder J, **Ilett KF**

Comprehensive assessment of novel artemisinin-based combination regimens for treatment of malaria in Papua New Guinea.

National Health and Medical Research Council of Australia (\$173,000)

Dennis M, Chapman CML, Beilby J

The role of oestrogen and androgens in the development of atherosclerosis.

PathCentre Postgraduate Research Scholarship 2003-2005 (\$18,009 p.a.)

Downs, A.M., Mamotte, C.

Influence of atorvastatin on the expression of genes for the LDL receptor (LDLR) and for LDLR-related protein (LRP); and identification of additional genes influenced by atorvastatin

Royal Perth Hospital Medical Research Foundation (\$10,000 + 0.5 FTE Research Officer)

Downs AM, Carnley B, Cull G, Joske D, Erber W, Sturm M, Herrmann R

Essential Thrombocythemia – a study of genetic determinants with a view to a diagnostic test

PathCentre Research Advisory Committee (\$5100)

Hui J, **Beilby J**.

Musk W. MICA and MICB genes in asthma - an association analysis in the Busselton Population.

University of WA Research Grant (\$14,625)

Hui J, **Beilby J**, Musk W

Association analysis using microsatellite markers to narrow the susceptibility loci in patients with Chronic Obstructive Pulmonary Disease (COPD) and asthma in an Australian population (The Busselton population).

PathCentre Research Grant (\$4,000)

Ilett KF, Rampono J, Kristensen JH, **Hackett LP**

Mirtazapine in breastmilk.

Akzo Nobel – Organon Australia Pty Ltd (\$3,000)

Ilett KF, Rampono J, Kristensen JH, **Hackett LP**

Reboxetine in breastmilk.

Pfizer Australia Pty Ltd (\$10,000)

Inglis T

Burkholderia pseudomallei survival in the environment.

ChemBio Center, Development & Engineering Command, Aberdeen Proving Ground-Edgewood Area, Maryland, USA (\$57,000)

Inglis T

Environmental survival of *Burkholderia pseudomallei*.

ChemBio Center, Development & Engineering Command, Aberdeen Proving Ground-Edgewood Area, Maryland, USA 1st instalment. (\$30,000)

Inglis T, Levy A.

Occupational health risk of melioidosis in the mining industry.

Minerals and Energy Research Institute of WA (\$40,300)

Joske DJL, Ward A, Saunders C, Pritchard D.

Randomised controlled trial of a cancer shared care model. NHMRC Project Grant. (\$237,850)

Knuiman M, Olynyk J, Hung J, Davis T, **Beilby J**

Metabolic syndrome, inflammation and non-alcoholic fatty liver disease in Busselton.

National Health and Medical Research Council 2004-2005 (\$348,000)

Lehmann D, **Riley TV**, Leach AJ

Otitis media in Indigenous and non-Indigenous children: microbiological and immunological risk factors.

National Health and Medical Research Council of Australia 2002-5 (\$548,500)

Martinac B, **Riley TV**, Wilce M, McKinley A

Bacterial mechanosensitive channels as novel targets for antibacterial agents.

National Health & Medical Research Council 2005-07 (\$216,750 per year)

McGrath P, **Joske DJL.**

The development of a model of care for Haematology and Palliative Care. NH&MRC 2004. (\$149,044)

Musk B, James A, **Beilby J**, Palmer L and Knuiman M.

The Changing Prevalence of Asthma and Chronic Obstructive Airway Disease in Australia.

National Health and Medical Research Council Investigators 2005-2007 (\$729,380)

Musk B, James A, **Beilby J**, Palmer L and Knuiman M

Nitric Oxide Analyser System.

National Health and Medical Research Council Equipment Grant 2005 (\$123,915)

O'Donoghue MM, Boost MV, Tse S, **Riley TV**

Determination of antimicrobial properties of traditional Chinese herbs when used alone and in combination with conventional antibiotics.

Hong Kong Government 2005 HK\$125,000.

Riley TV

Medical research infrastructure grant.

Health Department of Western Australia 2005 \$24,500.

Riley TV, Carson CF

Effects of tea tree oil on *Staphylococcus aureus* virulence factors.

Rural Industries Research and Development Corporation 2003-4 (\$80,000)

Speers DJ

The epidemiological study of meningococcal disease in Western Australia using multi-locus sequence typing (MLST)

Sir Charles Gairdner Hospital Research Fund (\$10,000)

Taylor J, **Spagnolo DV**, Harnett G

Capillary electrophoresis and automated fluorescent DNA fragment analysis (GeneScan) in the diagnosis of T-cell lymphomas.

PathCentre Research Grant (\$4530)

Xu J, **Joyce DA**.

Inhibition of RANKL-induced osteoclastogenesis through modulation of NF- κ B signalling by PKC isoforms and parthenolide.

Arthritis Foundation of Western Australia (\$20,000)

RESEARCH PROJECTS

Anatomical Pathology

Characterisation of collagen-producing cells in human peritoneal adhesions.

Caterina P, Mutsaers SE.

The aim of this study is to characterise cell types within human peritoneal adhesions and identify cells likely to be synthesising collagen, the scaffold for adhesions formation.

Angioimmunoblastic T-cell lymphoma (AILT) – a clinicopathological and molecular study

Chai M, Spagnolo DV, Taylor JME, Platten M, Heal K, Chetty Raju N.

AILT is an uncommon form of T-cell lymphoma, with distinctive clinicopathological features, including a secondary immunodeficiency. As a result, Epstein-Barr virus infected B-lymphocytes are almost invariably present, either in a primary infection or in reactivated latently infected B cells. In a distinct minority of cases, latently infected B-immunoblasts proliferate to such an extent that distinction from a B-cell lymphoma may be difficult. The criteria for diagnosing B-cell lymphoma in these circumstances are not clear, its occurrence in AILT is thought to be rare, and the literature contains scant data on such cases, typically in the form of case reports. In this study we aim to review all AILT at PathCentre, to study lymphoma progression in cases with multiple biopsies, to assess patient outcome, and particularly to assess the frequency of B-cell lymphoma development. After double immunolabelling for CD20/EBER, single large B-blasts infected with EBV will be laser microdissected, and the clonal status of the IgH gene will be determined by PCR. This will provide important insights into the pathobiology of this unique lymphoma.

Capillary electrophoresis and automated fluorescent DNA fragment analysis (GeneScan) in the diagnosis of T-cell lymphomas

Spagnolo D, Taylor J, Harnett G, Cairns S.

Lymphoma diagnosis requires the establishment of lymphocyte lineage and clonality. Increasingly molecular testing is used for these purposes, particularly in the case of T-cell lymphomas where a simple marker of clonality such as immunoglobulin light chain restriction found in B-cell lymphomas, is lacking. Polymerase chain reaction-based assays are used for these purposes, and traditionally have involved the use of polyacrylamide gel-based electrophoretic systems for discrimination of PCR products. These are relatively time-consuming, insensitive (false negative clonal detection rate of 10-20%) and have low throughput rates. We are assessing the usefulness of capillary electrophoresis and automated GeneScan analysis of PCR products, which theoretically should allow distinction between products varying as little as one base pair in size, while also affording a higher throughput rate. The ultimate aim is to provide a faster and more sensitive approach to lymphoma diagnosis.

Clinical Biochemistry

Risk Markers for cardiovascular disease.

Beilby J, Chapman C, Jennens M, Arscott G, Hung J, Palmer L, McQuillan B and Thompson P.

Cardiovascular disease is a major cause of death and morbidity in our community. There are a number of well-known risk factors for cardiovascular disease such as high cholesterol and hypertension. The Cardiovascular Genetics Research Group is looking for novel risk markers that may be used to identify people at risk of cardiovascular disease. The markers presently being studied are cytokines and genes that cause susceptible to disease.

Antioxidant status and disease.

Ching S, Beilby J.

Low intake of antioxidant micronutrients increases the risk of certain chronic diseases and is probably also involved in accelerating the aging process. These effects may partly be due to inadequate protection of tissues against oxidative damage from free radicals. Numerous studies suggest that antioxidant micronutrients lower the risk of specific chronic diseases such as Alzheimer disease, age-related macular degeneration, some types of cancer, cataracts and ischemic heart disease (IHD). Simon Ching has developed a method for measuring serum total antioxidant activity, which has been patented and is currently undergoing clinical evaluation.

The role of sex hormones in the pathogenesis of atherosclerosis.**Dennis M, Chapman C, Beilby J.**

The prevalence of ischaemic heart disease (IHD) has been increasing amongst women in developed countries and is now the leading cause of death in females. Due to the beneficial effects of estrogen, women have a delayed onset of IHD, but this effect is lost following menopause. The aim of this study is to determine the expression levels and distribution patterns of the sex hormone receptors (oestrogen receptor α and β , progesterone receptor and androgen receptor) and their variants in human vascular tissue and determine their association with the development of IHD.

Genetic markers for asthma.**Hui J, Beilby J, Musk W.**

The rates of asthma in the community are increasing and the cause is unknown. The Asthma Genetics Research Group is looking for genetic markers that may be used to identify the biological mechanisms that make some people susceptible to asthma.

Changes in proximal femur structural geometry during lactation: The Perth Lactation Study (PerLS).**Khoo B, Price RI, Kent GN, Singer K.**

This first aim of this investigation was to determine if structural geometry changes had occurred at the proximal femur during lactation, and whether these changes were consistent with providing structural integrity to compensate the mineral mass loss. Secondly to relate these structural changes with biochemical assessments. To address the first aim, HSA was used on DXA scan images of the proximal femur. Data (DXA and biochemistry) for this study was made available from an earlier published study on human lactation [Kent et al. 1990, 1991 & 1993]. A corollary of the second aim of this *post hoc* analysis is to infer any potential influence calcium supplementation had on structural geometry (of the proximal femur).

Markers of cartilage and bone destruction in arthritis.**McNiven T, Wilson H, Kent, GN, Will RK.**

Osteoarthritis and rheumatoid arthritis both involve destruction of normal cartilage architecture and function in joints. A number of potential markers of the changes in cartilage turnover have been developed to monitor these diseases in their early stages or to monitor the response to therapy. In collaboration with Professor B Catterson in Cardiff we have been developing assays for the breakdown products of collagen in bone and cartilage and of the products of accelerated turnover of proteoglycans in cartilage.

Accurate Validated Prediction of Liver Fibrosis in Chronic Hepatitis C Infection.**Rossi E, Adams LA, Bursara M, DeBoer B, Speers D, Jeffrey GP.**

Staging liver fibrosis currently requires a biopsy, which is expensive and has potential complications. Our aim is to create and validate a non-invasive serum based model that to accurately predict different stages of liver fibrosis. The model has been developed and applied to hepatitis C in the first instance, and will be progressively evaluated in other liver diseases.

Extraction of Desmosines from Urine: A Reliable Method to detect lung inflammation?**Winfield K, Brennan S, Kent GN, Sly P.**

The primary aim of this project is to standardise and improve upon a modified version of the Cumiskey method for measuring total desmosines in the urine. We will adapt this technique to reduce variability and to establish a reference range of desmosines for healthy children aged 0-18years and adults. Urine from subjects will be used to examine diurnal variation over a 24-hour period as well as day-to-day variability. A secondary aim of this thesis is to use the reference range from Part 1 to compare with children with Cystic Fibrosis (CF) who are developing or have stable lung disease. In addition we will look at whether the excretion of urinary desmosines in children with CF are sensitive to treatments. In this part of the study urinary desmosine levels will be determined in a number of subject groups.

Clinical Pharmacology & Toxicology

Mirtazapine – measuring transfer from plasma into human milk and estimating infant exposure.

Ilett KF, Kristensen JH, **Hackett LP**, Rampono J.

Approximately 15% of new mothers will suffer from post-natal depression. In this study we are measuring the extent to which the novel antidepressant escitalopram transfers into human milk so that we can advise mothers on the safety of its use during breastfeeding.

Domperidone – defining an effective dose schedule for use as a stimulant of milk production.

Ilett KF, Kristensen, JH, Davey K, Simmer K, Langton D, Cummings S, Wan E, Hartmann PE.

Domperidone has been shown to be an effective galactagogue, with increased milk production in mothers of premature newborns being demonstrated in a small double-blind placebo controlled study. The present project is designed to investigate the dose-response relationship for domperidone as a stimulant of lactation.

Glucocorticoid and NF- κ B signaling in inflammatory macrophage activation.

Joyce DA, Steer JH.

Cortisone and similar drugs are very effective in suppressing the activity of some diseases where there is uncontrolled inflammation. These diseases include asthma, rheumatoid arthritis and many other common disorders. Unfortunately, the drugs also have a lot of side effects that prevent their general use. In this research, members of the Laboratory of Clinical Pharmacology and Toxicology identified several ways in which cortisone-like drugs act, by acting on an intracellular signaling pathway, called the NF-kappaB pathway. This information will help in progress towards drugs that have the benefits of cortisone, but not its side effects.

Intracellular signaling in osteoclast differentiation and function.

Joyce DA, Xu J.

Bones change throughout life, as bony material is slowly removed and replaced anew. Osteoclasts are the cells that remove bone. Normally, removal and replacement are tightly matched. However, in osteoporosis replacement does not keep up with removal, so bones become thinner and break more easily. Suppressing osteoclast activity is one strategy for restoring the balance between bone removal and replacement. Osteoclast activity is regulated by signaling pathways within the cell. In this research, we are looking for aspects of osteoclast intracellular signaling that might represent targets for drugs that work in osteoporosis.

Macrophage lipid metabolism in diabetes models.

Joyce DA, Yeap B.

Diabetes is a prevalent condition with high chronic morbidity, due in part to accelerated atherosclerosis. Atherosclerosis develops as a consequence of changes to endothelial, macrophage, vascular smooth muscle and fibroblast functions that follow exposure to high blood glucose concentrations, elevated lipids, hormone dysregulation (especially insulin, leptin and adiponectin) and inflammatory cytokine exposure. In these projects we are examining glucose metabolism, oxygen radical production, intracellular signalling and survival under hyperglycaemic conditions, to test a set of hypotheses that have been suggested by our recent studies on the regulation of macrophage survival.

Comparison of intramuscular artemether and rectal artesunate in PNG children with malaria.

Karunajeewa H, Page-Sharp M, **Chiswell GM**, **Ilett KF**, Davis TME.

Malaria kills some 3 million children world-wide each year. This project is essentially a clinical trial comparing standard treatment intramuscular artemether and rectal artesunate. The results to date show that artesunate clears malaria more quickly than artemether and has the added advantage of a simple method of administration (suppository). Measurements of artemether and artesunate in plasma after dose are also being made to demonstrate the extent of absorption of the two preparations.

Haematology

Review of use of prothrombinex in anticoagulation reversal

Crawford JH, **Augustson B**.

The aim of this project is to assess whether fresh frozen plasma is needed for warfarin reversal, as recommended in the recently published ASTH guidelines.

Analysis of genomic and immunophenotypic markers as prognostic indicators in chronic lymphocytic leukemia

Cull G, Downs A, Davies J, O'Reilly J.

Gene expression profiles in CD19⁺ B cells from CLL patients will be constructed using DNA microarray and compared with prognostic markers, CD38, 13q14 deletion, Trisomy 12 and p53 deletion 17.

ZAP-70 expression in chronic lymphocytic leukaemia

Downs AM, Cull G, Davies J.

The aim of this study is to compare PCR and flow cytometry measurements of ZAP-70 expression in their suitability for establishment as a prognostic test for chronic lymphocytic leukaemia.

Prognostic gene expression markers associated with deletion of chromosome 13q in multiple myeloma

O'Reilly J, Downs A, Sturm M.

Gene expression of malignant plasma cells from multiple myeloma patients with or without monosomy 13q or 13q deletion were measured, to identify specific genetic markers of poor prognosis.

Identifications of Beta Thalassaemia Mutations by Sequencing.

Prior J, Lim E, van Haeften R.

Identifications of Beta Thalassaemia Deletions by PCR.

Prior J, Lim E, van Haeften R.

Identifications of Delta Globin Variants by Sequencing.

Prior J, Lim E, van Haeften R.

Microbiology & Infectious Diseases

Clostridium difficile

Riley TV, Golledge CL.

Clostridium difficile has been an organism of interest to the Division for many years. In the last 12 months work has focused on typing 200 isolates of *C. difficile* brought to PathCentre by visiting Korean researcher Dr Hee Jung Kim.

Erysipelothrix rhusiopathiae

Riley TV, Wang Q, Mee B, Chang B.

We have shown that infections in lobster fishermen are probably caused by *Erysipelothrix rhusiopathiae*, an organism that is found on the exterior of lobsters. Investigations have continued on the virulence factors of *E. rhusiopathiae*, with a potential vaccine developed. This is currently being tested in mice.

Tea Tree Oil

Riley TV, Carson CF, Hammer KA, Papadopoulos CJ, Smith DW.

Several projects in the Division continue to be funded by the Rural Industries Research and Development Corporation. Two new projects were started last year - one looking at different aspects of *Pseudomonas* resistance and the other investigating the possible inhibition of virulence factors of *Staphylococcus aureus* by tea tree oil. These have recently been completed and reports submitted to Rural Industries Research and Development Corporation.

Using Algorithms based on Routine Surveillance and GIS and to Identify and Monitor Outbreaks of Human Disease

Plant AJ, Wright G, Veenendaal B, Smith D, Spencer J.

The aim is to develop and assess better methods of using administrative databases for surveillance, with the intention that surveillance can identify and track outbreaks in smaller geographic areas and in real time, and to make these new systems useful and accessible at local area levels. (Australian Biosecurity CRC for Emerging Infectious Diseases Project)

ELECTION TO OFFICE IN PROFESSIONAL ORGANISATIONS

Mr I Arthur

State Convenor, Mycology Special Interest Group, Australian Society for Microbiology

Dr JP Beilby

Chairman, Board of Examiners, Australasian Association of Clinical Biochemists
Member, Human Genetics Society of Australia
Member, Australian Atherosclerosis Society
Adjunct Assoc Prof School of Surgery and Pathology, UWA
Associate Royal College of Pathologists of Australasia.
Member, Board of Busselton Population Studies Group
Chairman, Intellectual Property Committee, PathCentre
Member, SCGH Research Advisory Committee
Member, Genetic Testing Committee of WA
Member, International Atherosclerosis Society Focus Group on Lipids
Member, Medical Services Advisory Committee for assessment of BNP
Member, Scientific Organising Committee Australasian Association of Clinical Biochemists Conference 2005

Dr P Caterina

Assessor, National Association of Testing Authorities

Mr C Choo

Committee Member, Australian Society of Cytology (WA Branch)

Dr CT Cooke

State Councillor, Royal College of Pathologists of Australasia
Examiner, Royal College of Pathologists of Australasia (Forensic Pathology)
Clinical Associate Professor, The University of Western Australia
Member, State Disaster Victim Identification Committee
Member, State Chemical Biological Radiological Committee

Dr JH Crawford

Trainee representative (WA representative) on AusHaemJTRC

Dr GM Cull

Member, West Australian Medication Safety Group, Cytotoxics Working Group
Member, Drug and Therapeutics Committee, Sir Charles Gairdner Hospital
Member, Haematology Discipline Advisory Group, Pathology Project Control Group

Dr AM Downs

Member, Brownes Cancer Support Centre Research Committee

Mr LJ Dusci

Member, Australian Standards/New Zealand Standards 4308:2001 Committee
Member, Australian/New Zealand Standard 4308: 2001 (Drugs of Abuse in Urine) Committee
Member, Australian/New Zealand Standard CH-039 (Detection of Drugs in Oral Fluid) Committee
Assessor, National Association of Testing Authorities

Dr WN Erber

Examiner for Fellowship, (Haematology) Part 1 and II Examinations of the Royal College of Pathologists of Australasia
Committee Member, International Society of Haematology, Committee on Nomenclature and Terminology
Committee Member, Australian Red Cross Blood Service (ARCBS) (WA) Blood Product Users Group
Sub-Committee member, Haematology Morphology, RCPA Quality Assurance Programme
Member, Rhodes Scholarship Selection Committee (Western Australia)
Member, Royal College of Pathologists of Australasia, Western Australian State Committee
Member, Haematology Programme Committee, RCPA Pathology Update
Member, Organising Committee Genetics and Population Health Conference

Dr CL Golledge

Chair, Anti-Infectives Advisory Board, Bayer Australia
Member, Post-graduate Medical Education Committee, Sir Charles Gairdner Hospital
Member, Creutzfeldt-Jakob Disease (CJD) Reference Group of Australia
Member, Advisory Board, College of Health School of Medicine, Notre Dame University
Chair, Meningococcal Foundation of Australia
Examiner, Microbiology, Royal College of Pathologists of Australasia

Ms JM Green

Member, Western Australia Food Monitoring Program Steering Group

Ms DE Grey

Examiner, Fellowship Transfusion, Australian Institute of Medical Scientists

Dr PN Hollingsworth

President, Association of Rhodes Scholars in Western Australia
Member, Scientific Advisory Committee of Busselton Population Studies Group
Member, Board of Busselton Population Studies Group
Member, Board of Asthma and Allergy Research Institute
Convenor – Immunology QAP Committee RCPA

Professor KF Ilett

Member, Psychotropic Drugs SubCommittee, Western Australian Drugs and Therapeutics Committee of the WA Government
Member, Poisons Advisory Committee, Government of Western Australia
Assessor, National Association of Testing Authorities

Dr TJJ Inglis

Chair, Sir Charles Gairdner Hospital Infection Control Committee
Councillor, Executive Committee of the Australasian College of Tropical Medicine
State Member, National Public Health Laboratory Network
Member, Western Australia State Health Care Related Infection Strategic Advisory Committee
Member, Infection Control Committees, Osborne Park Hospital and Great Southern Area Health Service
Member, State Health Disaster Management Committee and Chemical Biological Radiological Sub-Committee
Member, Fire and Emergency Services Authority – Chemical Biological Radiological Committee

Assoc Prof DA Joyce

Deputy Member, Poisons Advisory Committee, Government of Western Australia
Deputy Member, Anaesthetic Mortality Committee, Government of Western Australia

Dr G N Kent

Director, Australasian Association of Clinical Biochemists Services
Chairman Organising Committee, 10th Asian Pacific Congress of Clinical Biochemistry and 42nd Annual Scientific Meeting of the Australasian Association of Clinical Biochemists, Perth, WA September 2004
Member, BD Asian Pacific Scientific Advisory Board

Dr K Margolius

Examiner, Forensic Pathology, Royal College of Pathologists of Australasia

Mr RL Mogyorosy

Member, Committee of Standards Australia – Water Microbiology (F/T 20)
Member, Results Sub-Committee, Advisory Committee for the Purity of Water
Member, Western Australia Food Monitoring Program Steering Group

Mr BB Moon

Assessor, National Association of Testing Authorities
Committee Member, Australian Society of Cytology (WA Branch)

Mr S Munyard

Member, Western Australia Food Monitoring Program Steering Group

Prof TV Riley

Member, Western Australia Branch Committee, Australian Society for Microbiology
Member, Australian Infection Control Association Expert Working Group on Nosocomial Infections
Member, State Healthcare Related Infection Control Advisory Committee
Member, Australian Society for Microbiology National Scientific Advisory Committee
Member of the European Society for Clinical Microbiology and Infectious Diseases *Clostridium difficile* Study Group

Dr P Robbins

Honorary Secretary and Pathologist Panel Member, W. A. Bone Tumour Registry
Clinical Associate Professor UWA
Examiner, Royal College of Pathologists of Australasia
Committee Member – National HER2 Testing Advisory Board

Dr E Rossi

Member, Standards Australia Technical Committee CH-036-02: Analysis of Body Fluids
Assessor, National Association of Testing Authorities

Dr KB Shilkin

State Representative, National Pathology Accreditation Advisory Council (NPAAC)
Executive Member of Council, National Coalition of Public Pathology
Member, Advisory Board, Centre for Forensic Science, The University of Western Australia
Member, Familial Bowel Cancer Committee, Familial Cancer Registry of Genetic Services of Western Australia
Member, Medical Training Review Panel (Department of Health and Ageing) representative of the Royal College of Pathologists of Australasia
Member, Western Australian Cancer Registry – Mesothelioma Registry Committee
Member, Document Review and Liaison Committee of NPAAC

Dr DW Smith

Chairperson/ Member Public Health Laboratory Network of Australasia (PHLN)
Representative, Public Health Laboratory Network of Australasia, Therapeutic Goods Administration Working Group on Regulation of *in vitro* Diagnostic Devices
Member, Advisory Group for the Serology Quality Assurance Program, National Association of Testing Authorities/Royal College of Pathologists of Australasia (NATA/RCPA)
Member, Asia Pacific Advisory Committee on Influenza
Member, Communicable Diseases Network of Australia
Member, Microbiology Quality Assurance Program Committee, NATA/RCPA
Member, National Arbovirus and Malaria Advisory Committee
Member, National Pathology Accreditation Advisory Committee, Subcommittee for Standards for Nucleic Acid Detection Tests
Member, Organising Committee for 2005 Pathology Update Conference, Royal College of Pathologists of Australasia
Member, Security Advisory Group, Australian Animal Health Laboratories
Member, State Arbovirus Control Committee
Member, State Health Emergency Management Committee
Member, State Human Epidemic Emergency Committee
Member, State/Metropolitan SARS Response Group
Member, Technical Advisory Group for the Donovanosis Eradication Committee
Member, Vaccine Impact Support Network
Member, State Healthcare Related Infection Control Advisory Committee
Member, Royal College of Pathologists of Australasia Microbiology Advisory Committee
Member, Centre for Infectious Diseases and Microbiology (Westmead) Public Health Scientific Advisory Committee

Dr DV Spagnolo

Member, Diagnosis Working Party of the Australian Cancer Network group to draft "Guidelines for the Diagnosis and Management of Non-Hodgkin's Lymphoma".
Member, Advisory Committee, WA Research Tissue Network.
Examiner, Royal College of Pathologists of Australasia (Anatomical Pathology)

Dr DJ Speers

Examiner, Australian Medical Council

Examiner, Part I Microbiology, Fellowship Examinations, Royal College of Physicians of Australasia

Examiner, Fourth year Medicine, The University of Western Australia

Examiner, Sixth year Medicine, The University of Western Australia

Member, Perth Bone and Tissue Bank Board

Member, Perth Bone and Tissue Bank Scientific Committee

Member, Drug and Therapeutics Committee, Joondalup Health Campus

Member, Drug and Therapeutics Committee, Sir Charles Gairdner Hospital

Member, Infection Control Committee, Joondalup Health Campus

Member, Western Australian Therapeutics Advisory Group

Dr JME Taylor

Member, Molecular Diagnostics Advisory Committee

Dr GR Turbett

Adjunct Senior Lecturer (Forensic Biology), School of Biological Sciences and Biotechnology, Division of Science and Engineering, Murdoch University.

Executive council, SMANZFL (Senior Managers of Australia and New Zealand Forensic Laboratories)

EDITORIAL BOARDS

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Editor, PathCentre Editorial Committee (2004)

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Professor TV Riley

Journal of Medical Microbiology

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Clinical Microbiology and Infection

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Dr DW Smith

Microbiology Australia

Dr DV Spagnolo

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Pathology

Ultrastructural Pathology

TEACHING

Mr I Arthur

Microbiology 213, UWA

Mr M Aravena-Roman

Introductory Microbiology 204 and 205, UWA

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Clinical Pathology & Laboratory Medicine 909.405, 2005, UWA

Integrated Paraclinical Sciences 401 (Pathology Component) 2004, UWA

Medicine 603, Speciality Tutorials (Biochemistry), UWA

MAACB Tutorials, Australasian Association of Clinical Biochemists

RCPA AACB Chemical Pathology Course 2005 Lipids and cardiovascular disease

Dr CI Bhagat

Clinical Pathology & Laboratory Medicine 909.405, 2005, UWA

Integrated Paraclinical Sciences 401 (Pathology Component) 2004 UWA

Medicine 603, Speciality Tutorials (Biochemistry), UWA

MAACB Tutorials, Australasian Association of Clinical Biochemists

FRACP Lecture Series, Royal Australasian College of Physicians

Dr P Caterina

Biomedical Science, Curtin

Diagnostic Cytology 331, Curtin

Mr C Choo

Diagnostic Cytology 331, Curtin

Pathology 301, UWA

Dr GM Cull

FifthYear and Sixth Year School of Medicine Clinical Attachments in Cancer, UWA

Overseas Medical Student Attachments to Haematology Department

Haematology tutorials, lectures and clinical cases, FRACP candidates, SCGH

Intern Education Course Lectures, SCGH

Supervisor, Haematology trainees, Royal Australasian College of Pathologists

Ms AM Downs

Co-supervisor, Master of Laboratory Medicine, School of Surgery and Pathology, Faculty of Medicine and Dentistry, UWA

Co-supervisor, PhD Preliminary Student, School of Surgery and Pathology, Faculty of Medicine and Dentistry, UWA

Fourth Year Medicine Elective, Faculty of Medicine and Dentistry, UWA

Master of Laboratory Medicine,UWA

Dr WN Erber

Clinical Associate Professor, UWA

Tutor, Fifth Year Medicine, UWA

Supervisor, PhD Student, UWA

Supervisor, RCPA Haematology Trainees, The Royal College of Pathologists of Australasia

Dr CL Golledge

Medicine Specialities 480 (Infection), UWA

Critical Care Nursing Graduate Certificate Course, SCGH

Foundations of Infection Control, SCGH

Intern Training Programme, SCGH

Wound Management Course, SCGH

RACGP Training Program, Royal Australian College of General Practitioners

WACCRM Lectures, Western Australian Centre for Remote and Rural Medicine

Sixth Year Medicine, UWA (Teaching Weekend)

Dr PN Hollingsworth

Foundations of Pathology 909.325 UWA
Pathology 401 UWA
FRACP Lecture Series, Royal Australasian College of Physicians
Grand Round, SCGH
RCPA Basic Pathological Sciences Programme

Professor KF Ilett

Pharmacology 960.301, UWA
Principles of Pharmacology 960.210, UWA
Pharmacology Medical 909.327, UWA
Pharmacology Medical 909.401, UWA
Dental Pharmacology and Therapeutics 800.389, UWA
Bachelor of Medical Science, UWA
PhD Training Program, UWA
Masters in Clinical Biochemistry Training Program, UWA

Dr TJJ Inglis

Integrated Paraclinical Sciences 301 and 302, UWA
Integrated Paraclinical Sciences 417
Medicine Specialities 480 (Infection), UWA
Bachelor of Science Honours Examiner, UWA
Certificate in Foundations of Infection Control, SCGH

Associate Professor DA Joyce

Pharmacology 960.230 and 960.302, UWA
Medical Pharmacology, Systems 909.328 and Clinical Pharmacology & Therapeutics 909.406, UWA
Dental Pharmacology and Therapeutics, 800.389, UWA

Dr G N Kent

Co-supervisor PhD student Ms Tane McNiven, UWA
Co-supervisor PhD student Mr Ben Khoo, UWA
Co-supervisor MSc student Ms Kaye Winfield, UWA
Co-supervisor BSc (Hons), Ms S Morgan, Murdoch University

Dr K Margolius

Forensic and necropsy pathology 320 UWA
Pathology 301 UWA
Joint Co-ordinator and Lecturer of Unit Legal Medicine 308 UWA
Expert Evidence Workshop, Forensic Science Centre, UWA

Mr BB Moon

Diagnostic Cytology 331, Curtin
Pathology 301, UWA

Mr S Munyard

Environmental Health, Curtin

Dr P Phillips

Epidemiology and Infection 206, UWA

Prof TV Riley

Applied Microbiology 205, UWA
Dental Microbiology and Immunology 201
Infection and Immunity 302, UWA
Medical Microbiology 206, UWA

Dr P Robbins

Integrated paraclinical sciences 301, UWA
Integrated paraclinical sciences 401, UWA

Dr E Rossi

Australasian Association of Clinical Biochemists, Current Concepts 2005

Dr KB Shilkin

Integrated Paraclinical Sciences 301 and 302, UWA
Fourth Year Medicine, UWA
Sixth Year Medicine, UWA

Dr DW Smith

Foundations of Infectious Disease 315, UWA
Integrated Paraclinical Sciences 301 and 302, UWA
Medicine Specialities 480 (Infection), UWA
Epidemiology and Infection 206, UWA
Infectious Diseases Tutorials FRACP, Royal Australian College of Physicians
Dental Microbiology and Immunology 201

Dr DV Spagnolo

Pathology 301 and 400, UWA
Pathology 400, UWA

Dr DJ Speers

Integrated Paraclinical Sciences 301 and 302, UWA
Medicine 430, UWA
Co-ordinator, Medicine Specialities 480 (Infection), UWA
Junior Medical Staff Education Course, Joondalup Health Campus
Infectious Diseases Tutorials - Part 1 FRACP, Royal Australian College of Physicians
Intern Education Course Lectures, SCGH
Royal Australian College of Physicians Lecture Series

Mrs A Struys

Pathology 301, UWA

Dr JME Taylor

Pathology 301, 302 and 304, UWA
Diagnostic Cytology 331, Curtin

Ms LS Taylor

Post Graduate Diploma in Molecular Techniques, BIO502: Techniques in High-throughput Genetic Analysis for Diagnostic Biotechnology, Murdoch

Dr GR Turbett

Forensic Science: Graduate Diploma and Masters, UWA
Mysteries of Forensic Science 550.200, UWA
Legal Medicine 909.308, UWA
Forensic and Necropsy Pathology 909.320, UWA
Forensic Science PEC235/435, Murdoch