prince henry's institute
2006/07 annual report

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science for better life ®

PRINCE HENRY'S INSTITUTE
ANNUAL REPORT 2006/07

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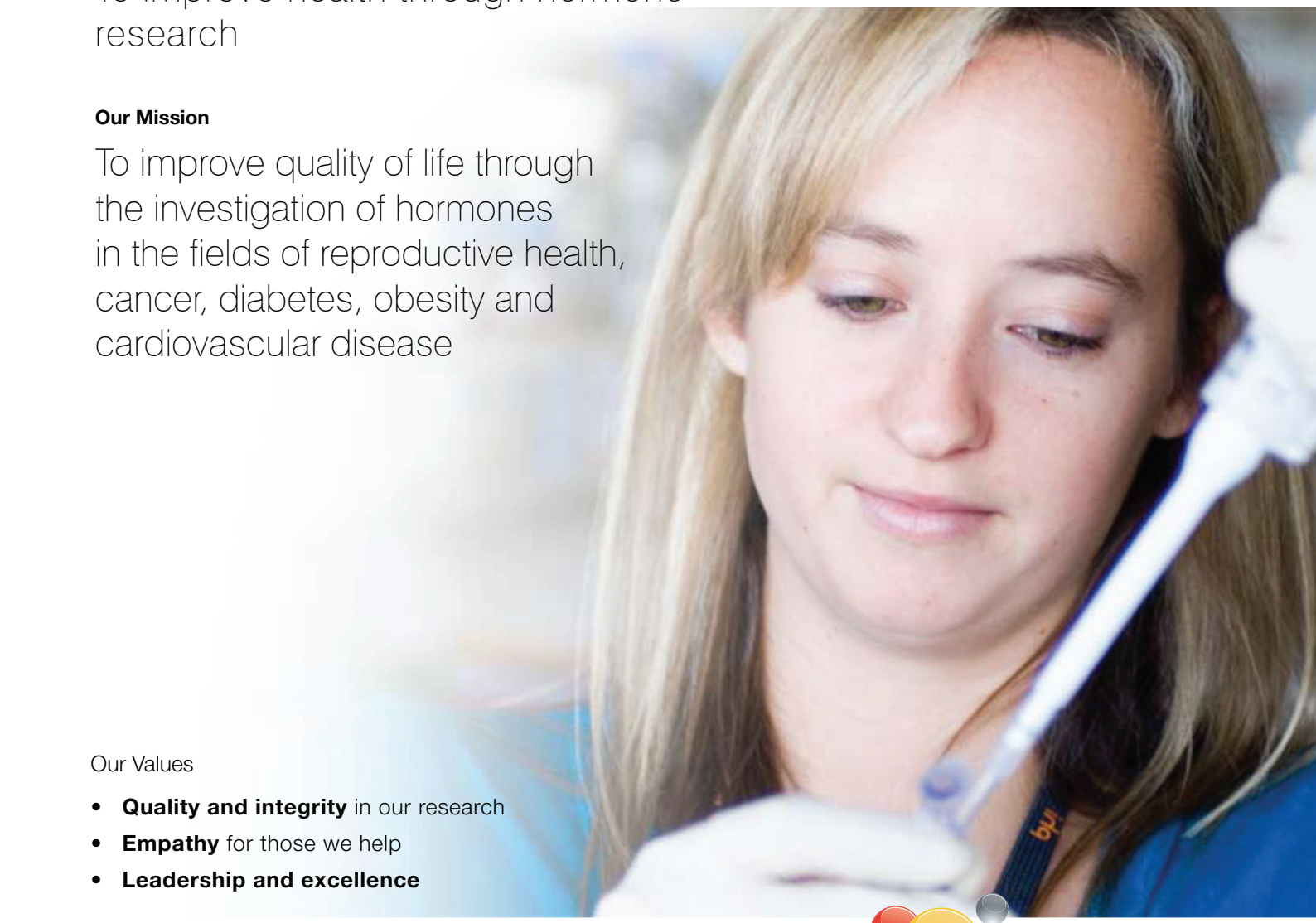
Facing page photo: Rachel Hill, PhD student, Sex Hormone Biology Group

Our Vision

To improve health through hormone research

Our Mission

To improve quality of life through the investigation of hormones in the fields of reproductive health, cancer, diabetes, obesity and cardiovascular disease



Our Values

- **Quality and integrity** in our research
- **Empathy** for those we help
- **Leadership and excellence**

Our Aims

- **Improve** early detection, diagnosis, prevention and treatment of disease
- **Contribute** to national and international health priorities
- **Lead** in the publication of new scientific knowledge
- **Enhance** scientific education through innovative research
- **Increase** community awareness through the promotion of research

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Prince Henry's Institute (PHI) is world renowned for its research into reproductive health and endocrinology, the study of hormones

For nearly forty years, the Institute has maintained a reputation for excellence through its first class, internationally competitive research and clinical programs.

Established in 1969 as the Medical Research Centre at Prince Henry's Hospital in South Melbourne, PHI is now an independent Institute based at Monash Medical Centre in Clayton, Melbourne, Australia.

PHI is a **World Health Organisation Collaborating Centre for Research in Human Reproduction**, one of only two in Australia. In 2003, the Institute was named as one of the top ranking research institutes in reproductive health worldwide, following an independent review.

Prince Henry's Institute is:

- an accredited institute of the National Health and Medical Research Council of Australia
- an affiliated institute of Southern Health
- an affiliated institute of Monash University
- a partner of the Monash Health Research Precinct
- a member of the Monash Institutes of Health
- a member of the Victorian Breast Cancer Research Consortium Inc
- an alliance partner with the Ovarian Cancer Research Foundation

The Institute's funding is derived from competitive international and national government grants, charitable trusts and foundations, the corporate sector, private philanthropy and public donations.

Contents

RESEARCH HIGHLIGHTS 2006/07

Prince Henry's Institute is on target with research developments that may lead to better family health and wellbeing. Our researchers are committed to improving the quality of life through the development of disease prevention, early detection tests, diagnostic methods and treatments.

Identifying genetic mutations linked to male infertility

Described the relationship between specific genetic deletions and male infertility as well as the transmission of defects in the Y chromosomes of infertile men to their IVF offspring.

Exploring Sertoli cell differentiation

Showed that the differentiation status of Sertoli cells in an animal model is hormone regulated; this research has implications for understanding certain forms of male infertility and also testicular cancers.

Unravelling the mineralocorticoid receptor

Published work characterising the determinants of the specificity of steroid binding to the mineralocorticoid receptor, a key receptor involved in blood pressure regulation.

Finding new drugs to treat chronic heart failure

In a collaborative study, the hormone ghrelin's synthetic analogues, GHRPs, have been found to improve cardiac function and protect heart muscle cells (cardiac myocytes) from cell death in a chronic heart failure model in rats.

Disorders of sex development explained

Showed that four intersex conditions (XY females) arise from a common failure to regulate SOX9, a key testis-determining gene.

New sex-determining gene discovered

Showed that XY mice lacking the FGFR2 gene show male-to-female sex reversal.

Linking obesity and diabetes

While studying the effects of free fatty acids, produced by fat cells, on insulin-producing cells, a link was discovered between a fatty acid receptor (GPR40) and potassium channels in the cell membrane. This mechanism may play a role in controlling insulin secretion and contribute to the occurrence of diabetes in overweight people.

Understanding the mechanisms of menstruation

Showed that oestrogen is not required for restoration of the endometrium following menstrual breakdown.

Identifying targets for female contraceptives

Showed that a new inhibitor against leukaemia inhibitory factor (LIF) blocks implantation in mice and thus has potential as a contraceptive for women.

Treating abnormal uterine bleeding

In animal studies, showed that one of the effective treatments for abnormal uterine bleeding in women using implantable progestin-only contraceptives, acts by inducing very rapid repair of the endometrium.

Discovering a new role for interleukin-11 in pregnancy

Showed that interleukin-11 can increase trophoblast cell migration as they invade the womb to form the placenta, which has important implications for understanding placental development.

Understanding the transition to menopause

Performed a detailed, collaborative study aimed at characterising the onset of menopause in women and described the changes that occur in ovarian and pituitary hormones.

Unravelling inhibin action

Showed that the two forms of the reproductive hormone inhibin (A and B) act by different mechanisms and thus are likely to play differing roles in the regulation of fertility.

Identified a key regulator of urogenital tract development in males

Demonstrated that the betaglycan gene is required for normal testis and kidney formation in utero, which has implications for male health in adulthood.

Understanding female reproductive capacity

Using state-of-the-art techniques, demonstrated that the capacity of female mice to produce eggs is sustained much longer than previously believed. This research has important implications for finding ways to improve or maintain fertility in women as they get older.

Discovering a new regulator of ovarian function

Demonstrated that FGF9, previously known for its role in testis development, also has a role in the ovary.

Photo:
Research Officer Dr Kerry McInnes, Sex Hormone Biology Group

Out and About...

Melbourne Marathon

The PHI Marathon Team again achieved outstanding results in the Samsung Melbourne Marathon on Sunday 8 October 2006. The Institute was well represented by Alex Umbers in the 42.2km Marathon, who completed the course in 3 hours and 52 minutes, The Marathon Relay team, which included Evan Simpson, Hui Cha, Natalie Hannan, Naomi Morison and Kate Hale, won the Charity Team Category for the second consecutive year. Yao Wang ran an excellent Half Marathon in a time of 1 hour and 55 minutes.

The PHI Marathon Team: L-R: Natalie Hannan, Evan Simpson, Alex Umbers, Ingelise Jones, Christina Matisons, Jane Glatz, Alison Noonan, Hui Chua, Kerry McInnes and Yao Wang

Media Snapshot

Prince Henry's Institute attracted a high level of positive media coverage throughout 2006-07, with numerous research discoveries reported in the national and international press. The Institute continues to be the first port of call for journalists seeking the latest information on reproduction, hormone research and related diseases. Major media coverage was achieved for research news stories regarding the launch of the 2006 NAB Ovarian Cancer Research Foundation (OCRF) Silver Ribbon Campaign, Professor Evan Simpson's Komen Foundation Brinker Award for breast cancer research, Professor Vincent Harley and Dr Stefan Bagheri-Fam's research into intersex conditions and the PHI Ride for Reproduction team's fundraising efforts in the Murray to Moyne Cycle Relay.

"Thank You" Day

Staff at PHI joined members of the public in celebrating Research Australia's annual "Thank You" Day campaign during October 2006. "Thank You" Day provides Australians with the opportunity to say thank you to researchers whose work has touched their lives. Institute staff and scientists attended "Thank You" Day card signing events in Melbourne and Geelong, as well as hosting a public display in the foyer of Monash Medical Centre, Clayton. Jane Glatz represented PHI in Sydney for the "Thank You" Day Awards Dinner on 14 November 2006.

PhD student Louisa Ludbrook, Bev Bof and Charmaine De Silva sign the PHI Thank You Day card in the Monash Medical Centre foyer

Rally for Reproduction - Kooyong Classic

Scorching temperatures set the scene for a day of sizzling tennis action at the Kooyong Classic PHI supporter event on 10 January 2007. Institute guests enjoyed a morning tea before taking to the court to watch four thrilling matches between some of the world's top tennis players, including Roger Federer, Andy Roddick, Marat Safin, David Nalbandian, Andy Murray and Tommy Haas. Thank you to everyone who attended the event, which served to raise awareness of reproductive research at PHI. Particular thanks to Colin Stubbs, organiser of the Kooyong Classic, for his generous support.

Silver Ribbon Campaign

Popular Channel 7 television program 'Sunrise' broadcast live from the Institute for the launch of the 2006 Ovarian Cancer Research Foundation (OCRF) Silver Ribbon Campaign on 28 August 2006. The Sunrise crew teamed with OCRF and Prince Henry's scientists to help raise vital funds for ovarian cancer research.

A major highlight of the campaign was the Silver Ribbon Exposure Gala on Friday 24 November 2006, held at the Melbourne Museum in Carlton. The OCRF, in collaboration with PHI, is working to find an early detection test for ovarian cancer.

L to R: Dr Jane Glatz, OCRF Witchery Research Fellow Dr Henning Koehn and Dr Colin Clyne

L to R: Former Olympian Ms Raelene Boyle, PHI scientists Ms Louisa Ludbrook, Ms Natalie Hannan, Ms Tu'uhevaha Kaitu'u and Sunrise weatherman Mr Grant Denyer

Ride for Reproduction - Murray to Moyne

For the second consecutive year, a team of 12 cyclists and 4 support crew represented PHI in the Murray to Moyne Cycle Relay. The cylists endured a challenging 520km relay from Echuca to Port Fairy in 24 hours on the 24th and 25th of March 2007. The team raised over $35,000 for reproductive and fertility research. Overwhelming support for the cause included sponsorships and donations from corporate partners, local businesses, personal friends of the team and the public.

PHI Cycling team: Back row L-R: Mr Ray Kaynes, Mr Peter Tucker, Mr Simeon Airey, Associate Professor Vince Harley; Second Row L-R: Mr Bruce Watson, Dr Sarah Meachem, Miss Inge Jones, Mr John Robinson, Dr Morag Young; Front Row L-R: Miss Jacinta Cowell, Mr Andrew McCallum, Miss Natalie Hannan.

CHAIRMAN'S REPORT

The year in review has once again presented a mix of change and opportunity.

The Institute's Director, Professor Evan Simpson, resigned at the end of 2006, having served in this role since 1999. I am pleased to report, however, that Evan will continue to lead his research group at Prince Henry's and will continue to influence Institute policy through ongoing membership of the Research Management Group.

Institute Directors are faced with the difficulty of balancing the ever increasing administrative burden of the role with their medical research priorities and in making his decision Evan has chosen to refocus his energies on research.

During his tenure Evan steered the Institute through a period of significant change; research activities have grown and the reach of the Institute has been extended through increasing external collaboration. Evan has also played an integral part in establishing the Monash Health Research Precinct, an important initiative in increasing research and administrative cooperation between Southern Health and Monash University entities, within the Clayton Campus. On behalf of the board I would like to take this opportunity to thank Evan for his contribution to the management and development of the Institute.

The Prince Henry's Board is in the concluding stages of an international search for a new Director and in the interim the Institute's Chief Operating Officer, Dr Jane Glatz has taken on the role of Acting Director and Chief Executive. Jane has been closely involved in developing a broad strategic framework to ensure that Prince Henry's can continue to grow both organically and through alliances and affiliations with other research bodies. The development and implementation of this strategic plan will be one of the priorities for the incoming Director.

As an independent institute Prince Henry's is continually challenged to secure funding beyond that provided by State and Federal governments. We continue to rely on support from philanthropic organisations and the general community to provide specialised research equipment and fund research fellowships.

Sadly one of the Institute's strongest supporters over the years, Lady Ramsay, passed away at the start of the year. Her donations established and sustained the T M Ramsay Fellowship in honour of her late husband Sir Thomas Ramsay who served on the Prince Henry's Board during the mid 1980s. The T M Ramsay and the parallel Boylan/ Burke Fellowships play an essential role in attracting and funding the research of talented youngsters at Prince Henry's.

In terms of collaborative funding we have continued to benefit from the relationship with the Ovarian Cancer Research Foundation and in conjunction with the Monash Medical Centre we continue to make good progress towards a diagnostic test for the early detection of ovarian cancer.

The Institute is also making solid progress in other areas of research, as covered in the research reports.

In the area of governance there has once again been a number of Board changes to report. Russell Fynmore, previously Chairman of the Board and in more recent times Deputy Chairman, retired after 15 years on the Prince Henry's Board. He made an outstanding contribution over the years and his support will be sorely missed. Anne Molyneux, Denise Heinjus and Professor Ed Byrne have also resigned during the year with Anne taking on an increasing external work load and both Denise and Professor Byrne leaving to take up new positions.

The Institute's Treasurer Lisa Hinrichsen has resigned as both Treasurer and Board member because of family commitments, but happily Lisa is continuing to serve on the Finance and Audit Committee. Carmel Mortell has joined the Board to take over the Treasurer's role and Jay Bonnington also joined the board during the year.

Wayne Ramsay has replaced Denise Heinjus as the Southern Health nominee and Richard Amos has taken over as Deputy Chairman of the Board.

I would like to take this opportunity to thank all those members who have generously given their time to the Board of Directors, the Development Board and the various governance committees during the year.

I would also like to express my appreciation to the Institute's research and administrative support staff for their contribution to another successful year for the Institute.

John Robinson
Chairman

INSTITUTE GOVERNANCE

Mr John Robinson
BSc MGSc FAuslmm

Chairman

Mr Richard Amos
BA (Soc/Legal) BA (PR)

Deputy Chairman

Managing Director,
Royce Communications

Dr Jane Glatz
BSc (Hons) PhD MBA

Acting CEO from (from 1/01/2007)
Chief Operating Officer, PHI

Ms Carmel Mortell
B Bus ICA EMBA

Treasurer (from 19/12/2006)

Partner, KPMG

Mrs Jane Bell
BEc LLB LLM (Lon)

Treasury Solicitor,
Coles Group Limited

Ms Jay Bonnington
BCom MBA FAICD FCPA

(from 28/08/2006)

Non Executive Director,
St. John of God Healthcare Group, SE Water Ltd, Agriculture Victoria Services

Mrs Ann Ellis
Dip Ed

Mrs Margaret Lothian
BEc LLB (Hons)

Principal Mediator and Senior Member of the Victorian Civil and Administrative Tribunal

Mr Trevor Montgomery
SIPA

Senior Investment Advisor,
Goldman Sachs JB Were

Professor Nicos Nicola
AO BSc (Hons) PhD

Deputy Director,
Walter and Eliza Hall Institute of Medical Research

Mr David Pisker
Dip Film Making

Marketing Director,
Betfair

A/Professor Wayne Ramsey
AM CSC MBBS MHA FRACMA

Southern Health Nominee (from 6/6/2007)

Executive Director,
Medical Services,
Southern Health

Mr Bob Stensholt MP,
BA BD (Hons) MIntLaw Dip Phil

State Member for Burwood

State Minister for Health Nominee

Mr Terrence Haining
FCPA GDipAcc&Fin

Financial Services Manager, PHI

Secretary

Professor Ed Byrne
AO MD DSc FRCP FRACP

Monash University Nominee (until 8/12/2006)

Dean, Faculty of Medicine, Monash University

Adjunct Professor Denise Heinjus
RN RM GradCert(Mgt) MHltSc(Hons) FCN NSW

Southern Health Nominee (until 4/06/2007)

Ms Anne Molyneux
BA Grad Dip Acc
M Mgmt CA FAICD

Director, CS International
(until 28/04/07)

Mr Russell Fynmore
AO FCPA

Deputy Chairman (until 7/12/2006)

Ms Lisa Hinrichsen
BBus BA CA

Partner, KPMG

Treasurer (until 19/12/2006)

Assurances and Advisory

Professor Evan Simpson BSc PhD

Director, PHI (until 31/12/2006)

INSTITUTE STRUCTURE

Board Committees

Development Board

Mr J Robinson (Chair)
Mr H Ruddock (Deputy Chair)
Mr R Amos
Dr R Barnes
Prof J Findlay AM
Dr J Glatz
Mrs J Hibbins
Mr A McCallum (until 31/7/06)
Ms A Molyneux (until 28/4/07)
Miss I Jones (Secretary, until 13/4/07)

Finance and Audit Committee

Mr D Linley (Chair, until 29/1/07)
Mr S Alford (Chair, from 29/1/07)
Ms L Hinrichsen
Ms C Mortell (from 19/12/06)
Dr J Glatz
Mr J Robinson
Mr T Haining (Secretary)

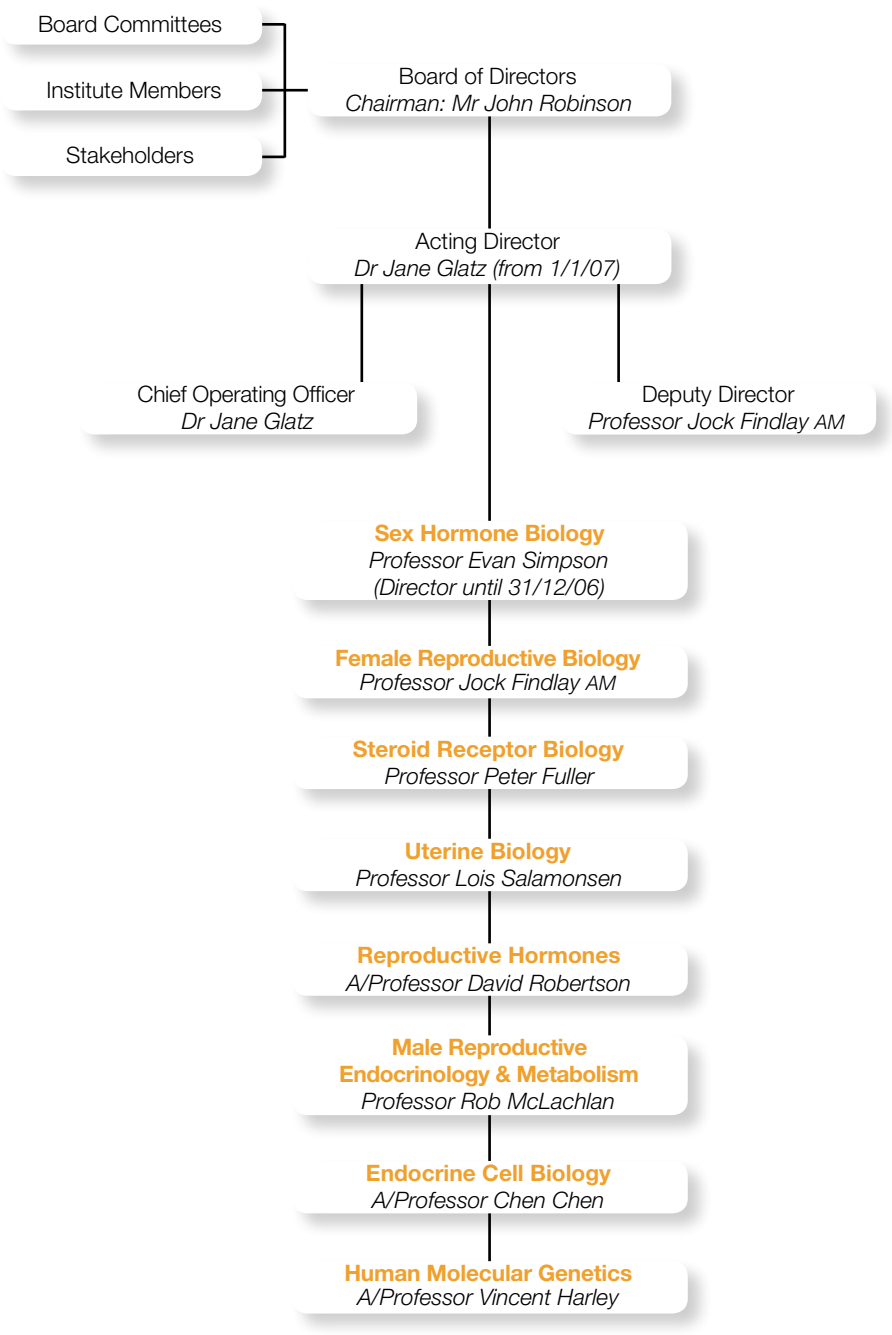
Remuneration Committee

Mr R Fynmore (until 7/12/06)
Mr K Nathan (Chair)
Mr J Robinson

Intellectual Property & Commercialisation Committee

Ms M Lothian (Chair)
Mrs J Bell (Deputy Chair)
Ms J Bonnington (from 28/8/06)
Mr G Fisher
Prof J Findlay AM
Dr J Glatz
Assoc Prof D Robertson
Prof L Salamonsen
Mr A McCallum (Secretary)

Organisational Chart



ACTING DIRECTOR'S REPORT

A sustainable future for Prince Henry's Institute lies in growth, alliances and collaboration.

PHI is currently in a time of change and as I prepare this report, an international search is under way for a new Director, following the decision of Professor Evan Simpson to resign in December 2006. Evan is returning to full-time research at PHI and devoting all his energies to continue his work on breast cancer and the role of hormones in metabolism, both of which have reached an exciting juncture. In particular, identification of compounds which inhibit oestrogen synthesis specifically within the breast has potential clinical application as the next generation of breast cancer therapeutic agents. We thank Evan for his contribution to the Institute during his term as Director and we look forward to his ongoing contribution at PHI as a world-class research leader.

Prince Henry's researchers are dedicated to making advances that will improve the quality of people's lives, throughout their lifetime.

In Australia, almost 60% of the adult population is **overweight or obese,** over 1 million people are living with **diabetes** and every 10 minutes someone dies from **cardiovascular disease.**

With 1 in 8 Australian couples having **difficulties conceiving a child** naturally, an estimated 1 in 4 pregnancies ending in **miscarriage,** 1 in 20 men suffering **fertility problems** and **disorders of sex determination** affecting 1 in 4,000 babies worldwide, better understanding of fertility, conception and how gender is determined during development is central to improving the quality of life of couples and families.

The reproductive health of men and women is also impacted by cancer. **Testicular cancer** is the second most common form of cancer amongst Australian men aged 18 – 39 years and the number of men diagnosed has increased by 34% over the past decade. One in 67 women will be diagnosed with **ovarian cancer,** for which there is no early detection test and 1 in 11 women will be diagnosed with **breast cancer** before the age of 75.

Prince Henry's scientists are working to tackle these health issues and the research achievements outlined in this report demonstrate that Prince Henry's Institute is indeed fulfilling its mission of improving the quality of life through investigation of hormones in the fields of reproductive health, cancer, obesity and cardiovascular disease.

A sustainable future for Prince Henry's Institute lies in growth, alliances and collaboration. The Monash Health Research Precinct offers a major opportunity to achieve this. By strengthening our **academic and teaching relationships** with Monash University and extending our **translational research capacity** via the clinical departments of Southern Health, we are working to advance health research on the Monash Medical Centre campus.

Like our peer medical research institutes, **competing for research funding** demands much of our attention. PHI relies heavily on funding from the National Health and Medical Research Council (NHMRC) and with national success rates of NHMRC project grants of approximately 1 in 5, our researchers are constantly challenged to keep their research at the forefront of their field. With this in mind, we gratefully acknowledge the Foundations and Trusts which have given grants and donations during this past year, as listed on page 84.

The **achievements of PHI researchers are reflected in the awards and accolades** received during the year. In particular, **Professor Evan Simpson** has received international recognition, with the Susan G Korman Breast Cancer Foundation Brinker Award for Scientific Distinction, for advances in the fight against breast cancer. We also celebrated the success of **Dr Christine White,** winner of the Victorian Young Tall Poppy Science Award.

It gives us great pride to acknowledge the **success of our students** in attracting competitive awards and recognition. Special thanks to the staff who invest their time and energy to support the student-welfare and career-development programs, which have been central in nurturing our talented pool of young researchers. Amongst the many achievements of the 44 students at PHI during the 06/07 year, it is noteworthy to mention that PhD student **Natalie Hannan** was the only Australian, of just 20 researchers worldwide, to earn a place in the Frontiers in Reproduction Training Program in Massachusetts (USA). Natalie secured full financial support from the World Health Organisation, the National Health and Medical Research Council, the Wellcome Burroughs Fund and Monash University.

For 3 months earlier this year, we were privileged to host **Professor Richard Santen,** an expert in the area of hormone-dependent breast cancer from the University of Virginia. PHI's links with Southern Health provided the opportunity for Professor Santen to contribute to discussion of clinical reproductive endocrinology and the management of oestrogen deficiency in women who are receiving aromatase inhibitors as treatment for breast cancer.

Translating the results of research into products and services made available to the public remains a key imperative for medical researchers. Of our **commercialisation activities,** the outlook for sales of the inhibin-based diagnostic test for ovarian cancer is buoyant with marketing programs conducted by our licensee, Beckman-Coulter, in U.S.A. and India, well under way. We continue to invest in intellectual property protection and currently have four patent applications under consideration by worldwide jurisdictions.

Finally, a hallmark of life at PHI is **participation by staff and students in community activities to raise awareness and funds** for Prince Henry's. One of the most successful activities this year was the 'Ride for Reproduction' Murray to Moyne bike ride from Echuca to Port Fairy, which raised over $35,000.

We have used these funds to buy high-technology equipment to measure tiny amounts of DNA and RNA in cells and tissues, enabling us to conduct additional research, made possible through the contribution of those who supported this event.

As we embark on the new era at PHI, thanks to the staff and students who perform their work in a most professional and competent manner. Without their commitment and loyalty, we could not have achieved the many research advances of the past year.

Dr Jane Glatz
Acting Director

STAFF 2006/07

Sex Hormones Biology

Group Head
Professor Evan Simpson BSc (Hons) PhD

RD Wright Fellows
Margaret Jones PhD
Colin Clyne PhD

Senior Research Officer
Wah Chin Boon PhD

FQRNT Fellow
(Le Fonds québécois de la recherche sur la nature et les technologies)
Kristy Brown PhD

Research Officers
Ashwini Chand PhD
Anne Corbould MBBS (Hons) PhD FRACP
Kevin Knower PhD
Kerry McInnes PhD
Jayne Sierens PhD (until 17/4/07)

Research Assistants
Margaret Bills BSc (until 14/12/06)
Maria Docanto BSc (Hons)
Sivaraja Mahindan BSc, Grad. Cert. in Lab. Tech.
Devi Ngo BBiomedSc
Peter Wilson BSc (Hons)

PhD Students
Rachel Hill BSc (Hons)
Niroshani Pathirage BSc (Hons)
Jenny Chow BBiomedSc (Hons)
Michelle Van Sinderen BSc (Hons)

Honours Students
Audrey (Tsin Yee) Lian BBiomedSc
Yogavalli Poobalan BSc (until 7/12/06)
Claire (Poh See) Tan BSc

Female Reproductive Biology

Deputy Director, Senior Principal Research Fellow & Group Head
Professor Jock Findlay AM PhD DSc

Senior Research Officers
Ann Drummond PhD
Paul Farnworth PhD
Kaye Stenvers PhD

TM Ramsay Fellow
Mai Sarraj MSc PhD

Visiting Scholar
Kamran Haidari MSc

Research Officers
Maree Bilandzic PhD
Simon Chu PhD (until 15/1/07)

Research Assistants
Hui Kheng Chua BSc (Hons)
Ruth Escalona BSc (Hons) MSc
Ileana Kuyznierewicz BAppSc (Hons)
Marnie Sparrow BSc (until 22/1/07)
Alexandra Umbers BSc (Hons)
Yao Wang BSc (Hons)

PhD Students
Marissa Bowden BA BSc (Hons)
Jason Liew BBiomedSc (Hons)
Kenneth Walker BSc (Hons)

Honours Students
Christine Harris BA BSc
Joanne Yap BSc (until 31/12/06)

Masters Student
Davina Rosairo BSc, GradDip Reprod Sci

Uterine Biology

Senior Principal Research Fellow and Group Head
Professor Lois Salamonsen PhD

Associate Scientist
Professor Jock Findlay AM PhD DSc

Team Leaders
Guiying Nie PhD
Eva Dimitriadis PhD

Senior Research Officer
Rosemary Keogh PhD (from 29/5/06)

Postdoctoral Visiting Fellows
Kaori Koga MD, PhD (until 30/11/06)
Alejandro Tapia PhD (until 29/6/07)

Research Officers
Naomi Morison PhD
Lynette Kilpatrick PhD
Claudia Freyer PhD (until 12/1/07)
Kate Hale PhD BEd (until 31/12/06)
Ellen Menkhorst BSc (Hons)
Christine White PhD (until 22/12/06)
Vanta Jokubaitis PhD (until 8/9/06)

Research Assistants
Ying Li BSc GDipMicroBio
Eliane Lin BSc (Hons)
Melinda Marwood BSc (Hons)
Kathryn Visser BSc (Hons) (until 19/1/07)
Jin Zhang MD

Research Nurse
Judy Hocking RN

PhD Students
Premila Paiva BSc (Hons)
Natalie Hannan BSc (Hons)
Tu'uhevaha Kaitu'u-Lino BBiomedSc (Hons)
Chelsea Stoikos BSc (Hons)

Male Reproductive Endocrinology and Metabolism

Principal Research Fellow & Group Head
Professor Rob McLachlan MBBS FRACP PhD

Basic Science Team Head
Peter Stanton PhD

Clinical Research Fellows
Carolyn Allan MBBS (Hons) PhD DRCOG(UK) FRACP
Kati Matthiesson MBBS FRACP PhD

Senior Research Officers
Michael Lynch PhD (until 9/2/07)
Sarah Meachem PhD
Liza O'Donnell PhD
Kiki Pratis PhD

Research Officer
Pavel Sluka PhD

Clinical Research Nurses
Elise Forbes RN
Anna Zamojska RN

Research Assistants
Georgia Balourdos BSc (Hons)
Caroline Foo BAppSc
Fiona McLean BSc (Hons) (until 22/2/07)
Anne Reilly BSc (Hons)
Renee Rogers BBiomedSc (Hons) (from 16/4/07 until 15/6/07)
Saw Eng Tan B Vet Med Tech (from 13/3/07)

PhD Students
Amanda Beardsley BSc (Hons) (until 23/6/06)
Amy Herlihy BSc GradDip Genetic Counselling
Mark McCabe BAppBiol/Biotech (Hons)
Saleela Ruwanpura BBiomedSc (Hons)
Gerard Tarulli BSc (Hons)

Honours Student
Peter Nicholls BBiomedSc

Reproductive Hormones

Principal Research Fellow & Group Head
Associate Professor David Robertson PhD

Emeritus Director
Henry Burger AO, FAA, MD BS FRCP FRACP FCP (SA) FRCOG FRANZCOG

RD Wright Fellow
Craig Harrison PhD

Senior Research Officer
Adam Rainczuk PhD

National Australia Bank Ovarian Cancer Research Foundation Research Fellow
Andrew Stephens BSc (Hons) PhD

Witchery Research Fellow
Henning Koehn PhD (until 28/2/07)

Research Officers
Jenny Chen PhD
Yunxian Mak MSc AppSci, MSc ComputerSci (until 27/4/07)

Research Assistants
Karen Chan BAppSc
Sara Goodman PGDipSc
Enid Pruysers
Ming Yee Lee BBiomedSci, BSc (Hons)
Fang Wang MSc
Samantha Jayasekara PhD
Yannick Planche BSc (Hons) (until 5/1/07)

PhD Students
Yogeshwar Makanji BAppSc (Hons)
Irene Papageorgiou BSc (Hons)

Masters Student
Debora Romero BSc GradDip ReprodSci

Research Nurse
Nicole Fairweather RN

Steroid Receptor Biology

Senior Principal Research Fellow and Group Head
Professor Peter Fuller BMedSci MBBS PhD FRACP

Senior Research Officer
Morag Young PhD

Fred Boylan Fellow
Jyotsna Pippal BSc MSc MBA PhD

Research Assistants
Maria Alexiadis BSc (Hons)
Francine Brennan BSc (Hons)
James Morgan BSc (Hons)
Yitzou Yao MD

PhD Students
Sonay Hussein-Fikret BBiomedSci (Hons)
Amanda Rickard BSc (Hons)
Emily Lam BBiomedSc (Hons)
Stacey Jamieson BA/BSc (Hons)

Honours Student
Yinan Zhang (until 31/12/06)

Endocrine Cell Biology

Senior Research Fellow and Group Head
Associate Professor Chen Chen MD PhD

Visiting Scholar
Ruyi Liu MD (from 25/6/07)

Research Officers
Neveen Hanna PhD
Ernesto Vargas PhD
Yufeng Zhao PhD

Research Assistant
Kun Wang BMed, MMed

PhD Students
Jyothsna Rama Rao BSc
Sean Yang BSc
Qiang Sun MD M.Sci (from 3/4/07)
Connie Chu BSc MSc (until 31/3/07)

Honours Student
Nadia Sadli BSc (Hons)

Human Molecular Genetics

Senior Research Fellow and Group Head
Associate Professor Vincent Harley PhD

CJ Martin Fellow
Anthony Argentaro PhD (from 29/3/07)

Peter Doherty Fellow
Michael Clarkson PhD GDipT (until 17/11/06)

Research Officer
Stefan Bagheri-Fam PhD

Visiting Scientist
Xiamixinuer Yilike MSc (until 20/10/06)

Senior Research Officers
Helena Sim PhD
Pascal Bernard PhD

PhD Students
Irumini Jayakody BBiomedSc (Hons)
Sabine Kelly BSc (Hons)
Louisa Ludbrook BBiomedSc (Hons)
Paisu Tang BSc (Hons)

Honours Students
Lauren Hare BA/BSc
Suha Hassan BSc
Daniel Czech BSc

Emeritus Director
Professor Henry Burger AO, FAA, MD BS FRCP FRACP FCP (SA) FRCOG FRANZCOG

Senior Fellow
Professor John Funder AO MD BS PhD FRACP

Administration

Chief Operating Officer
Dr Jane Glatz BSc (Hons) PhD MBA

Development & Commercialisation Services Manager
Andrew McCallum BE (Met) MEngSc GAICD

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Sach Jayasinghe BSc (Hons) (from 13/6/07)

Materials & Human Resources Manager
Paul Pearce ARMIT MAppSci GradCertHRM MAHRI (until 1/08/06)

Human Resources Officer
Christina Matisons MAHRI (from 25/09/06)

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Ingelise Jones BA GradDip Comn (Public Relations) (until 13/4/07)

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Alison Noonan BComn (Journalism) (until 13/4/07)

Graphic Communications Coordinator
Sue Panckridge DipArt

Finance Administration Officer
Sheridan Wallington

Purchasing Officer
Peter Wood AIWA

Human Resources Management Officer
Nermeen Tawadros BSc (Med Sci) BCompSci (until 5/4/07)

Materials Resources Officer
Henry Wos

OH&S Officer
Prudence Barwell (until 29/6/07)

Personal Assistants/ Reception Staff
Dianne Arnold BSc
Donna Beanland (from 13/11/06 until 29/6/07)
Jeanette Birtles BSc (Hons)
Sue Elger
Susan Smith
Claudette Thiedeman
Jeana Thomas

Core Facilities

Sequencing Manager The Gandel Charitable Trust Sequencing Centre
Vivien Vasic BSc

Maintenance Technician
Bruce Watson Dip Mechanical Engineering

Laboratory Technicians
Robin Leuba BA Dip Ed
Susan Taleh BA

OVARIAN CANCER RESEARCH FOUNDATION

Scientists at Prince Henry's Institute are working with the Ovarian Cancer Research Foundation to identify early detection markers for ovarian cancer.

Ovarian cancer is the leading cause of death of all gynaecological cancers. Approximately 400 women are diagnosed with the disease in Victoria each year, while across Australia one woman dies every ten hours.

Although less common than breast cancer, proportionally more women die from ovarian cancer. Unfortunately the disease is usually well advanced when diagnosed and has often spread to other areas of the body.

The key to improving the survival rate of ovarian cancer is early detection. The OCRF, in collaboration with Prince Henry's Institute and Monash Medical Centre, is dedicated to continuing research into this insidious disease.

The Foundation is chaired by Associate Professor Tom Jobling, Head of Gynaecological Oncology at Monash Medical Centre, and was cofounded with Ms Liz Heliotis, CEO of the Foundation, in 2000, with NAB as the founding and principal partner.

Dr Andrew Stephens joined the Ovarian Cancer Research Foundation team in 2006 as the NAB Research Fellow. The retailer Witchery also supports Dr Adam Rainczuk as the Witchery Research Fellow.

Dr Stephens and Dr Rainczuk are working to progress the development of an early detection test for ovarian cancer in collaboration with Associate Professor Tom Jobling and Prince Henry's Institute's Associate Professor David Robertson.

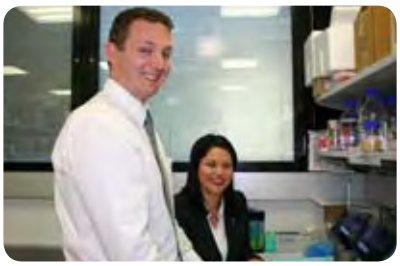
The Ovarian Cancer Research Foundation welcomes two new members to the team in 2007. Samantha Jayasekara has taken up a position as the NAB Research Assistant and Nicole Fairweather is the NAB Research Nurse.

For further information about the Ovarian Cancer Research Foundation, please visit **www.ocrf.com.au** or phone **1300 OVARIAN (1300 682 742)**.

Silver Ribbon Campaign

The annual Ovarian Cancer Research Week is positioned in the Federal Health Calendar in the first week of September to raise funds and create awareness for ovarian cancer research.

NAB supports the Ovarian Cancer Research Foundation's annual "Silver Ribbon" campaign by selling silver ribbon lapel pins in all their branches throughout Australia during September. Silver Ribbons can be purchased from Witchery stores nationally throughout the year.



Dr Andrew Stephens and Ms Nicole Fairweather

The campaign culminates in the annual Silver Ribbon Exposure Gala, consolidating its status as an iconic event within the Melbourne social calendar.

We urge you to support this worthy cause to help us fund research into an early detection test. Donations may also be made direct at any NAB branch or online at **www.ocrf.com.au**.

ADVANCED RESEARCH TECHNOLOGIES

Recent advancements in proteomics technology has the potential to accelerate our understanding of the role that proteins play in health and disease.

Proteomics Technology

As with any area of cutting edge science, medical research relies on sophisticated technology. Proteomics technology is helping PHI researchers improve the quality of life for people suffering from cancers, reproductive and fertility problems.

Proteomics, the study of proteins, is one of the fastest growing areas of biomedical research. Recent advancements in proteomics technology has the potential to accelerate our understanding of the role that proteins play in health and disease. Proteomics will help scientists identify causes, improve methods of diagnosis and develop new treatments and vaccines for a range of diseases and medical conditions.

SELDI-TOF MS

Surface – Enhanced Laser Desorption / Ionisation Time of Flight Mass Spectrometry (Kindly donated by Ovarian Cancer Research Foundation)

SELDI technology allows researchers to examine protein patterns in samples from healthy people and patients suffering from a disease. The identification of specific differences in these protein patterns can be used for diagnosis or form the starting point for further investigation using other techniques such as 2D PAGE.

2D PAGE

2 Dimensional Polyacrylamide Gel Electrophoresis (Supported by Prince Henry's Institute and The Marian and E H Flack Trust).

2D PAGE technology enables scientists to separate and identify thousands of proteins at a time. Scientists use this powerful technology to identify proteins that differ or are unique in samples from patients with a particular disease and healthy individuals. The individual proteins can then be studied to determine their function and eventually they may be used for the development of treatments or diagnostic tests.

The Gandel Charitable Trust Sequencing Centre

The Gandel Charitable Trust Sequencing Centre is a core facility for Monash Health Research Precinct (MHRP) members, including Prince Henry's Institute, Monash Institute of Medical Research and Southern Health.

Ms Lauren Hare, Honours Student, Human Molecular Genetics group, undertaking genotype analysis of DNA from patients with gender identity disorders

Researchers use DNA sequencing to determine the exact order of the 3 billion bases that make up the genes in the 24 chromosomes in the human genome. Changes in the sequence of DNA, called mutations, are a common contributor to human diseases.

By comparing the DNA sequence or DNA fragment sizes from healthy individuals and patients with a particular disease it is possible to identify which genes are responsible for the condition.

The mechanisms controlling gene function can then be studied with the aim of developing treatments or diagnostic tests. Sequencing technology is crucial to understanding conditions such as cancer, inflammatory diseases, diabetes, cardiovascular disease and infertility.

The Centre was able to upgrade essential DNA sequencing technology following a significant gift from the Gandel Charitable Trust.

The generous support of the Trust resulted in the purchase of new cutting-edge equipment, offering a more accurate, reliable and efficient service to researchers.

John and Pauline Gandel and Laurence and Stephanie Joseph from the Gandel Charitable Trust joined members of the Monash Health Research Precinct Sequencing Committee to celebrate the launch of the Gandel Charitable Trust Sequencing Centre in 2006.

Prince Henry's Institute is grateful to the **Gandel family** for their generosity.

One in eight Australian couples have difficulties conceiving a child naturally.

Fertility problems are very common in both men and women, but there is a noticeable increase in problems with conceiving as women age. Much of the age-related issues with fertility in women relates to the function of their ovaries and the health of the eggs (oocytes) produced.

Understanding how the ovaries function and produce healthy, viable eggs is the key to developing new strategies to treat infertility, and to maintain optimal fertility, in women. Hormones produced by the ovary have important roles elsewhere in the body; understanding the mechanism of action of these hormones will help us to understand various female health issues.

PHI researchers are :

...researching ovarian function

For most women, infertility is due to problems with ovarian function. PHI scientists are investigating the ovary and the impact of hormones.

Much of our research focuses on the role of specific hormones and related proteins (such as oestrogen, inhibin, activin, TGF beta and betaglycan) in ovarian development and function in health and disease.

The primary functions of the ovary are to produce eggs (housed within structures called follicles) and hormones, predominantly the sex steroids oestrogen and progesterone and the protein hormone inhibin. Release or ovulation of an egg from a developed follicle does not begin until puberty. A woman will only ovulate one, and occasionally two, eggs each menstrual cycle. This equates to about 400 eggs, or 0.1 per cent of the pool, during her life. The vast majority of follicles will never release their eggs, reaching varying stages of maturity before they die by a process called atresia.

The stage when the follicle supply is exhausted is known as the menopause. An important aspect of our work is investigating the factors that affect the size of this follicle "pool" so that we can find ways to preserve and optimise fertility in women.

...exploring TGF beta family proteins in ovarian function

We are investigating the role of a group of hormones, called the TGF-beta superfamily, in ovarian follicle development. An understanding of how follicles are selected for entry into the growth phase, and what it is about a select few follicles that ensures they go on to ovulate while the rest die, is key to identifying new targets for contraceptive development. ▶

FEMALE REPRODUCTIVE BIOLOGY

Our research

By understanding how the ovary functions and how healthy eggs are produced, scientists at PHI hope to improve treatments for infertility in women and to find strategies to optimise fertility in women as they get older. By understanding how hormones work in the female reproductive system, we also aim to develop new ways to manage and treat various female health issues.

▶ It may also provide insights into premature menopause. Our scientists aim to determine how the TGF-beta superfamily members are involved in follicle growth and development. Only by understanding how the normal ovary is regulated can we begin to address and treat ovarian disorders.

...studying specific hormones involved in reproductive cancers

The protein betaglycan carries signals for both TGF-beta and inhibin, two factors that help control the development and functioning of reproductive organs. Disruption to TGF-beta and inhibin function has been associated with the development of many different cancers. Our laboratory has recently shown that loss of betaglycan expression is one mechanism by which human ovarian cells become insensitive to TGF-beta and inhibin. Our current studies are determining how deficiency in this pathway contributes to the development of certain human ovarian cancers.

In related studies, our scientists have developed a mouse model that does not express betaglycan and exhibits disrupted TGF-beta and inhibin functioning. Through this model, scientists are able to determine the role of betaglycan in reproductive health over the lifespan of the mice. For instance, recent studies revealed that betaglycan is required for normal gonad formation in the foetus.

This discovery has led to additional studies on how this early perturbation to gonad development affects gonadal health in the adult.

Since the disruption of normal urogenital development has long-term health effects which manifest as adult-onset diseases such as infertility, premature menopause, endocrine dysfunction, and cancers, this work has important clinical implications to the understanding of normal and abnormal growth of the reproductive organs in humans.

...investigating oestrogen and ovulation

PHI scientists are leading the way in the investigation of oestrogens and their importance for fertility. Using female ArKO mice, deficient in oestrogens, our research has shown that oestrogen is critical at the time of ovulation. We have also shown that oestrogen is not required for survival at birth or for the formation of the reproductive tract, which contains the ovary, uterus, cervix and vagina.

We have discovered that over time without oestrogen the ovary changes to become more like the tubules in the testicle. Very low levels of oestrogen affect follicular development and may result in no ovulation. When treated with oestrogen, the ArKO mice regained a more normal appearance to their ovaries and some of them even ovulated.

Scientists hope this research may provide insight into the cause of various disorders such as ovulation problems, problems conceiving and the development of ovarian cancer.

…understanding steroid production, stress, and female health

Female mice that cannot produce the hormone inhibin develop tumours of the ovary. If these tissues are removed, tumours invariably emerge in the outer part of the adrenal gland, which makes inhibin. By studying these mice, our scientists are learning about the development of various diseases including cancers.

Our scientists are studying how the ovarian hormones inhibin and activin and their binding partners are involved in controlling the production of sex and stress hormones. This knowledge may be important for understanding clinical conditions where abnormally high levels of male sex steroids (androgens) occur, including adrenal gland cancers and Polycystic Ovarian Syndrome (PCOS).

Through this work, we are establishing the relationships between stress, hormones, and female health, which will improve our understanding of a broad variety of diseases.

RESEARCHERS

Female Reproductive Biology Group

Sex Hormone Biology Group

Uterine Biology Group

FUNDING

National Health and Medical Research Council of Australia

COLLABORATORS

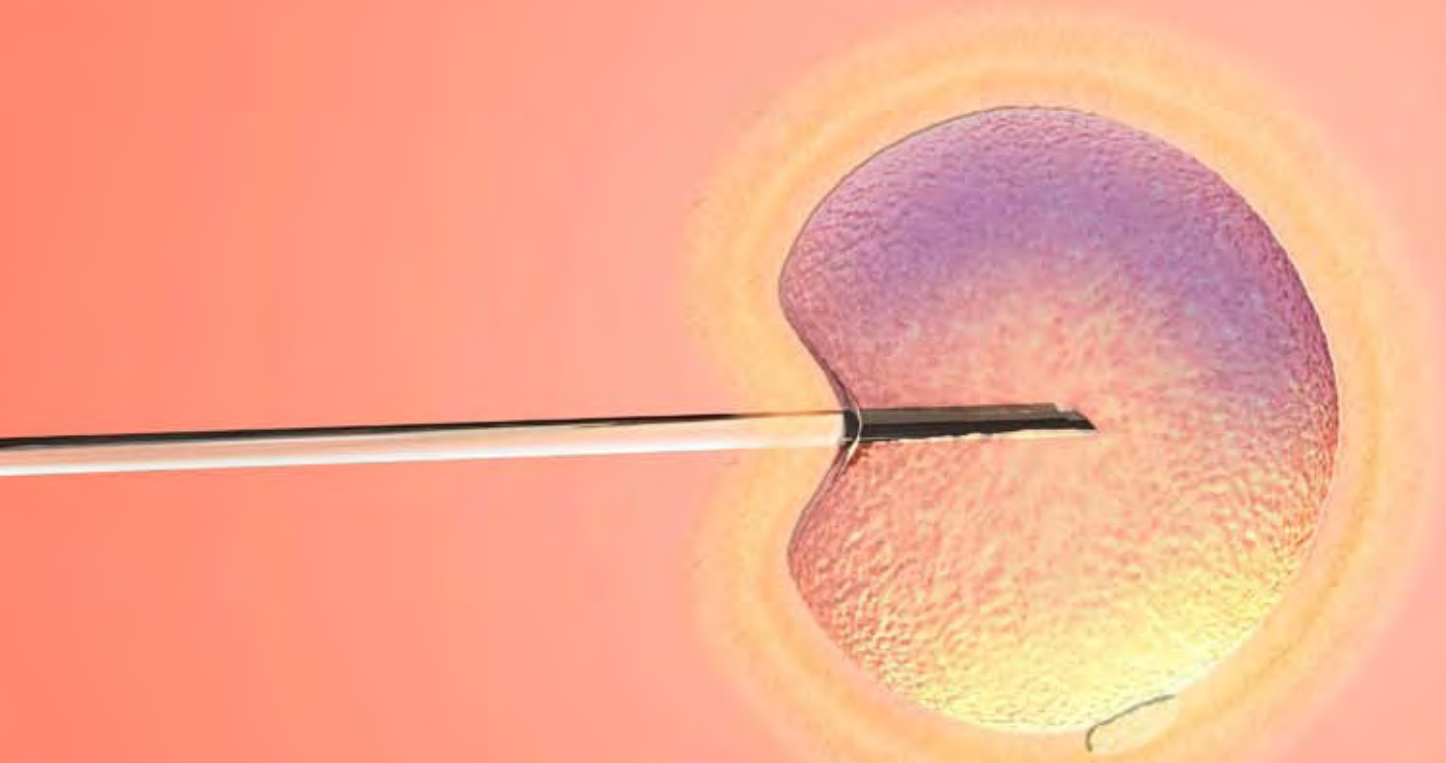
Department of Anatomy, Monash University, Melbourne

Centre for Urological Research, Monash Institute of Medical Research, Melbourne

MRC Human Reproductive Sciences Unit, Edinburgh, UK

Karolinska Institute, Stockholm, Sweden

The Murdoch Childrens Research Institute, Melbourne



It is estimated that one in four pregnancies end in miscarriage

The receptivity of the womb (uterus) to the embryo is critical for establishing pregnancy, and normal development of the placenta is key to maintaining a healthy pregnancy.

Problems with the receptivity of the uterus can cause infertility and early miscarriage and contribute to failed IVF cycles. Problems in placental development can lead to disorders such as pre-eclampsia and intra-uterine growth retardation; such disorders affect between 15 and 25% of deliveries in Australia and can have a significant impact on the health and wellbeing of mothers and their children.

A large body of research now shows that the birth weight of babies is an important indicator of health in adulthood and that **the uterine environment during pregnancy has profound consequences on health of the offspring**, with the effects extending into adult life. A healthy start to life is critical for the future of Australia's next generation of young people.

PREGNANCY RESEARCH

Our research

By understanding how pregnancy begins, scientists at PHI hope to improve treatments for infertility and pregnancy-related disorders and provide strategies to ensure a healthy start to life.

PHI researchers are :

…investigating how the womb prepares for pregnancy

PHI researchers are undertaking a strategic research program aimed at determining the molecular changes in the womb that are critical for establishing pregnancy. During most of a woman's monthly cycle, the womb is hostile to an embryo and will reject any embryo that tries to implant. However, for just a few days in each cycle, changes in the lining of the womb make it receptive. If an embryo enters the uterus at this time, it will attach to this lining and start to implant.

We are using new 'discovery' technologies to identify proteins that have not been previously known as important in the uterus. We are comparing the molecular signature of the uterine lining at different times in the woman's monthly cycle: it will then be possible to compare these signatures with those found in women who have many failed cycles of IVF, and are therefore likely to have problems in the womb. This work is being done in collaboration with our colleagues in the proteomics facility and we have already identified a number of proteins for further analysis. These studies may be helpful in identifying women who may miscarry early and provide useful markers for a receptive womb to be used during infertility treatments and IVF.

Once an embryo has attached to the lining of the womb, it must start to invade through this tissue until the placenta is fully formed.

This requires close contact of the cells known as trophoblasts (which come from the embryo and eventually form part of the placenta) with the mother's blood supply, from which the developing foetus will obtain nourishment and oxygen.

Invasion of the trophoblast into the womb is very similar to the way white cells travel from the blood into tissues when needed to counter infection. We have shown that some of the molecules, called chemokines, which are needed for white cells to enter tissues, attract trophoblast cells to the surface of the uterine lining, to change their adhesive properties and to promote their movement into the tissue towards the maternal blood vessels.

Other recent work has shown for the first time, that two small regulatory molecules or cytokines, which have been known to be important in the earliest stages of implantation, are also needed slightly later for regulating trophoblast invasion into the uterine lining.

…identifying the factors needed to establish a healthy placenta

Failure to establish a healthy placenta, the organ that delivers oxygen and nutrients to the developing foetus, can lead to miscarriage, pre-eclampsia or impaired growth of the baby in the womb. Even moderately impaired foetal health is associated with a greater risk of contracting diseases in adult life, such as high blood pressure, diabetes, coronary heart disease and obesity. Therefore, a greater understanding of how the placenta is formed is critically important for health, both during infancy and throughout life.

Scientists at PHI have identified a new molecular regulator that appears in the uterus during the very early stages of placental development and is thought to be a novel maternal factor for establishing and maintaining a pregnancy. Research is now focussed on understanding the exact role of this protein in placental development.

RESEARCHERS

Uterine Biology Group

Reproductive Hormones Group

FUNDING

National Health and Medical Research Council of Australia

CONRAD/CICCR, USA

Bayer Schering Pharma, Germany

Endeavour Australia

COLLABORATORS

Department of Obstetrics and Gynaecology, Monash University, Melbourne

Walter and Eliza Hall Institute of Medical Research, Melbourne

Monash IVF, Melbourne

Department of Applied Chemistry, Cell-free Science and Technology Research Centre, Ehime University, Matsuyama, Japan

University of Cambridge, UK

Foundación IVI, Valencia, Spain

Excessive uterine bleeding impairs the quality of life of many otherwise healthy women

Abnormal uterine bleeding is the most common complaint of women presenting to gynaecologists and affects ~4 million Australian women. Hysterectomy, a major surgical procedure involving removal of the uterus, is one of the most frequent surgical procedures performed in Australian hospitals and nearly 30% of these operations are conducted for the purpose of alleviating heavy menstrual bleeding.

Causes of abnormal menstrual bleeding are largely unknown but it can arise from hormonal irregularities and is often associated with the use of certain hormonal contraceptives. Of women with abnormal menstrual bleeding, 20% are of adolescent age (meaning that hysterectomy is not a treatment option) and 50% are aged 40-50 years.

MENSTRUATION RESEARCH

Our research

Scientists at PHI are investigating the mechanisms of normal menstruation and how the womb lining repairs itself after menstruation, to develop new treatments for abnormal uterine bleeding.

PHI researchers are :

...researching normal menstruation

To understand bleeding problems, it is first necessary to understand normal menstruation; when the lining of the uterus disintegrates and is shed (manifesting as bleeding) following a non-pregnant month. As with other wounds, the lining of the uterus must repair following the damage caused by shedding, a process known to be rapid and highly efficient, but of which little is understood. Our research focuses on how the lining of the womb is shed and then repaired during each menstrual cycle.

Our scientists use endometrial biopsy tissues taken from women at different stages of the menstrual cycle to identify and study various factors involved in menstrual bleeding (in both the normal and abnormal situation). It is now clear that menstrual bleeding results from a highly controlled inflammatory-type reaction, as is seen in pathological situations where tissue is damaged (eg. joints in rheumatoid arthritis). Our studies have shown that the uterus has special control mechanisms to regulate this process.

...studying a newly-created mouse model of menstruation

Menstruation occurs only in women and a few animals, including some monkeys, the elephant shrew and some fruit bats. Other animals do not menstruate. Thus, study of this natural process in animal models is extremely difficult. In a major advance, scientists at PHI have developed a unique mouse model of menstruation. This model replicates most of the known molecular and cellular events of menstruation in women. These include the production of chemical catalysts (enzymes) that degrade tissues if uncontrolled, and an influx of white blood cells that provide a wealth of mediators of tissue breakdown.

Importantly, we have been able to show that when certain infection-fighting white blood cells, the neutrophils, are not present, repair of the endometrium following menstruation is impaired. This finding has significant implications for uterine bleeding problems and suggests that abnormal bleeding is more likely a disorder of tissue restoration than of tissue breakdown.

In addition, it has always been thought that the female hormone oestrogen is absolutely needed for the endometrium to fully repair. Studies from our laboratory, just published in the journal Endocrinology, have overturned this dogma. We have shown that when we remove ALL oestrogen from our mice, including that in the diet (phytoestrogens) and that produced by fat, complete restoration of the endometrium occurs.

RESEARCHERS

Uterine Biology Group

FUNDING

National Health and Medical Research Council of Australia

National Institutes of Health, USA

Bayer Schering Pharma, Germany

Monash IVF

COLLABORATORS

Department of Obstetrics and Gynaecology, Monash University, Melbourne

Monash IVF, Melbourne

Sydney Centre for Reproductive Health Research, Sydney

Women's and Infant's Health, University of Western Australia, Perth

Ovarian cancer is one of the most serious forms of cancers affecting women

One in 67 women will be diagnosed with ovarian cancer. If the cancer is detected when still confined to the ovary, the five year survival rates are around 90%. However if the diagnosis is made when the cancer has spread to other parts of the body, the five year survival rate is reduced to 30%. Because of its vague symptoms, the disease is very difficult to detect in its early stages. Unfortunately, the majority of women diagnosed with ovarian cancer are already in advanced stages of the disease.
Early detection is the key to surviving ovarian cancer.

Unlike breast cancer, there are no screening programs or early detection methods for ovarian cancer, and the five year survival rate for ovarian cancer is much lower than that for breast cancer.

OVARIAN CANCER RESEARCH

Our research

Our scientists are leading the way in the development of a detection test for specific forms of ovarian cancer which are currently difficult to identify.

PHI researchers have developed a blood test for detection of specific forms of ovarian cancer in post-menopausal women, based on the measurement of the hormone inhibin and another cancer marker, Ca125. This test is currently being developed by a diagnostic company for introduction into clinical laboratories and is useful in the initial diagnosis of women suspected of ovarian cancer.

PHI researchers are:

...using new technologies to specifically identify markers for early detection

A major goal of our work is to discover new markers for the early detection of ovarian cancer and develop blood tests to detect all types of ovarian cancers in both pre- as well as post-menopausal women.

PHI has set up a state-of-the-art facility, supported by the Ovarian Cancer Research Foundation (OCRF), to detect and identify proteins in blood and tissues. This method is based on the comparison of proteins in blood and ovarian tissue from normal women to those with ovarian cancer. We are seeking proteins that are unique to the cancer that could be used as potential markers for early detection.

In a complementary approach, we are using a genetic technology, called microarrays, to identify genes that are unique to different types of ovarian cancers and could be used as cancer markers.

...participating in the first Australian Ovarian Health Study

Currently there are no health programs for assessing the health of ovary as there are for the breast and the cervix. The Ovarian Health Study is the first Australian study which aims to set the parameters for a national health program similar to pap screens for the cervix and mammograms for the breast.

The study focuses on healthy postmenopausal women who are at increasing risk of developing ovarian cancer. Ovarian health will be assessed by a combination of a highly sensitive vaginal ultrasound test and blood tests for ovarian cancer detection including serum inhibin developed by PHI researchers as outlined above.

...studying granulosa cell tumours

Although granulosa cell tumours account for 5-10 per cent of ovarian cancers, they have a unique behaviour requiring specific study. PHI scientists aim to characterise the genes involved in granulosa cell tumours. Scientists are working to identify the genes exhibiting abnormal behaviour either encouraging growth of the tumour or failing to stop it. The role of oestrogen is of particular interest, as it may help to predict prognosis and to develop specific target treatments.

RESEARCHERS

Reproductive Hormones Group

Steroid Receptor Biology Group

FUNDING

Ovarian Cancer Research Foundation, Melbourne

Granulosa Cell Tumour of the Ovary Foundation, USA

Diagnostic Systems Ltd, Houston, USA

Cancer Council of Victoria

COLLABORATORS

Monash Institute of Medical Research, Melbourne

Department of Obstetrics and Gynaecology, Monash University, Melbourne

Department of Gynaecological Oncology, Southern Health, Melbourne

Victorian Bioinformatics Consortium, Monash University, Melbourne

Diagnostic Systems Laboratories Inc, Houston, USA

Breast cancer is the leading cause of cancer-related death in women in Australia

One in 11 women will be diagnosed with breast cancer before the age of 75. If the cancer is contained in the breast at diagnosis, women have a 90% chance of surviving five years. However if the cancer has spread at diagnosis the five-year survival rate is 20%, with 15% of all breast cancers being advanced at diagnosis.

Early detection is an important step in reducing deaths from breast cancer.

Hormonal therapies for breast cancer (such as Tamoxifen and Raloxifene) are an important step in breast cancer treatment, and work to prevent the occurrence of oestrogen-dependent tumours.

The development of therapies that more specifically target breast cancer, yet do not produce other troubling side effects of current hormone-based treatments, will provide new hope and improved quality of life for breast cancer sufferers.

BREAST CANCER RESEARCH

Our research

PHI researchers are working on new treatments for breast cancer by blocking oestrogen within the breast, while still allowing oestrogen action in other important parts of the body, such as the brain and bone.

While the exact cause of breast cancer is unknown, lifetime exposure to the female hormone, oestrogen, is believed to be a major factor in the development of the disease, with 70% of breast cancers being driven by oestrogen.

PHI researchers are:

…developing treatments to block oestrogen formation in the breast

Current breast cancer treatments work by blocking the action of oestrogen in cells. Newer treatments work by inhibiting the enzyme that produces oestrogen (called aromatase) and thus preventing oestrogen formation. These treatments are helping to improve the quality and length of life in breast cancer sufferers, and are particularly useful in post-menopausal women.

However the problem with these inhibitors is that they block aromatase activity elsewhere in the body. Aromatase is important in the brain (particularly for memory), in the liver and in bone for preventing osteoporosis.

PHI researchers have shown that the principal source of oestrogen that drives breast cancer development in post-menopausal women is local oestrogen production in the breast itself. This means that if we can create inhibitors that specifically block aromatase in the breast, we could develop effective breast cancer treatments which limit other side effects caused by lack of oestrogen in other sites such as the brain and bones.

Our scientists are now identifying factors that uniquely control aromatase production in the breast in an effort to design new, more effective and acceptable breast cancer treatments.

…investigating the role of an important protein, LRH-1, in breast cancer

Research at PHI has identified novel targets for the treatment of breast cancer. A significant discovery was that the protein LRH-1, previously known for its role in the liver and pancreas for controlling cholesterol and bile production, also plays a role in breast cancer.

In 2002, our research team was the first to show that LRH-1 has a direct connection with breast cancer via oestrogen production. In post-menopausal women LRH-1 uniquely stimulates aromatase in the breast but not elsewhere in the body.

Current studies suggest that LRH-1 plays a dual role in furthering cancer progression by supplying the tumour with the oestrogen that it needs to grow. LRH-1 is also present within the tumour itself, where it is part of a direct pathway to stimulate tumour growth.

We have now completed a high-throughput ‘in silico’ screen to search for compounds that bind to LRH-1 and several promising leads have been found. We are now testing these compounds in binding and functional assays for LRH-1, in anticipation of characterising one which can then be modified to increase its binding strength and specificity. We aim to find a compound that has breast cancer inhibitory properties.

…linking obesity and breast cancer

Recent epidemiological evidence points to a relationship between obesity and breast cancer, such that women with a BMI greater than 30 have double the risk of breast cancer. Given the global pandemic of obesity, there is a grim prospect that millions more women will contract this disease in later life. Our scientists are studying the cellular and molecular basis of the link between these conditions in order to develop new treatment strategies.

RESEARCHERS

Sex Hormone Biology Group

FUNDING

Victorian Breast Cancer Research Consortium Inc., Melbourne

National Health and Medical Research Council of Australia

National Breast Cancer Foundation, Australia

COLLABORATORS

Victorian Breast Cancer Research Consortium Inc., Melbourne

Melbourne University

St Vincent’s Institute, Melbourne

Tohoku University, Sendai, Japan

Duke University, North Carolina, USA

University of Calabria, Italy

One in 20 Australian men suffer fertility problems, but few treatments are available

Fertility problems in the male partner contribute to more than 40% of the assisted reproduction procedures performed in Australia. Problems with the number or quality of sperm produced stop many couples from becoming pregnant naturally, yet little can usually be done to improve a man's fertility.

The use of intracytoplasmic sperm injection (ICSI) in combination with IVF procedures has meant that many men with compromised fertility can become fathers, however such procedures are invasive and costly.

MALE REPRODUCTIVE BIOLOGY

Our research

Scientists at PHI are researching the causes of male infertility in order to discover new treatments and to find strategies to optimise fertility in men.

PHI researchers are:

…investigating the process of sperm production

Scientists at PHI are investigating the complex process of sperm development to better understand the hormonal and genetic factors involved in male fertility. We have identified different, important points in the sperm development pathway for further research.

We are researching how the earliest sperm cells (the spermatogonia) develop, since these cells fail to grow in some infertile men and are particularly prone to damage during cancer treatments. Research is underway to identify the molecules important for the survival of these cells with the aim of finding treatments to stimulate their growth when needed.

As sperm grow, they lie between special nurse cells called Sertoli cells. We research various aspects of Sertoli cell development and function, since problems in Sertoli cells can lead to male infertility. One aspect is the special junctions between Sertoli cells that allow the cells to communicate. We are studying whether these junctions are affected in infertility and identifying the regulatory factors.

The release of mature sperm from Sertoli cells is vital for the production of large numbers of healthy sperm. This process of sperm release may be at fault in some forms of male infertility; in a significant proportion of men there is an absence of sperm in the semen, yet some sperm are present in the testis. Our current studies are focussed on discovering the molecules involved in sperm release so that we may one day be able to stimulate this process in order to treat some forms of infertility.

We are also searching for special proteins in the blood that could be used to diagnose different types of infertility by a simple blood test, rather than requiring a biopsy of the testis.

…compiling an infertility database

In collaboration with Monash IVF, PHI is working to identify genes that control sperm production and are responsible for poor sperm quality. Patients in affiliated fertility practices are invited to contribute DNA (via a blood sample) along with information about their medical history, physical examination findings, semen quality and hormone levels.

This database is one of the largest in the world for research into the common problem of male infertility. DNA has also been collected from the children of infertile men who have been conceived by ICSI-assisted IVF, where instead of the egg and sperm fertilising naturally, a sperm is directly injected into each egg. The study of this DNA provides scientists with an insight into which forms of infertility might be inherited and which genes are the cause.

RESEARCHERS

Male Reproductive Endocrinology & Metabolism Group

FUNDING

National Health and Medical Research Council of Australia

Andrology Australia

National Institutes of Health, USA

Bayer Schering Pharma, Germany

Serono Foundation

COLLABORATORS

Monash Institute of Medical Research, Melbourne

Monash IVF, Melbourne

University of Calabria, Italy

University of Washington, USA

Tohoku University, Sendai, Japan

Our research is targeted at developing novel contraceptive options for men and women

There is a worldwide need to develop more contraceptive options for men and women

The World Health Organisation has emphasised a need for new contraceptive options for both sexes in both developing and developed countries.
Increased contraceptive choice will improve family planning, which has the potential to reduce poverty and hunger, avert some 30% of maternal and infant deaths and improve long-term environmental sustainability. Even in developed countries unplanned pregnancies are common and discontinuation rates for many contraceptives approach 50% after one year. Clearly, existing contraceptives are not meeting the demands of society.

PHI researchers are:

…searching for new contraceptive targets in men

PHI researchers are undertaking a strategic research program aimed at finding new contraceptive targets for men. While hormone-based contraceptives show promise (see below), it is generally agreed that contraceptives that are not hormone-based but act directly and specifically on sperm production in the testis are likely to offer improved effectiveness, safety and acceptability.

We have identified a number of cellular processes in the testis that are essential for sperm production. We are now elucidating the genes and proteins that are important for these processes and are searching for proteins which, when inhibited, would rapidly and reversibly block sperm production and release.

…searching for new contraceptive targets in women

There is a growing need for new contraception options for women. Indeed, one in four of the world's pregnancies are unintended and every year 700,000 women die as a result of unintended pregnancies. Between 2000-2010, some 600 million girls will reach adolescence. Yet many women cannot tolerate hormonally-based contraceptives, while others would prefer contraception that can be used on an occasional basis.

There is also an urgent need to protect women against infection acquired through intercourse (including AIDS). Indeed in some parts of Southern Africa, 25% of women are infected with AIDS by age 22. ▶

NEW CONTRACEPTIVES

Our research

Scientists at PHI are leading the way in the search for new male and female contraceptives. We perform clinical trials on new contraceptives and are searching for new targets for contraception in males and females.

▶ It is almost unbelievable that being poor, young and married are the most significant risk factors for acquiring HIV infection. Therefore any new forms of contraception that may also have a role in reducing sexually transmitted diseases are needed to protect women.

At PHI we have leads for new contraceptives that directly address these issues. This work's importance is recognised by it being selected for funding by the CONRAD/CICCR, the only US not-for-profit body, which funds research on contraceptive development.

One of our targets is a molecule known as PC6, which we have shown to be critical for implantation of the embryo into the womb in mice: if we block PC6, the mice cannot become pregnant. We have also proved that this molecule is critical for at least some steps of the implantation process in humans – this work has to be done in the tissue culture laboratory because we cannot work directly on women. The most exciting aspect of this work is that PC6 is also important for HIV infectivity. Therefore, for the first time, we have the potential for blocking both pregnancy AND HIV infection. We are currently trialling an inhibitor of PC6 in mice and testing whether it can be administered in a vaginal gel.

We are likewise testing some novel inhibitors of other molecules called cytokines: two of these are also critical for implantation in mice. Our collaborators at the Walter and Eliza Hall Institute, and at AMRAD (now CSL), have developed novel inhibitors for these two cytokines - we have now shown that these inhibitors are fully effective at preventing the establishment of pregnancy in mice.

...trialling new male contraceptive methods

The use of hormones (testosterone as well as types of progesterone) to suppress male fertility is a promising approach to male contraception, and various formulations have been shown to be very effective in reversibly blocking sperm production in men. The principal of these contraceptives is similar to the oral contraceptive pill in women and involves "tricking" the brain to stop it releasing hormones needed for fertility.

PHI scientists have been involved for a number of years now in trialling such contraceptives in men. Different formulations (eg. implants, long acting injections, oral forms) and combinations of hormones are explored, and their ability to suppress sperm production and their impact on other parameters of male reproduction and health, are examined. We aim to find contraceptives that effectively suppress sperm production in all men, have limited side effects, are reversible and suitable for long term use.

...investigating long acting female contraceptives

It is estimated that over 20 million women worldwide use progestin-only contraceptives, such as Implanon. These contraceptives have the advantage of being long acting, however around 25 per cent of women are forced to terminate the use of progestin-only contraceptives because of uterine bleeding problems.

Scientists at PHI are investigating the causes of this bleeding so that we can find ways to improve the acceptability of these types of contraceptives. We have developed a mouse model that receives small pieces of the Implanon implants; the uteri of these mice develop many of the same features seen in women using such implants. We are testing how short-term treatment of these mice with certain substances may change the tissue so that it is not predisposed to bleeding.

We are also involved in a national clinical trial to test new short-term treatments for the bleeding problems associated with the use of Implanon. The pilot study from this trial has been extremely encouraging and has enabled the team to devise what they hope will be even more effective treatments for trialling in the second phase of the study. Some of these treatments are also being tested in our mouse model to gauge their effectiveness and determine the underlying mechanisms.

RESEARCHERS

Uterine Biology Group

Male Reproductive Endocrinology & Metabolism Group

Reproductive Hormones Group

FUNDING

National Health and Medical Research Council of Australia

National Institutes of Health, USA

Bayer Schering Pharma, Germany

CONRAD/CICCR USA

COLLABORATORS

Walter and Eliza Hall Institute of Medical Research, Melbourne

Sydney Centre for Reproductive Health Research, Sydney

Women's and Infant's Health, University of Western Australia, Perth

Royal Women's Hospital, Melbourne

Mater Mothers' Hospital, South Brisbane

ANZAC Research Institute, Sydney

University of Bologna, Italy

Inhibin and activin are reproductive hormones with emerging roles in various clinical conditions

A significant discovery by scientists at PHI in the 1980s was the isolation of the reproductive hormone inhibin. Since then, inhibin has been shown to have important roles in reproduction and cancer and in various other processes in the body. Inhibin acts to antagonise (or inhibit) the actions of another important hormone activin, which also controls numerous processes including reproduction.

HORMONES IN REPRODUCTION

Our research

By studying the mechanisms of action of inhibin and activin, our scientists hope to identify new treatment strategies for a range of human conditions.

PHI researchers are:

…investigating inhibin in reproduction

The hormone inhibin plays a key role in the regulation of follicle stimulating hormone (FSH), produced from the pituitary in the brain, which in turn controls sperm production in the testis and egg production in the ovary. When FSH secretion is elevated, the ovary compensates by producing more inhibin. This reduces the secretion of FSH and stabilises its circulating levels, ensuring that only one egg ovulates at a time.

Knowledge about inhibin and how it regulates FSH has a direct impact on natural reproductive processes, including the menopause transition. It is also significant in the treatment of conditions such as premature ovarian failure and infertility. The role of inhibin in the male, while important, is less clearly understood.

Our current field of research focuses on two circulating forms of inhibins, inhibin A and B, which are believed to have different functions in the body. Inhibin B is found only in the male circulation and in the early stages of follicle and egg development in the ovary in women. Inhibin A, on the other hand, is produced by the dominant follicle in the ovary that is destined to ovulate.

Because of these differing functions, scientists are studying both inhibin forms separately. We have shown that human inhibin A and B differ in their bioactivity and receptor binding properties. Specifically, inhibin A binds to an accessory binding protein called betaglycan to mediate its biological response. Inhibin B on the other hand uses another, as yet unknown, mechanism which we are currently exploring.

An understanding of the mechanisms involved in inhibin A and B actions will enhance the management/monitoring of reproductive disorders and possibly identify biomarkers with improved sensitivity and specificity.

...researching premature ovarian failure

Premature ovarian failure causes women to experience menopause before the age of 40. This disease affects one in 100 women worldwide. Women with premature ovarian failure stop ovulating, their menstrual cycles cease and they experience menopausal-related symptoms of infertility, as well as an increased risk of cardiovascular disease and osteoporosis.

Scientists at Prince Henry's are investigating the possibility that a mutated, less active form of inhibin is present in some women with premature ovarian failure. Because the hormone is less active, it is believed the ovarian supply of eggs diminishes earlier in life, resulting in premature menopause. We hope to gain a better understanding of the cause of this disorder and identify new treatment strategies.

...fighting disease with activin

Researchers at PHI, in collaboration with the Salk Institute, USA, have discovered a novel compound important for disrupting the activin signalling system. This could help to develop ways to either block or enhance its action and provide a range of clinical applications for the treatment of a number of conditions.

Our work has shown that blocking the action of activin impacts on scar tissue formation during wound repair. We have also shown that activin has a relationship with profound muscle and fat loss in conditions associated with AIDS and cancer.

Another research discovery is that this compound could also block the action of the protein, myostatin, which regulates muscle tissue growth. We have shown that muscle growth is enhanced when myostain is blocked, which may have particular significance for people with muscular dystrophy.

The Institute also hopes to define the role of activin in ovarian and testicular cancers with the aim of finding potential treatments.

...understanding the importance of activin in pregnancy

Previous studies at PHI demonstrated that activin, particularly activin A, is abundant in the endometrium, the tissue lining the uterus, and is vital in the preparation of the endometrium for pregnancy. In the past year we published studies on the mechanisms by which this occurs, including actions on a family of enzymes involved in the establishment of pregnancy. These mechanisms help the cells that make up the foetal component of the placenta to invade the mother's blood supply, thus providing oxygen and nutrients to the developing foetus.

RESEARCHERS

Reproductive Hormones Group

Female Reproductive Biology Group

Male Reproductive Endocrinology & Metabolism Group

Uterine Biology Group

FUNDING

National Health and Medical Research Council of Australia

Diagnostic Systems Laboratories, Webster, Texas

COLLABORATORS

SALK Institute, San Diego, USA

University of Auckland, New Zealand

Australia's population is ageing

The proportion of Australians over the age of 65 is projected to increase significantly in the coming years, leading the Australian Government to call on medical researchers to develop new strategies to improve the health of ageing people.

PHI researchers are:

...researching testosterone therapy in ageing men

Although men do not undergo a true "menopause", a form of hormone-replacement therapy (testosterone therapy) is used in some older men to alleviate some symptoms associated with ageing.

However the use of testosterone therapy remains a controversial issue, so researchers at PHI are investigating the changes in testosterone levels experienced by some men as they age, and the role played by testosterone therapy.

PHI researchers have studied the effects of testosterone treatment on a group of older men who showed a range of symptoms of testosterone deficiency, including tiredness, poor concentration and reduced sex drive. An interesting finding from this study was that administering testosterone to these men for a year prevented the increase in intra-abdominal fat often seen in ageing men.

Also, the risk factors for heart disease seemed to be improved by this treatment.

Our researchers have also shown that testosterone levels are lower in obese ageing men, who often also have symptoms of testosterone deficiency, as well as increased risks of several health problems, including heart disease, high blood pressure, diabetes and sleep apnoea. ▶

HORMONES & AGEING

Our research

PHI researchers are investigating the hormonal changes that occur as men and women age to understand the impact on various health issues and help to develop strategies to improve the health and wellbeing of ageing people.

▶ We have now commenced a clinical trial examining the effects of testosterone therapy on body fat and markers of heart disease in obese, middle-aged men, as well as studying how lifestyle modification and weight loss affects testosterone production in these men.

Finally, our scientists are also working with industrial partners in the development of a new formulation of testosterone that is hoped to be more effective and convenient than existing treatments for testosterone-deficient men. This product is shortly to enter Phase III trials in an international, multi-centre study. They are also participating in studies examining patient response to a new long acting injectable form of testosterone therapy that is available in Australia.

…describing the menopause

The menopause literally means the very last period in a woman's life, and it typically affects women between 45 and 55 years of age. Symptoms of the menopause include hot flushes, low libido and loss of memory.

PHI is involved in several collaborative studies aiming to fully describe the hormonal changes that occur as women age and pass through the menopause.

Our researchers are measuring various hormones in women as they approach menopause and during the menopause transition so that we can understand:

– What are the characteristics of menstrual cycle as the menopause approaches?

– What are the cyclic hormonal changes occurring in women before and during the menopause?

– What are the relationships between various hormones and other health measures such as joint, cardiovascular and cognitive function?

…investigating growth hormone & oestrogen during the menopause

During the menopause, there is a reduction in two important hormones, oestrogen and growth hormone. In postmenopausal women, growth hormone deficiency is known to contribute to the decline of normal physiological functions in tissues such as the brain and heart.

PHI researchers are seeking to understand the relationship between oestrogen and growth hormone and the impact on the health of menopausal women.

The oestrogen-deficient (ArKO) mouse provides an ideal model to investigate the role of oestrogen in the regulation of growth hormone. Our studies have shown that growth hormone and its releasing hormone receptors are decreased in the pituitary of oestrogen-deficient mice, yet oestrogen replacement therapy reversed these changes.

Our current research is focused on creating treatment options for growth hormone deficiency in menopausal women and other oestrogen-deficient conditions.

RESEARCHERS

Reproductive Hormones Group

Male Reproductive Endocrinology & Metabolism Group

Endocrine Cell Biology Group

Sex Hormone Biology Group

FUNDING

Bayer Schering Pharma Aust Pty Ltd

National Health and Medical Research Council of Australia

Organon Australia Pty Ltd

Novartis Australia Pty Ltd

COLLABORATORS

RMIT University, Melbourne

The Jean Hailes Foundation, Melbourne

University of Melbourne

Monash University, Melbourne

Southern Health, Melbourne

University of Sydney

University of Western Australia, Perth

Baylor College of Medicine, Texas, USA

Tulane University Medical Centre, New Orleans, USA

Merck Research Laboratories, New Jersey, USA

National Institute for Medical Research, London, UK

University of Alberta, Canada

Tohoku University, Sendai, Japan

Karolinska Hospital & Karolinska Institute, Sweden

IPSEN, Milford, USA

Almost 60% of the adult population in Australia is overweight or obese.

Obesity is the excessive accumulation of fat (adipose tissue) to the extent that health is impaired. It is a serious medical condition that is associated with a range of severe health complications and life threatening conditions such as **diabetes, heart disease, high blood pressure and some cancers.**

Obesity in children and adolescents is also a critical issue in Australia, with over 25% of Australian children classified as overweight and obese; these children have a high probability of being obese, and suffering from the associated illnesses, in adulthood.

OBESITY RESEARCH

Our research

PHI researchers are studying hormones in the brain that regulate appetite and metabolism as well as hormones involved in fat accumulation in the body. By gaining a better understanding of how these hormones work, we hope to develop treatments for obesity.

Hormones are an important factor in regulating body weight; for example, they control appetite and influence fat deposition in the body.

PHI researchers are:

…investigating the hormones that control appetite and metabolism

Appetite regulatory factors, such as leptin, orexins, ghrelin and growth hormone, regulate body weight and the fat to muscle ratio. Investigating the interactions between these hormones and changes that occur in obese conditions are important to better understand the problem of obesity.

Obese people have low levels of growth hormones. This contributes to an increase in fat tissue and a decrease in muscle mass. Leptin and orexin are appetite-regulating hormones made by fat tissue and the brain that can influence the production of growth hormone by the pituitary gland. High levels of leptin, produced during obesity, suppress growth hormone secretion. Orexin, on the other hand, stimulates growth hormone secretion, as does the hormone ghrelin which is made by the stomach. Our studies are also focused on adiponectin, a hormone secreted from fat cells which can regulate the body's response to insulin as well as growth hormone release. Our studies suggest that the adiponectin receptor may be an excellent target for the development of a treatment for both obesity and diabetes.

We are now studying the molecular interactions of these hormones in the pituitary in order to understand what causes growth hormone deficiency in obesity. By clarifying the actions of leptin, orexins and ghrelin, we hope to find ways to correct growth hormone deficiency in obesity which would increase energy expenditure and muscle mass and reduce fat.

…studying the role of oestrogen in obesity and the Metabolic Syndrome

The term Metabolic Syndrome is used when a person suffers from obesity, particularly excess fat around the stomach, as well as a combination of other conditions such as insulin resistance, high blood pressure or high cholesterol. People with Metabolic Syndrome are at an increased risk of suffering from various serious conditions including heart disease, stroke, hypertension, Type 2 diabetes and kidney failure.

Lack of physical activity, poor diet and a subsequent increase in obesity has resulted in a significant rise in the incidence of the Metabolic Syndrome. This common condition has been estimated to affect 20-30 per cent of the middle-aged population. There is an important, but not yet fully understood, relationship between oestrogen and the development of these conditions.

Scientists at PHI are using the ArKO mouse, which is unable to produce oestrogen, in an ongoing series of studies investigating the mechanisms by which oestrogen contributes to maintaining the body's balance of fat tissue, sensitivity to insulin and a healthy heart. We have found that the ArKO mice, particularly males, become obese and insulin resistant. They also develop fatty liver and cardiovascular and cerebrovascular problems. We have also previously shown that men who are incapable of producing oestrogen, due to a natural mutation, also develop similar problems to the ArKO mice.

This work suggests that oestrogens may be able to prevent the Metabolic Syndrome in both males and females. These studies will give us a better understanding of how oestrogen therapy could best be used to prevent the development of the Metabolic Syndrome and its associated conditions.

RESEARCHERS

Endocrine Cell Biology Group

Sex Hormone Biology Group

FUNDING

National Health and Medical Research Council of Australia

National Institutes of Health, USA

Merck & Co Inc.

COLLABORATORS

Monash University, Melbourne

Baker Heart Research Institute, Melbourne

Victorian Institute of Animal Science, Melbourne

AgResearch, New Zealand

Shinshu University; Tohoku University, Japan

Kitsato University, Japan

Fourth Military Medical University, Xi'an, China

National Cardiovascular Centre Research Institute, Osaka, Japan

LeHigh University, USA

MRC Human Reproductive Sciences Unit, Edinburgh, UK

IPSEN, Milford, USA

Cardiovascular disease kills one Australian every ten minutes

Cardiovascular disease is the term used for diseases of the heart and blood vessels, which cause heart attacks, heart failure and strokes.

It is the leading cause of death in Australia. It is also a leading cause of disability: over a million people are prevented from living a full life due to disabilities caused by cardiovascular disease. **The health and economic burden of cardiovascular disease exceeds that of any other disease and it affects more than 3.5 million Australians.**

Hormones regulate various aspects of the cardiovascular system such as controlling blood pressure. High blood pressure, or hypertension, increases the risk of heart disease and stroke. Hormones also act within the heart to regulate the muscle cells and keep the heart functioning normally.

PHI researchers are:

...investigating a hormone that regulates blood pressure

The body's ability to handle salt (sodium chloride) is one of the critical determinants of blood pressure control. The most important factor in the control of salt balance is the hormone aldosterone.

Aldosterone is a steroid hormone produced by the adrenal gland, which acts on the kidney and colon to increase sodium retention. Over-stimulation of this system leads to hypertension. Despite the obvious importance of aldosterone in cardiovascular disease, there is still little understanding of the basic mechanisms of its action. ▶

CARDIOVASCULAR RESEARCH

Our research

PHI researchers are studying hormones involved in the cardiovascular system in order to develop new, more effective treatments for cardiovascular disease.

▶ Our scientists perform strategic research aimed at unravelling the molecular mechanisms of aldosterone action in order to develop improved treatments for cardiovascular disease and heart failure.

A particular focus is the receptor for aldosterone; the protein that binds to aldosterone and allows it to modify the cell's functions. We have identified the components of the receptor system that differ between tissues and the different types of steroids that bind to this receptor. Studies are now directed at understanding how the receptor system differs in specific cells and organs, with the aim of developing therapeutic drugs that act specifically on particular cells and are more effective treatments for hypertension and cardiovascular disease.

...studying steroids and cardiac fibrosis

High levels of aldosterone are a risk factor for cardiovascular disease and drugs that block the aldosterone receptor are a promising treatment for heart failure. International trials have shown that the addition of an aldosterone receptor blocker, on top of normal treatment, produced a 30-35 per cent improvement in survival of patients with moderate to severe heart failure.

Scientists at PHI are investigating the role of aldosterone in the development of cardiac fibrosis, or stiffening of the heart tissue, which is involved in the progression of heart failure. Our previous work has shown that cardiac fibrosis develops once the aldosterone receptor has been activated and that initiation of inflammation in the blood vessel wall is an important aspect in the progression of fibrosis.

Further studies have suggested that the aldosterone receptor may also be regulated by the closely-related hormone cortisol to produce cardiac fibrosis. Our scientists have pioneered the use of a mouse model of cardiac fibrosis and showed that blocking the aldosterone receptor not only prevents cardiac fibrosis and vascular damage, but can also reverse this process. It may also have beneficial effects in the kidney. Continuing studies in this area aim to better understand the mechanism by which activation of the receptor through a number of mechanisms, not restricted to aldosterone, can result in severe cardiac fibrosis and contribute to the development of cardiac failure.

We hope our studies will aid in the development of future pharmacological interventions and new treatments for cardiac fibrosis, heart failure and hypertensive kidney disease.

...searching for treatments for chronic heart failure

In Australia, it is estimated that there are over 300,000 people living with chronic heart failure, yet there is currently no effective treatment for this condition.

In the search for treatments for chronic heart failure, scientists at PHI are exploring the role of the hormone ghrelin, and drugs that mimic ghrelin action (called analogues), in cardiac disease. Ghrelin is produced in the stomach and plays an important role in the heart and heart muscle cells contain high concentrations of a specific receptor for ghrelin.

Our scientists, in a collaborative study, showed that ghrelin's synthetic analogues (called GHRPs) can improve cardiac function and protect heart muscle cells (cardiac myocytes) from cell death in a chronic heart failure model in rats. GHRPs also further improve health in a rodent model of heart failure by increasing the levels of growth hormone, the most important anabolic hormone from pituitary gland.

In addition to such a protective effect, PHI scientists and their collaborators have found that GHRPs also reduce proliferation of cardiac fibroblasts, thereby reducing cardiac fibrosis, or stiffening of the heart tissue, that is involved in the progression of heart failure.

Our researchers are currently focussed on elucidating the cellular and molecular mechanisms employed by GHRPs in cardiomyocytes. We use single cell experimental methods and investigate membrane ion channels under different experimental conditions. By further investigating the cellular mechanisms of ghrelin and its analogues, we will be better able to design new treatments for chronic heart failure.

RESEARCHERS

Steroid Receptor Biology Group

Endocrine Cell Biology Group

FUNDING

Endocrine Society

National Health and Medical Research Council of Australia

National Heart Foundation of Australia

Pfizer Pty Ltd

Merck & Co.Inc

COLLABORATORS

Baker Heart Research Institute, Melbourne

College de France

Walter and Eliza Hall Institute of Medical Research, Melbourne

Chinese Academy of Medical Sciences, Beijing, China

Department of Biochemistry, Monash University, Melbourne

Department of Medicine and Surgery, Monash University, Melbourne

Duke University, North Carolina

Universita di Roma, Italy

University of California, San Francisco

Over one million Australians are living with diabetes

Diabetes is a chronic (long term) condition arising from an abnormality in the body's ability to produce or use the hormone insulin. Insulin, produced by the pancreas, helps the body to use glucose (a type of sugar) for energy. If the body is unable to produce or use insulin, blood glucose levels become high, causing illness. Complications of diabetes include heart, kidney and eye diseases. This common condition contributes to early death, illness and disability and affects the quality of life of a large number of Australians.

Type 1 diabetes arises from a total or near-total lack of insulin, due to the body destroying its own insulin-producing cells (beta cells) in the pancreas. This type of diabetes accounts for around 10-15% of all people with diabetes. People with Type 1 diabetes require daily insulin therapy to survive. **It is one of the most serious and common chronic diseases of childhood.**

Type 2 diabetes is caused by reduced levels of insulin (insulin deficiency) and/or the inability of the body to use insulin properly (insulin resistance). The disease accounts for 85-90% of all people with diabetes and is most common among people aged 40 years and over. Many people with Type 2 diabetes eventually require insulin therapy.

DIABETES RESEARCH

Our research

PHI researchers study different aspects of insulin production, with the aim of discovering new treatments and preventative measures for diabetes.

The key to understanding the development of diabetes, and finding preventative treatments, is a better knowledge of how the body produces and uses the hormone insulin.

PHI researchers are:

...investigating the role of specific genes in diabetes

Research at PHI has discovered a potential role of the human gene SOX13 in Type 1 diabetes. The SOX13 gene is produced in the developing embryo, particularly in cells that become the insulin-producing beta cells of the pancreas.

Our studies have shown that SOX13 turns on other genes when it is in the nucleus of the beta cell. Scientists have observed high levels of insulin in those cells containing SOX13 in the nucleus. SOX13 has also been found to form a complex with the SOX9 gene, improving its action. This is important, because humans and mice lacking SOX9 develop diabetes.

Research at PHI is aimed at dissecting the molecular mechanisms by which these two SOX proteins affect insulin production in order to better understand the development of Type 1 diabetes.

...exploring the relationship between insulin and fat

Overweight or obese people are four times more likely to develop Type 2 diabetes than those of normal weight. It is believed that excessive fat cells cause tissues to stop responding to insulin and cause damage to insulin-secreting cell function.

However the mechanisms underlying this damage in obese patients is unclear and is the focus of research at PHI.

Our scientists are currently investigating the hormones and factors produced by fat cells and their effects on insulin cells and insulin production. It has been shown that fat cells induce a clear dysfunction of insulin cells in producing sufficient insulin. Fat cells have also been found to secrete several hormones into the body's circulation; these hormones are currently under investigation.

Fat cells also release free fatty acids. A high level of these acids occurs in obesity. Our studies are assessing the effects of free fatty acids on insulin levels in order to better understand the influence of fat cells on the progress of diabetes.

It is hoped that this research will reveal new ways to prevent and manage Type 2 diabetes in overweight or obese people.

...studying the role of oestrogen in diabetes

Our scientists have shown that mice lacking oestrogen develop increased body fat, insulin resistance and diabetes as they get older, yet these conditions can be prevented with oestrogen treatment. Our studies are aimed at elucidating the mechanisms by which oestrogen controls these processes to give insight into strategies to prevent diabetes, particularly in conditions associated with changes in ovarian function, such as ageing and Polycystic Ovarian Syndrome (PCOS).

RESEARCHERS

Sex Hormone Biology Group

Human Molecular Genetics Group

Endocrine Cell Biology Group

FUNDING

National Health and Medical Research Council of Australia

National Institutes of Health, USA

Eli Lilly Pty Ltd

Diabetes Australia Research Trust

COLLABORATORS

Monash University, Melbourne

University of Melbourne

Central South University, Changsha, China

Fourth Military Medical University, Xi'an, China

University of Texas, Southwestern Medical Centre, USA

Disorders of sexual development are amongst the most common human birth defects

Our sex is determined at conception. Sexual development into a male or female foetus is determined by the embryo's genetic make up - by the sex chromosomes (two X chromosomes in females, an X and a Y chromosome in males). Disorders of sexual development (DSD; formerly known as intersex conditions) can arise if there is a defect in one or more of the genes that control sexual development.

Such disorders can result in defects in the sexual characteristics of the infant, where the gender of the infant at birth is not clearly male or female, or where the physical sex of the person does not match the sex of their chromosomes (ie. XY females and XX males). In the majority of sexual development disorder cases the underlying genetic mutations are unknown.

Scientists are now beginning to understand that genes involved in sex determination also affect a wide variety of other processes, such as brain and bone development.

SEX DETERMINING GENES

Our research

PHI scientists aim to discover new genes that cause disorders of sexual development and help provide improved genetic diagnoses, counselling and treatment options. By studying these important genes we also hope to gain insight into a range of other human disorders.

PHI researchers are:

…discovering the genes responsible for disorders of sexual development

By identifying new genes responsible for disorders of sexual development, scientists at PHI hope to map the 80 per cent of cases that remain unexplained genetically. To achieve this, several approaches are being taken:

The PHI research team has developed a human cell culture model that replays critical events in gonad development (testes or ovaries), allowing them to manipulate the genes involved in sex determination and evaluate the changes. Using this approach, researchers manipulated the SOX9 gene, which is involved in testis development and bone formation.

This caused changes within the cells and led to the discovery of three genes that are influenced by SOX9. One of these genes has been shown to be involved in intersex conditions, and the other two are currently being evaluated.

Another way our scientists are discovering genes involved in disorders of sexual development is by looking for mutations in the DNA of patients, and then mapping which genes are changed in these disorders.

In a third approach, our scientists are identifying genes involved in sexual development by inactivating (or "knocking out") genes in a mouse and studying the effects. This approach led to a recent discovery of a novel sex-determining gene (called Fgfr2); mice lacking this gene at a certain stage of development displayed gonads with both ovarian and testicular tissue.

…researching the function of specific sex determination genes

Research at PHI is focussed on a particular sex determination gene called SOX9. Mutations in this gene cause Campomelic Dysplasia (CD), a rare genetic condition characterised by severe dwarfism and abnormal gonad development, where individuals with XY chromosomes have female genitalia.

Mice lacking the SOX9 gene show many features of CD, including sex reversal and dwarfism. By studying these mice, scientists have gained a better understanding of the normal roles of SOX9 in bone and testis formation. Both humans and mice lacking the SOX9 gene also have other conditions, including craniofacial defects (such as cleft palate) and diabetes. Studying the molecular functions of SOX9 will give insights into these, and other, disorders.

Scientists at PHI have discovered that another sex determining gene, SRY, is also present in men's brains. Previously they showed that removing SRY from male rats leads to movement problems reminiscent of those seen in Parkinson's disease. This is a chronic movement disorder that affects around 40,000 Australians. Symptoms include shaking, slowness of movement, rigidity and difficulty with balance and are a consequence of loss of dopamine. Men are 1.5 times more likely to develop the disease than women. Studies are now focussed on testing whether SRY is involved in the increased susceptibility of males to Parkinson's using animal models. Recent work in cell culture models has been exploring the mechanism of action of SRY and shown that it can control the production of dopamine, which is an important hormone produced in the brain.

…studying other consequences of mutations in sex-determining genes

Craniofacial abnormalities occur in one-third of all birth defects however the genes responsible for these inherited diseases remain largely unknown.

Children born with cleft palate often suffer respiratory and feeding difficulties in the first month after birth, resulting in growth and development deficiencies in their first year. Studies at PHI show that the sex-determining gene SOX9 is also important in the formation of the face and other bones. Current research is directed at providing new insights into why SOX9 development does not proceed normally in patients with craniofacial anomalies. This is the first step towards improving diagnosis and clinical management of this very common and heterogeneous group of disorders.

Mutations in another sex determining gene called ATRX cause a blood disease known as alpha thalassemia with associated mental retardation and testicular defects. Research is focussed upon understanding the shape of the protein, the effect of clinical mutations, and its control of other genes.

RESEARCHERS

Human Molecular Genetics Group

FUNDING

National Health & Medical Research Council of Australia

National Institutes of Health, USA

COLLABORATORS

Howard Florey Institute, Melbourne

The Murdoch Childrens Research Institute, Melbourne

Institute of Molecular Bioscience, Queensland

Institute of Human Genetics, University of Freiburg, Germany

University of California, Los Angeles, USA

Prince Henry's Institute takes great pride in nurturing the scientists of tomorrow

Photo: PhD Student Amanda Rickard, Steroid Receptor Biology Group

Prince Henry's Institute has a great reputation for postgraduate research and study, combining helpful and encouraging supervision with a high standard of research and expertise.

Our young researchers have achieved great success in 2006-07. Some of the year's highlights include:

Student Symposium

The high caliber of student presentations was again displayed during the 13th Annual PHI Student Symposium in November 2006.

Held over two consecutive days, the Student Symposium provides Postgraduate and Honours students with invaluable public speaking experience and a chance to follow the progress of fellow students.

Winners of the 2006 PHI Student Symposium:

Best Honours/Masters presentation:
Ken Walker

PhD – Best 1st year presentation:
Irene Papageorgiou

PhD – Best overall presentation:
Chelsea Stoikos

PhD – Special commendation award:
Amanda Rickard

Quantum Award

The annual PHI award, proudly sponsored by Quantum Scientific, recognizes the best research paper presented by a student at a conference the previous year.

Congratulations to PhD student Louisa Ludbrook who received the 2006 Quantum Scientific Award for Excellence for her research into the genes and molecules that are involved in the early stages of sex determination in humans.

Second prize was awarded to Amanda Rickard, a member of the Steroid Receptor Biology Group, for her studies into the role of the glucocorticoid receptor (GR) in the development of cardiovascular disease.

Student Committee

The student committee is actively involved in the PHI Student Open Day and Postgraduate Career Seminar Series, held in conjunction with the Monash Careers and Employment Services.

Education Program in Reproductive Biology

The Education Program in Reproductive Biology (EPRB) aims to foster education and research into reproductive biology and embryology for domestic and international postgraduate students.

The EPRB program is a joint venture between Prince Henry's Institute (PHI) and Monash Institute of Medical Research (MIMR), in association with the Monash University Departments of Physiology, Pharmacology, Obstetrics & Gynaecology, Paediatrics and Anatomy & Cell Biology.

The Graduate Diploma & Master of Reproductive Sciences and the Master of Clinical Embryology are run by the EPRB through the Monash Institute of Medical Research. Twenty-nine students, including seven international students, were enrolled in these courses in 2006.

PHI plays a key role in the coordination and teaching of the EPRB program and helps to promote its activities. Many of the Institute's scientists assist in the development of course units, lecture and facilitate practical sessions. PHI researchers also supervise students undertaking research projects in the Master of Reproductive Sciences. For more information on courses and open days telephone: (03) 9594 7100 or visit the website at www.med.monash.edu.au/eprb.

Photo (TOP): PHI Student Symposium
L to R Ms Nina Taylor (Novo Nordisk representative), Ms Irene Papageorgiou, Dr Jayne Sierens, Dr Michael Hickey
(BOTTOM) L to R: Ms Amanda Rickard, Ms Irene Papageorgiou, Professor Evan Simpson, Ms Nina Taylor, Ms Chelsea Stoikos, Mr Ken Walker

STUDENTS - CLASS OF 2006/07

L - R : Senior Research Officers Dr Kaye Stenvers, Dr Ann Drummond and PhD student Marissa Bowden, Female Reproductive Biology Group

PhD student Irene Papageorgiou, Reproductive Hormones Group

The following students undertook or continued their studies at the Institute:

Amanda Beardsley BSc (Hons)
PhD Student
The hormonal regulation of spermiation
Supervisors: Dr Liza O'Donnell; Assoc. Professor David Robertson

Marissa Bowden BA/BSc (Hons)
PhD Student
The expression and function of serine protease Htra3 in the ovary
Supervisors: Professor Jock Findlay AM; Dr Guiying Nie

Kim Brolin (University of Stockholm, Sweden)
MSc Student
Differential gene regulation by renal mineralocorticoid receptors using different agonist ligands
Supervisor: Dr Morag Young

Jenny Chow BBiomedSci (Hons)
PhD Student
The effect of oestrogen on triglyceride metabolism
Supervisors: Dr Wah Chin Boon; Professor Evan Simpson

Connie Chu BSc MSc
PhD Student
The effect of renin-angiotensin system in pancreatic islets
Supervisors: Assoc. Professor Chen Chen; Professor Po Sing Leung

Daniel Czech BSc
Honours Student
The role of SRY in brain function
Supervisors: Assoc. Professor Vincent Harley; Dr Helena Sim

Natalie Hannan BSc (Hons)
PhD Student
Endometrial proteins in human embryo implantation and their relevance to fertility
Supervisor: Professor Lois Salamonsen

Lauren Hare BA/BSc
Honours Student
Genetics of Transsexualism
Supervisors: Assoc. Professor Vincent Harley; Dr Pascal Bernard

Suha Hassan BSc
Honours Student
Mutational analysis of intersex patients
Supervisors: Dr Pascal Bernard; Assoc. Professor Vincent Harley

Amy Herlihy BSc GradDipGeneticCounselling
PhD Student
Population-based genetic screening for Klinefelter's Syndrome: A critical analysis
Supervisors: Professor Rob McLachlan, Assoc. Professor Jane Halliday, Assoc. Professor Lynn Gillam

Rachel Hill BSc (Hons)
PhD Student
Characterisation of the brain of the male Aromatase Knockout (ArKO) mouse
Supervisors: Dr Wah Chin Boon; Professor Evan Simpson

Sonay Hussein-Fikret BBiomedSci (Hons)
PhD Student
Steroid receptor coactivators in ovarian granulosa cell tumours
Supervisor: Professor Peter Fuller

Stacey Jamieson BA/BSc (Hons)
PhD Student
The molecular pathogenesis of the granulosa cell tumour of the ovary
Supervisor: Professor Peter Fuller

Irumini Jayakody BBiomedSci (Hons)
PhD Student
Functional analysis of FGFR2 during testis development
Supervisors: Dr Stefan Bagheri-Fam; Assoc. Professor Vincent Harley

Tu'uhevaha Kaitu'u-Lino BBiomedSci (Hons)
PhD Student
Understanding endometrial breakdown and repair
Supervisors: Professor Lois Salamonsen; Dr Naomi Morison

Priscilla Kan BBiomedSci
Honours Student
Characterising the role of ACT in male infertility
Supervisors: Dr Michael Lynch; Dr Peter Stanton

Sabine Kelly BSc (Hons)
PhD Student
Gonadal target genes of the male sex determining factor, SOX9
Supervisor: Assoc. Professor Vincent Harley

Emily Lam BBiomedSci (Hons)
PhD Student
Differential regulation of the mineralocorticoid receptor by corticosteroids and salt in the pathology of cardiovascular inflammation and fibrosis
Supervisor: Dr Morag Young

Audrey Lian BBiomedSci
Honours Student
Oestrogen and the development of obsessive compulsive disorder in mice and men
Supervisor: Dr Wah Chin Boon

Jason Liew BBiomedSci (Hons)
PhD Student
The role of Oestrogen in ovarian function
Supervisors: Professor Jock Findlay; Dr Ann Drummond; Dr Margaret Jones

Louisa Ludbrook BBiomedSci (Hons)
PhD Student
DAX1 and gonadogenesis
Supervisor: Assoc. Professor Vincent Harley

PhD student Louisa Ludbrook, Human Molecular Genetics Group

PhD student Jason Liew, Female Reproductive Biology Group

L - R : Research Assistant Ying Li, PhD student Tu'uhevaha Kaitu'u-Lino

Yogeshwar Makanji BAppSci (Hons)
PhD Student
Biological characterisation of Inhibin A and Inhibin B
Supervisors:
Assoc. Professor David Robertson;
Dr Craig Harrison

Mark McCabe BAppBiol/Biotech (Hons)
PhD Student
Hormonal regulation of the Sertoli cell tight junction
Supervisors: Dr Peter Stanton;
Dr Peter Smooker

Peter Nicholls BBiomedSci
Honours Student
Characterisation of GDF-9 and BMP-15 in the testis
Supervisors: Dr Craig Harrison;
Dr Peter Stanton

Premila Paiva BSc (Hons)
PhD Student
Endometrial-placental interactions in human blastocyst implantation: roles for interleukin-11
Supervisors: Dr Eva Dimitriadis;
Professor Lois Salamonsen

Irene Papageorgiou BSc (Hons)
PhD Student
The role of Cripto in tumourogenesis
Supervisors: Dr Craig Harrison;
Assoc. Professor David Robertson

Niroshani Pathirage BSc (Hons)
PhD Student
Regulation of aromatase in endometrial and ovarian cancer
Supervisors: Dr Colin Clyne;
Professor Evan Simpson

Yogavalli Poobalan BSc
Honours student
Regulation of FSTL-3 in the male reproductive system
Supervisors: Dr Jayne Sierens;
Dr Colin Clyne

Jyothsna Rama Rao BSc MSc
PhD Student
Effect of fat hormones on pancreatic beta cells
Supervisors: Assoc. Professor Chen Chen;
Assoc. Professor Helena Parkington

Amanda Rickard BBiomedSc (Hons)
PhD Student
Mineralocorticoid/salt induced vascular damage and cardiac fibrosis
Supervisor: Dr Morag Young

Debora Romero BSc GradDipRSc
Masters Student
The effects of gonadotrophin treatment on the secretory and cellular proteins of Mouse Leydig cells in vitro and in vivo
Supervisors: Assoc. Professor David Robertson; Dr Andrew Stephens

Davina Rosairo BSc GradDipRSc
Masters Student
Regulation of ovarian follicle development
Supervisors: Professor Jock Findlay;
Dr Ann Drummond

Saleela Ruwanpura BBiomedSci (Hons)
PhD Student
FSH effects on spermatogenesis
Supervisors: Professor Rob McLachlan;
Dr Sarah Meachem

Nadia Sadli BSc
Honours Student
Regulation of voltage-regulated K+ currents of pancreatic beta-cells by specific somatostatin receptor subtype agonists
Supervisor: Assoc Professor Chen Chen

Chelsea Stoikos BSc (Hons)
PhD Student
Molecular events in the endometrium: implications for infertility
Supervisors: Dr Eva Dimitriadis, Professor Lois Salamonsen

Qiang Sun MBBS MSc
PhD Student
Effect of GHS on cardiomyocytes
Supervisors: Assoc Professor Chen Chen

Claire Tan BSc
Honours Student
The oestrogen modulating obsessive disorders circuit/model
Supervisor: Dr Wah Chin Boon

Paisu Tang BSc (Hons)
PhD Student
Functional studies on the ATRX protein
Supervisor: Assoc. Professor Vincent Harley, Professor Jennifer Marshall Graves

Gerard Tarulli BSc (Hons)
PhD Student
Regulation of Sertoli cell differentiation
Supervisors: Dr Peter Stanton, Dr Sarah Meachem, Professor John Bertram

Michelle Van Sinderen BSc (Hons)
PhD Student
Oestrogen, adiposity and insulin resistance
Supervisor: Dr Margaret Jones

Kenneth Walker BSc (Hons)
PhD Student
Roles of TGF-beta2/betaglycan signaling in the developing kidney
Supervisors: Professor John Bertram;
Dr Kaye Stenvers

Sean Yang BSc
PhD Student
The Regulation of Growth Hormone by Secretagogues
Supervisors: Assoc. Professor Chen Chen, Assoc. Professor Helena Parkington

Joanne Yap BSc
Honours Student
Characterisation of activin beta C in the over-expressing mouse ovary
Supervisors: Dr Ann Drummond,
Dr Elspeth Gold

Yinan Zhang BBiomedSci
Honours Student
Differential gene expression of mineralocorticoid receptor activation by different agonists
Supervisor: Dr Morag Young

AWARDS AND ACHIEVEMENTS

Senior Research Officers Dr Margaret Jones and Dr Colin Clyne with Professor Evan Simpson, Sex Hormone Biology group

Dr Carolyn Allan, Sr Anna Zamojska, Sr Elise Forbes, Professor Henry Burger and Professor Rob McLachlan, Clinical Andrology Service

International Awards

Professor Evan Simpson
Komen Foundation Brinker Award for Scientific Distinction, 2006

Ms Jenny Chow
US Endocrine Society Women in Endocrinology Abstract Award, 2007;

Australian Awards

Ms Jenny Chow
Australian Women in Endocrinology Merit Certificate 2007

Dr Christine White
Winner, Victorian Young Tall Poppy Science Award, 2006

Ms Natalie Hannan
Selected to participate in "Fresh Science 2006" (16 selected of 87 nominations)

International committees & journal appointments

A/Professor Chen Chen
Editor, Editorial Board, Endocrinology, 2007-2009;

Dr Evdokia Dimitriadis
ESHRE (European Society of Human Reproduction and Embryology) committee for SIGEE (Special Interest Group for Endometriosis and the Endometrium)

Professor Peter Fuller
Associate Editor, Endocrinology, 2007

Dr Colin Clyne
Member of the editorial board, Endocrinology, 2007

Dr Sarah Meachem
Member of the editorial board, Journal of Endocrinology, 2005-2006

Dr Guiying Nie
Managing editorial board, Frontiers in Bioscience, 2007

A/Professor David Robertson
Editor, Women's Health, 2004-

Professor Lois Salamonsen
Editorial Board member, Endocrinology 2007;
International Advisory Panel, Reproduction, Fertility and Development 2007;
Associate Editor (Pacific region), Reproductive Sciences 2007

Australian committees & appointments

Dr Sarah Meachem
Coordinator, Fertility Regulation Unit, Education Program for Reproduction Biology, 2005-2006

NHMRC committees

Professor Jock Findlay AM
Chair, Embryo Research Licensing Committee, NHMRC Principal Committee, Canberra, ACT, 2006-07;
Member NHMRC, Canberra, ACT, 2006-07

Professor Peter Fuller
Chair, Enabling Grants Committee, 2003-

Professor Lois Salamonsen
Training Awards Committee, 2006

Scholarships/Fellowships

Dr Carolyn Allan
Novartis Endocrinology Fellowship, Royal Australasian College of Physicians, 2006

Dr Neveen Hanna
Lord Mayor Post-doctoral Fellowship 2006-2007

Ms Natalie Hannan
NHMRC Dora Lush Biomedical Postgraduate Scholarship 2006/07;
Recipient of Burroughs Wellcome Fund and World Health Organization scholarships to attend the Frontiers in Reproduction course, Woods Hole MA, USA 2007

Dr Craig Harrison
NHMRC RD Wright Fellowship 2007

Ms Stacey Jamieson
NHMRC Dora Lush Biomedical Postgraduate Scholarship 2006/07;
Dean's Award for Excellence, Monash University 2007

Dr Kevin Knower
PhD, Monash University, 2007

Ms Emily Lam
NHMRC Dora Lush Biomedical Postgraduate Scholarship 2006/07

Dr Kerry McInnes
R.D Lawrence Fellowship, Diabetes U.K.

Ms Chelsea Stoikos
RANZCOG Research Foundation Scholarship, 2007

Dr Christine White
NHMRC Peter Doherty Australian Biomedical Fellowship, 2007

Degrees conferred

Dr Amanda Beardsley
PhD, Monash University, 2006

Dr Neveen Hanna
PhD, Monash University, 2007

Societies & conference committees

A/Professor Chen Chen
Co-Chair, First Australia-China Biomedical Research Conference, Melbourne, 2007;
Chair of Scientific Committee, First Australia-China Biomedical Research Conference, Melbourne, 2007;
Vice-president of Australia-Chinese Association for Biomedical Sciences, 2006-2008;
Vice-president of Federation of Chinese Scholars in Australia, 2006-2008

Professor Vincent Harley
Vice-President, Lorne Genome Conference Inc, 2007

Ms Tu'uhevaha Kaitu'u-Lino
Australian student representative, Society for Reproductive Biology, 2006/07

Dr Guiying Nie, Professor Lois Salamonsen, Dr Eva Dimitriadis, Uterine Biology Group

Professor Peter Fuller, Ms Amanda Rickard, Dr Morag Young, Steroid Receptor Biology Group

A/Professor Vincent Harley Human Molecular Genetics Group

Dr Sarah Meachem
Executive Director, Australian Society for Medical Research, 2005-2006;
Council Member and Public Relations Director, Society for Reproductive Biology, 2005-2006;
Organising Committee, Society for Reproductive Biology, Gold Coast, Queensland, 2006

Dr Morag Young
Chair, Aldosterone Symposium, Endo 2007, Toronto

Travel awards

Dr Ashwini Chand
Ian Potter Foundation 2007;
US Endocrine Society and the Australian Women in Endocrinology -NovoNordisk New Investigator Travel Grant 2007

Dr Colin Clyne
International Union against Cancer Yamagiwa-Yoshida Memorial International Cancer Study Grant, 2007

Ms Natalie Hannan
Student Travel Award, Society for Reproductive Biology, 2006

Mrs Tu'uhevaha Kaitu'u-Lino
Student Travel Award, Society for Reproductive Biology, 2006

Mr Yogeshwar Makanji
Endocrine Society of Australia Travel Grant, Annual Scientific Meeting, Gold Coast, 2006

Dr Naomi Morison
CASS (Contributing to Australian Scholarship and Science) Foundation Postdoctoral Travel Grant, 2006

Ms Saleela Ruwanpura
Monash University Postgraduate Travel Grant 2007;
Journal of Endocrinology Travel Award 2007;
Reproductive Biology 2006

Ms Premila Paiva
Student Travel Award, Society for Reproductive Biology, 2006

Ms Chelsea Stoikos
Student Travel Award, Society for Reproductive Biology, 2006

Ms Yao Wang
Endocrine Society of Australia Travel Grant, Annual Scientific Meeting, 2006

Dr Christine White
CASS (Contributing to Australian Scholarship and Science) Foundation Postdoctoral Travel Grant, 2006

University appointments

A/Professor Chen Chen
Hon Senior Fellow, Dept of Surgery, Melbourne University;
Visiting Professor, Medical School, Xiamen University, China

A/Professor Vincent Harley
Honorary Associate Professor, Department of Anatomy and Cell Biology, Monash University, 2007

PHI Awards

Dr Craig Harrison
Career Development Award, Prince Henry's Institute, 2006

Dr Kaye Stenvers
Career Development Award, 2006-07

Dr Eva Dimitriadis
Career Development Award, 2006-07

Miss Ingelise Jones
John Donges Administration Award, 2006

Dr Jyothsna Pippal
PHI Boylan Burke Fellowship

Dr Mai Sarraj
TM Ramsay Fellow

Ms Jin Zhang
Kadir-Fatimah Award, 2006

PHI Student Awards

Ms Jenny Chow
PHI Postgraduate Scholarship, 2006-

Ms Louisa Ludbrook
Quantum Best Abstract Award, 2006

Ms Irene Papageorgiou
PhD – Best 1st year presentation, PHI Student Symposium, 2006

Ms Jyothsna Rao
PHI Postgraduate Scholarship, 2006-

Ms Amanda Rickard
PhD – Special commendation award, PHI Student Symposium, 2006

Ms Saleela Ruwanpura
PHI Postgraduate Scholarship, 2004-

Ms Chelsea Stoikos
PHI Postgraduate Scholarship, 2006-
PhD – Best overall presentation, PHI Student Symposium, 2006

Mr Gerard Tarulli
PHI Postgraduate Scholarship, 2006-

Mr Ken Walker
Best Honours/Masters presentation, PHI Student Symposium, 2006

Mr Seung Yang
PHI Postgraduate Scholarship, 2006-
IBRO-ISN (International Brain Research Organisation - International Society of Neurochemistry) fellowship 2006;
APSN (Asian-Pacific Society of Neurochemistry) Travel Grant 2006;
ESA Travel Grant 2006

SCIENTIFIC PRESENTATIONS

Scientific Presentations:
July 1 2006 – June 30 2007

American Association for Cancer Research (AACR) Conference 'Advances in Proteomics in Cancer Research', Jacksonville, Florida, USA
(Dr A Stephens)

Aromatase 2006, Baltimore MD, USA
(Prof E Simpson, Dr W Boon)

Asia-Pacific Menopause Federation Meeting, Taipei, Taiwan
(Prof H Burger)

Asian-Pacific Society for Neurochemistry Biennial Meeting, Singapore
(A/Prof C Chen)

Asia-Pacific Society for the Study of the Aging Male. IV Congress, Bali
(Prof R McLachlan)

Australia-China Biomedical Research Conference, Melbourne
(Prof E Simpson, A/Prof C Chen)

Australian Health & Medical Research Congress 2006, Melbourne
(Prof L Salamonsen)

Australian Paediatric Endocrine Group Annual Scientific Meeting, Hobart
(Prof R McLachlan)

Australian Physiological Society Annual Meeting, Brisbane, 2006
(A/Prof C Chen)

Australian Vascular Biology Society Annual Scientific Meeting, Gold Coast
(Dr M Young)

Biennial Cytochrome P450 Conference, Bled, Slovenia
(Prof E Simpson)

Biosymposia - Endometrial Biology and Pathologies, San Francisco, CA, USA
(Prof L Salamonsen)

British Endocrine Societies Annual Conference, Birmingham, UK
(Prof E Simpson)

ComBio Combined Conference and Australian Physiological Society Conference, Brisbane
(A/Prof C Chen)

COSA Annual Scientific Meeting, Melbourne
(Prof H Burger)

Dame Roma Mitchell Breast and Prostate Conference, Renmark, South Australia
(Prof E Simpson, Dr C Clyne)

Endo 2007, Toronto, Canada
(14 Prince Henry's Institute staff)

Endocrine Society of Australia (ESA) & Society for Reproductive Biology (SRB) Annual Scientific Meetings, Gold Coast
(38 Prince Henry's Institute staff)

Endocrine Society of Australia (ESA) Seminar Weekend, Melbourne
(Ms M van Sinderen, Ms A Chand, Ms N Pathirage)

European Society for Hypertension, Milan, Italy
(Prof J Funder)

FASTS Day Workshop – CSIRO, Canberra
(Dr S Meachem)

Fertility Society Australia (FSA) Conference, Sydney
(M Lynch)

Frontiers in Reproduction (FIR) Symposium, Woods Hole, MA, USA
(Ms N Hannan)

High Blood Pressure Research Council of Australia Annual Meeting, Brisbane
(Dr M Young)

International Aldosterone Conference, Toronto, Canada
(Prof J Funder, Dr M Young)

International Conference of Pathophysiology, Beijing, China
(A/Prof C Chen)

International Menopause Society Workshops, Budapest, Hungary
(Prof H Burger)

The Japan Endocrine Society Annual Meeting, Tokyo, Japan
(Prof J Funder)

Japan Society of Fertilization and Implantation Annual Conference, Karnizawa, Japan
(Dr G Nie)

Keystone Reproduction Symposia, Santa Fe, New Mexico
(Dr G Nie)

Latin American Association of Investigators in Human Reproduction, Buenos Aires, Argentina
(Prof L Salamonsen)

LWPES and ESPE Consensus Meeting on Intersex Disorders, Chicago, USA
(A/Prof V Harley)

Physiological Sciences Congress, Beijing, China
(A/Prof C Chen)

Royal Australian and New Zealand College of Obstetricians & Gynaecologists Annual Scientific Meeting 2006, Perth
(Prof H Burger)

San Antonio Breast Cancer Symposium: SABCS 2006, San Antonio, TX, USA
(Prof E Simpson)

Society for Gynecologic Investigation, Nevada, USA
(Prof L Salamonsen)

Society for Reproduction and Fertility Conference 2006, Leeds, UK
(Prof J Findlay AM)

Female Reproductive Biology Group L - R : Dr Kaye Stenvers, Dr Ann Drummond, Dr Simon Chu, Ms Joanne Yap, Ms Hui Kheng Chua, Mr Jason Liew, Ms Alex Umbers, Ms Yao Wang, Ms Ileana Kuyznierewicz, Ms Marissa Bowden

The Society of the Study of Reproduction (SSR) Annual Meeting, Omaha, USA
(Prof L Salamonsen, Prof J Findlay AM, Dr K Stenvers)

Southern Health Inaugural Research Week 2007, Melbourne
(Prof E Simpson)

Therapeutic Options for Menopausal Health, Halifax, Canada
(Prof E Simpson)

Urological Society of Australia and New Zealand, Victorian State Meeting, Shepparton
(Dr K Matthiesson)

XXXI Congreso Nacional de Genética Humana (Asociacion Mexicana de Genetica Humana), Chihuahua, Chih., México
(A/Prof V Harley)

1st Australia China Symposium on Science, Technology & Education, Sydney
(A/Prof C Chen)

1st Conference of Sino-Australia for Biomedical Research, Melbourne
(A/Prof C Chen)

1st International Workshop on Primary Aldosteronism, Venice, Italy
(Prof J Funder, Dr M Young)

2nd Asia-Pacific Forum on Andrology, Shanghai, China
(Prof R McLachlan)

2nd International Symposium on Low Renin Hypertension, Rome
(Prof J Funder)

3rd International Conference on Experimental and Clinical Reproductive Immunobiology, Banff, Canada
(Dr C White)

3rd Female AMPPA Meeting (Schering), Berlin, Germany
(Prof L Salamonsen, Dr G Nie)

3rd Pacific Rim ("PacRim") Meeting on Breast and Prostate Cancer, Fraser Island
(Prof P Fuller, Prof J Findlay AM, Dr C Clyne)

4th International Huaxia Congress of Endocrinology, Hong Kong
(Prof J Funder)

5th Amsterdam Menopause Symposium, Amsterdam, Netherlands
(Prof H Burger)

7th Biennial Meeting of the Asian-Pacific Society for Neurochemistry (ASPN), Singapore
(A/Prof C Chen)

8th European Congress of Endocrinology, Glasgow, UK
(Prof J Findlay AM)

8th International Conference on the Extracellular Matrix of the Female Reproductive Tract, Maui, Hawaii
(Prof L Salamonsen, Dr N Morison, Ms N Hannan)

9th Annual Gerard Corporation Innovation Lecture, South Australia
(Prof J Findlay AM)

9th European Congress of Endocrinology, Budapest, Hungary
(Ms S Ruwanpura)

10th International Congress on Obesity, Sydney
(Dr K McInnes)

10th Summit Meeting on Male Hormonal Contraception; New York, NY, USA
(Prof R McLachlan)

11th International Congress of Human Genetics, Brisbane
(A/Prof V Harley, Dr P Bernard)

12th Annual Proteomics Symposium 2007, Lorne
(Ms L Kilpatrick)

12th International Congress on Hormonal Steroids & Hormones & Cancer, Athens, Greece & Paris, France
(Dr S Chu, Dr W Boon)

18th World Association of Sexual Health Congress, 1st World Congress for Sexual Health, Sydney
(Prof R McLachlan)

21st Scientific Meeting of the International Society of Hypertension, Fukuoka, Japan
(Prof J Funder)

28th Lorne Genome Conference 2007, Lorne
(A/Prof V Harley & staff)

VISITING SPEAKERS

Associate Professor Leigh Ackland
Assoc Head of School of Life and Environmental Sciences, Deakin University, Assoc Director, Centre for Cellular & Molecular Biology:
"Understanding breast cancer progression- The epithelial to mesenchymal transition"

Associate Professor Ian Campbell
Head, VBCRC Cancer Genetics Laboratory, Centre for Cancer Genomics and Predictive Medicine:
"High resolution genome-wide copy number analysis of ovarian cancers using the Affymetrix 500K SNP array"

Dr Massimiliano Caprio
IRCCS San Raffaele Pisana, Rome, Italy:
"Adipocyte and endocrine system:
- Involvement of the MR in corticosteroid-induced adipose differentiation
- Role of Leptin and its receptor on testicular function"

Dr Bon-Chu Chung
Institute of Molecular Biology, Academia Sinica, Taiwan:
"Function and regulation of steroid hormones"

Professor Charles Coombes
Division of Surgery and Oncology, Imperial College of London:
"Molecular Markers in Translational Studies of Breast Cancer"

Professor Richard Cotton
Director, Genomic Disorders Research Centre, Melbourne University:
"Collection of Human Genome Variation: The Human Variome Project"

Professor Anne Croy
Canada Research Chair in Reproduction, Development & Sexual Function, Dept of Anatomy and Cell Biology, Queen's University, Kingston, Ontario, Canada:
"The Biological Relevance of Natural Killer Lymphocytes Found within Endometrium"

Dr Rony Duncan
Recipient of 2006 Tall Poppy Award
NHMRC Research Fellow, Centre for Adolescent Health, Murdoch Childrens Research Institute:
"Holding Your Breath: Predictive Genetic Testing in Young People"

Professor Terry Dwyer
Director, Murdoch Childrens Research Institute:
"The search for preventable causes of sudden infant death syndrome and multiple sclerosis using epidemiological research in Tasmania"

Professor Mark Febbraio
Head of Cellular and Molecular Metabolism Laboratory, Baker Heart Research Institute:
"Heat Shock Proteins: therapeutic targets to block lipid induced inflammation and insulin resistance"

Associate Professor Jean Fleming
Griffith University:
"The effects of age and incessant ovulation on morphology and gene expression in the mouse ovary"

Dr Robert Gilchrist
Research Centre for Reproductive Health, University of Adelaide:
"TGF-beta superfamily paracrine signalling by the oocyte"

Dr Tony Hannan
Howard Florey:
"Nature, nurture and neurology: Gene-environment interactions in the healthy and Huntington's disease brain"

Mr Shane Herbert
Technical Product Specialist - joint seminar with

Mr Michael Tavaria
Scientific Applications Specialist
Applied Biosystems:
"The latest updates in Genetic Analyser & Real Time PCR systems"

Dr Gary Hime
Dept. of Anatomy and Cell Biology, Melbourne University:
"Repressors of gene expression maintain stem cell fate in the Drosophila testis"

Dr Patrick Humbert
Peter MacCallum Cancer Centre:
"Scribble, polarity and cancer"

Dr Bob Irving/Dr Jeanette Pritchard
Nanotechnology Victoria Pty Ltd:
"The applications of Nanotechnology in Therapeutic Delivery, Diagnostics and Diagnostic Imaging in Nanotechnology Victoria Ltd Projects"

Larry Jameson MD, PhD
Irving S. Cutter Professor of Medicine. Chairman, Department of Medicine, Northwestern University, Evanston, Illinois, USA:
"Nonclassical Estrogen Receptor signalling"

Professor Keith Jones
Institute for Cell & Molecular Biosciences, The Medical School, Newcastle, UK:
"Novel control of female meiosis illuminated by imaging molecules: implications for human aneuploidy"

Professor Ken Korach
Program Director, Environmental Disease Medicine, Program Chief, Lab Reprod and Develop Toxicology, NIEHS/NIH, USA:
"Estrogen Receptor's Role in Making an Ovary an Ovary"

Professor Jayashri Kulkarni
Professor & Director, Alfred Psychiatry Research Centre:
"Estrogen - a novel neuroprotective agent"

Dr Kate Loveland
Monash Institute Medical Research:
"Smads and Hedghogs: Insights into testis biology from nuclear transport studies"

Dr Robin Lovell-Badge
Head of the Division of Developmental Genetics, MRC National Institute for Medical Research, Mill Hill, London, UK:
"Sox genes and stem cells in the nervous system"

Dr Helen MacLean
Dept Medicine, University of Melbourne:
"Androgen actions in muscle"

Dr Jeffrey R. Mann
Dept of Zoology, Melbourne University:
"Genomic imprinting and epigenetics in mouse germ cell development"

Dr Ursula Manuelpillai
Dept. of Obstetrics and Gynaecology, Monash University:
"Maternal infection during pregnancy and fetal cerebral injury - pathways involved"

Professor Frederick Mendelsohn
Director, Howard Florey Institute:
"Formation of a new amalgamated institute: Florey Neuroscience Institutes"

Dr Stephen Nutt
Immunology Division, Walter and Eliza Hall Institute of Medical Research:
"Haemopoiesis is controlled by the co-ordinated activity of a handful of master regulatory transcription factors. Our research aims to investigate the functions of several such master regulators, PU.1, Pax5, c-Myb and Blimp-1 in haemopoiesis using conditional mouse genetics, GFP reporter strains, microarray analysis and in vitro progenitor cultures."

Harry Ostrer MD
Professor of Pediatrics, Pathology and Medicine, New York University:
"Linkage Analysis of Intersex Patients"

Professor Richard Santen
Department of Internal Medicine and Division of Endocrinology and Metabolism, University of Virginia:
"Estrogen Co-opts: the IGF-1 receptor pathway in breast cancer cells"

Dr Francois Vaillant
Walter and Eliza Hall Institute of Medical Research, Melbourne:
"Generation of a functional mammary gland from a single stem cell"

PUBLICATIONS 2006

1. Alexander J, Dennerstein L, Burger H. Graziottin A. Testosterone and libido in surgically and naturally menopausal women. *Journal of Women's Health* 2006; 2(3): 459-477.

2. Alexiadis M, Mamers P, Chu S, Fuller PJ. Insulin-like growth factor, insulin-like growth factor-binding protein-4, and pregnancy-associated plasma protein-A gene expression in human granulosa cell tumors. Int J Gynecol Cancer. 2006 Nov-Dec;16(6):1973-9.

3. Allan CA, Strauss BJ, Burger HG, Forbes EA, McLachlan RI. The association between obesity and the diagnosis of androgen deficiency in symptomatic ageing men. *Med J Aust.* 2006 Oct 16;185(8):424-7.

4. Baksheev L, Fuller PJ. Gene expression in the adapting small bowel after massive small bowel resection. *J Gastroenterol.* 2006 Nov;41(11):1041-52.

5. Barrionuevo F, Bagheri-Fam S, Klattig J, Kist R, Taketo MM, Englert C, Scherer G. Homozygous inactivation of Sox9 causes complete XY sex reversal in mice. *Biol Reprod.* 2006 Jan;74(1):195-201.

6. Bay K, Matthiesson KL, McLachlan RI, Andersson AM. The effects of gonadotropin suppression and selective replacement on insulin-like factor 3 secretion in normal adult men. *J Clin Endocrinol Metab.* 2006 Mar;91(3):1108-11.

7. Beardsley A, Robertson DM, O'Donnell L. A complex containing alpha6beta1-integrin and phosphorylated focal adhesion kinase between Sertoli cells and elongated spermatids during spermatid release from the seminiferous epithelium. *J Endocrinol.* 2006 Sep; 190(3): 759-70.

8. Bernard P, Ludbrook L, Queipo G, Dinulos MB, Kletter GB, Zhang YH, Phelan JK, McCabe ER, Harley VR, Vilain E. A familial missense mutation in the hinge region of DAX1 associated with late-onset AHC in a prepubertal female. *Mol Genet Metab.* 2006 Jul;88(3):272-9.

9. Bowden MA, Di Nezza-Cossens LA, Jobling T, Salamonsen LA, Nie G. Serine proteases HTRA1 and HTRA3 are down-regulated with increasing grades of human endometrial cancer. *Gynecol Oncol.* 2006 Oct;103(1):253-60.

10. Brennan FE, Fuller PJ. Mammalian K-ras2 is a corticosteroid-induced gene in vivo. *Endocrinology.* 2006 Jun; 147 (6):2809-16.

11. Burger HG. Commentary: How effective is testosterone replacement therapy in premenopausal women with severe androgen deficiency. Miller KK et al. 2006; *Nature Clinical Practice, Endocrinology & Metabolism* 2: 432-433.

12. Burger HG. Physiology and endocrinology of the menopause. *Medicine* 2006; 34: 1: 27-30.

13. Burger HG, Papalia MA. A clinical update on female androgen insufficiency--testosterone testing and treatment in women presenting with low sexual desire. *Sex Health.* 2006 May;3(2):73-8. Review.

14. Burger HG. Hormone therapy in the WHI era. *Aust N Z J Obstet Gynaecol.* 2006 Apr;46(2):84-91. Review.

15. Cao JM, Ong H, Chen C. Effects of ghrelin and synthetic GH secretagogues on the cardiovascular system. *Trends Endocrinol Metab.* 2006 Jan-Feb;17(1):13-8.

16. Catzel D, Chin DY, Stanton PG, Gray PP, Mahler SM. Fractionation of follicle stimulating hormone charge isoforms in their native form by preparative electrophoresis technology. *J Biotechnol.* 2006 Mar 9;122(1):73-85.

17. Clarke IJ, Scott CJ, Pereira A, Pompolo S. The role of noradrenaline in the generation of the preovulatory LH surge in the ewe. *Domest Anim Endocrinol.* 2006 May;130(4):260-75.

18. Cram DS, Osborne E, McLachlan RI. Y chromosome microdeletions: implications for assisted conception. *Med J Aust.* 2006 Oct 16;185(8):433-4.

19. Dewing P, Chiang CW, Sinchak K, Sim H, Fernagut PO, Kelly S, Chesselet MF, Micevych PE, Albrecht KH, Harley VR, Vilain E. Direct regulation of adult brain function by the male-specific factor SRY. *Curr Biol.* 2006 Feb 21;16(4):415-20.

20. Dimitriadis E, Stoikos C, Tan YL, Salamonsen LA. Interleukin 11 signaling components signal transducer and activator of transcription 3 (STAT3) and suppressor of cytokine signaling 3 (SOCS3) regulate human endometrial stromal cell differentiation. *Endocrinology.* 2006 Aug;147(8):3809-17.

21. Dimitriadis E, Stoikos CJ, Stafford-Bell M, Clark I, Paiva P, Kovacs G, Salamonsen LA. Interleukin-11, IL-11 receptoralpha and leukaemia inhibitory factor are dysregulated in endometrium of infertile women with endometriosis during the implantation window. *J Reprod Immunol.* 2006 Feb;69(1):53-64.

22. Drummond AE. The role of steroids in follicular growth. *Reprod Biol Endocrinol.* 2006 Apr 10;4:16. Review.

23. Farnworth PG, Stanton PG, Wang Y, Escalona R, Findlay JK, Ooi GT. Inhibins differentially antagonize activin and bone morphogenetic protein action in a mouse adrenocortical cell line. *Endocrinology.* 2006 Jul;147(7):3462-71.

24. Farnworth PG, Wang Y, Leembruggen P, Ooi GT, Harrison C, Robertson DM, Findlay JK. Rodent adrenocortical cells display high affinity binding sites and proteins for inhibin A, and express components required for autocrine signalling by activins and bone morphogenetic proteins. *J Endocrinol.* 2006 Mar;188(3):451-65.

25. Feng DD, Luo Z, Roh SG, Hernandez M, Tawadros N, Keating DJ, Chen C. Reduction in voltage-gated K+ currents in primary cultured rat pancreatic beta-cells by linoleic acids. *Endocrinology.* 2006 Feb;147(2):674-82.

26. Fuller PJ. The aldosterone receptor – new insights? *Expert Opin Investig Drugs.* 2006 15: 201-203.

27. Funder JW. Aldosterone and mineralocortocoid receptors: lessons from gene deletion studies. *Hyoertension.* 2006 Dec:48(6):1018-9.

28. Funder, J.W. Eplerenone: hypertension, heart failure and the importance of mineralocorticoid receptor blockade. *Future Cardiology* 2006; 2(5):535-541.

29. Funder JW. Mineralocorticoid receptors and cardiovascular damage: it's not just aldosterone. *Hypertension.* 2006 Apr;47(4):634-5.

30. Funder JW. Minireview: aldosterone and the cardiovascular system: genomic and non-genomic effects. *Endocrinology.* 2006 Dec;147(12):5564-7.

31. Gogos A, Martin S, Jones ME, van den Buuse M. Oestrogen modulation of the effect of 8-OH-DPAT on prepulse inhibition: effects of aromatase deficiency and castration in mice. *Psychopharmacology (Berl).* 2006 Sep;188(1):100-10

32. Hannan HJ, Jones RL, White CA, Salamonsen LA. The chemokines, CX3CL1, CCL14, and CCL4, promote human trophoblast migration at the feto-maternal interface. *Biol Reprod.* 2006 May;74(5):896-904.

33. Harrison CA, Chan KL, Robertson DM. Activin-A binds follistatin and type II receptors through overlapping binding sites: generation of mutants with isolated binding activities. *Endocrinology.* 2006 Jun;147(6):2744-53.

34. Hickey M, Crewe J, Mahoney LA, Doherty DA, Fraser IS, Salamonsen LA. Mechanisms of irregular bleeding with hormone therapy: the role of matrix metalloproteinases and their tissue inhibitors. *J Clin Endocrinol Metab.* 2006 Aug; 91(8):3189-98.

35. Holden CA, Jolley DJ, McLachlan RI, Pitts M, Cumming R, Wittert G, Handelsman DJ, de Kretser DM. Men in Australia Telephone Survey (MATeS): predictors of men's help-seeking behaviour for reproductive health disorders. *Med J Aust.* 2006 Oct 16;185(8):418-22.

36. Hu X, Funder JW. The evolution of mineralocorticoid receptors. *Mol Endocrinol.* 2006 Jul;20(7):1471-8.

37. Iqbal J, Kurose Y, Canny B, Clarke IJ. Effects of central infusion of ghrelin on food intake and plasma levels of growth hormone, luteinizing hormone, prolactin, and cortisol secretion in sheep. *Endocrinology.* 2006 Jan;147(1):510-9. Epub 2005 Oct 6.

38. Jones ME, Boon WC, Proietto J, Simpson ER. Of mice and men: the evolving phenotype of aromatase deficiency. *Trends Endocrinol Metab.* 2006 Mar;17(2):55-64.

39. Jones RL, Findlay JK, Farnworth PG, Robertson DM, Wallace E, Salamonsen LA. Activin A and inhibin A differentially regulate human uterine matrix metalloproteinases: potential interactions during decidualization and trophoblast invasion. *Endocrinology.* 2006 Feb;147(2):724-32.

40. Jones RL, Findlay JK, Salamonsen LA. The role of activins during decidualisation of human endometrium. *Aust N A J Obstet Gynaecol.* 2006 Jun;46(3):245-9. Review.

41. Jones RL, Kaitu'u-Lino TJ, Nie G, Sanchez-Partida LG, Findlay JK, Salamonsen LA. Complex expression patterns support potential roles for maternally derived activins in the establishment of pregnancy in mouse. *Reproduction.* 2006 Nov;132(5):799-810.

42. Jones RL, Stoikos C, Findlay JK, Salamonsen LA. TGF-beta superfamily expression and actions in the endometrium and placenta. *Reproduction.* 2006 Aug;132(2):217-32. Review.

43. Keating DJ, Chen C, Pritchard MA. Alzheimer's disease and endocytic dysfunction: clues from the Down syndrome-related proteins, DSCR1 and ITSN1. *Ageing Res Rev.* 2006 Nov;5(4):388-401.

44. Kerr JB, Duckett R, Myers M, Britt KL, Mladenovska T, Findlay JK. Quantification of healthy follicles in the neonatal and adult mouse ovary: evidence for maintenance of primordial follicle supply. *Reproduction.* 2006 Jul;132(1):95-109.

45. Lam EY, Funder JW, Nikolic-Paterson DJ, Fuller PH, Young MJ. Mineralocorticoid receptor blockade but not steroid withdrawal reverses renal fibrosis in deoxycorticosterone/salt rats. *Endocrinology.* 2006 Jul;147(7):3623-9.

46. Le May C, Chu K, Hu M, Ortega CS, Simpson ER, Korach KS, Tsai MJ, Mauvais-Jarvis F. Estrogens protect pancreatic beta-cells from apoptosis and prevent insulin-deficient diabetes mellitus in mice. *Proc Natl Acad Sci U S A.* 2006 Jun 13;103(24):9232-7.

47. Lu NZ, Wardell SE, Burnstein KL, Defranco D, Fuller PJ, Giguere V, Hochberg RB, McKay L, Renoir JM, Weigel NL, Wilson EM, McDonnell DP, Cidlowski JA. International Union of Pharmacology. LXV. The pharmacology and classification of the nuclear receptor superfamily: glucocorticoid, mineralocorticoid, progesterone, and androgen receptors. *Pharmacol Rev.* 2006 Dec;58(4):782-97. Review.

48. Matthiesson KL, McLachlan RI, O'Donnell L, Frydenberg M, Robertson MD, Stanton PG, Meachem SJ. The relative roles of follicle-stimulating hormone and luteinising hormone in maintaining spermatogonial maturation and spermiation in normal men. *J Clin Endocrinol Metab.* 2006 Oct;91(10):3962-9.

49. Matthiesson KL, McLachlan RI. Male hormonal contraception: concept proven, product in sight? *Hum Reprod Update.* 2006 Jul-Aug;12(4):463-82. Review

50. McInnes KJ, Corbould A, Simpson ER, Jones ME. Regulation of adenosine 5', monophosphate-activated protein kinase and lipogenesis by androgens contributes to visceral obesity in an estrogen-deficient state. *Endocrinology.* 2006 Dec;147(12):5907-13.

51. McLachlan RI, de Kretser DM. Hypogonadotropism with elevated serum testosterone: reversible causes of secondary infertility. *Nat Clin Pract Urol.* 2006 Oct;2(10):560-5.

52. Miki Y, Clyne CD, Suzuki T, Moriya T, Shibuya R, Nakamura Y, Ishida T, Yabuki N, Kitada K, Hayashi S, Sasano H. Immunolocalization of liver receptor homologue-1 (LRH-1) in human breast carcinoma: possible regulator of insitu steroidogenesis. *Cancer Lett.* 2006 Nov 28;244(1):24-33.

53. Nie G, Hale K, Li Y, Manuelpillai U, Wallace EM, Salamonsen LA. Distinct expression and localization of serine protease HtrA1 in human endometrium and first-trimester placenta. *Dev Dyn,* 2006 Dec;235(12):3448-55.

54. Nie G, Li Y, Hale K, Okada H, Manuelpillai U, Wallace EM, Salamonsen LA. Serine peptidase HTRA3 is closely associated with human placental development and is elevated in pregnancy serum. *Biol Reprod.* 2006 Feb;74(2):366-74.

55. Nie G, Li Y, He H, Findlay JK, Salamonsen LA. HtrA3, a serine protease possessing an IGF-binding domain, is selectively expressed at the maternal-fetal interface during placentation in the mouse. *Placenta.* 2006 Apr-May;27(4-5):491-501.

56. O'Donnell L, Meachem SJ, Stanton PG and McLachlan RI. The endocrine regulation of spermatogenesis. In: Neill JD (ed), Knobil and Neill's Physiology of Reproduction (3rd ed). Elsevier, San Diego CA. 2006 pp. 1017-1069

57. Papalia MA, Burger H. Clinical evaluation of women presenting with low libido and determination of whether androgen therapy might be appropriate. *Seminars in Reproductive Medicine* 2006, Vol 24, 86-96.

58. Pathirage N, De Nezza LA, Salamonsen LA, Jobling T, Simpson ER, Clyne CD. Expression of aromatase, estrogen receptors, and their coactivators in patients with endometrial cancer. *Fertil Steril.* 2006 Aug;86(2):469-72.

59. Plackett TP, Oz OK, Simpson ER, Kovacs EJ. Lack of aromatase improves cell-mediated immune response after burn. *Burns.* 2006 Aug;32(5):577-82.

60. Peloggia A, Petta CA, Bahamondes L, Oliveira-Ribeiro M, Zhang J, Salamonsen L. Endometrial chemokines, uterine natural killer cells and mast cells in long-term users of the levonorgestrel-releasing intrauterine system. *Hum Reprod.* 2006 May;21(5):1129-34.

61. Pompolo S, Pereira A, Estrada KM, Clarke IJ. Colocalization of kisspeptin and gonadotropin-releasing hormone in the ovine brain. *Endocrinology.* 2006 Feb;147(2):804-10.

62. Rickard AJ, Funder JW, Fuller PJ, Young MJ. The role of the glucocorticoid receptor in mineralocorticoid/salt-mediated cardiac fibrosis. *Endocrinology.* 2006 Dec;147(12):5901-6.

63. Roh SG, Doconto M, Feng DD, Chen C. Differential regulation of GHRH-receptor and GHS-receptor expression by long-term in vitro treatment of ovine pituitary cells with GHRP-2 and GHRH. *Endocrine.* 2006 Aug;30(1):55-62.

64. Sato A, Saruta T, Funder JW. Combination therapy with aldosterone blockade and rennin-angiotensin inhibitors confers organ protection. *Hypertension Res.* 2006 Apr;29(4):211-6. Review.

65. Shetty G, Weng CC, Meachem SJ, Bolden-Tiller OU, Zhang Z, Pakarinen P, Huhtaniemi I, Meistrich ML. Both testosterone and follicle-stimulating hormone independently inhibit spermatogonial differentiation in irradiated rats. *Endocrinology.* 2006 Jan;147(1):472-82.

66. Sluka P, O'Donnell L, Bartles JR, Stanton PG. FSH regulates the formation of adherens junctions and ectoplasmic specialisations between rat Sertoli cells in vitro and in vivo. *J Endocrinol.* 2006 May;189(2):381-95

67. Stenvers KL, Sarraj MA, Umbers A, Findlay JK, Loveland KL. Differential expression of the betaglycan gene in ovary and testis during gonadegenis in the mouse. *Biology of Reproduction* 2006, 147-148 Special Issue.

68. Stevenson JC on behalf of the International Consensus Group on HRT and Regulatory Issues: Stevenson JC, Birkhauser M, Brincat M, Burger H, Christiansen C, Farmer R, et al. HRT, osteoporosis and regulatory authorities Quis custodiet ipsos custodes? *Hum Reprod.* 2006 Jul;21(7):1668-71.

69. Tarulli GA, Stanton PG, Lerchl A, Meachem SJ. Adult sertoli cells are not terminally differentiated in the Djungarian hamster: effect of FSH on proliferation and junction protein organization. *Biol Reprod.* 2006 May;74(5):798-806.

70. Toh ML, Aeberli D, Lacey D, Yang Y, Santos LL, Clarkson M, Sharma L, Clyne C, Morand EF. Regulation of IL-1 and TNF receptor expression and function by endogenous macrophage migration inhibitory factor. *J Immunol.* 2006 Oct 1;177(7):4818-25.

71. Vyazovskiy VV, Kopp C, Wigger E, Jones ME, Simpson ER, Tobler I. Sleep and rest regulation in young and old oestrogen-deficient female mice. *J Neuroendocrinol.* 2006 Aug;18(8):567-76.

72. Wang Y, Ristevski S, Harley VR. SOX13 exhibits a distinct spatial and temporal expression pattern during chondrogenesis, neurogenesis, and limb development. *J Histochem Cytochem.* 2006 Dec;54(12):1327-33.

73. Weisberg E, Hickey M, Palmer D, O'Connor V, Salamonsen LA, Findlay JK, Fraser IS. A pilot study to assess the effect of three short-term treatments on frequent and/or prolonged bleeding compared to placebo in women using Implanon. *Hum Reprod.* 2006 Jan;21(1):295-302.

74. Wiater E, Harrison CA, Lewis KA, Gray PC, Vale WW. Identification of distinct inhibin and transforming growth factor beta-binding sites on betaglycan: functional separation of betaglycan co-receptor actions. *J Biol Chem.* 2006 Jun 23;281(25):17011-22.

75. Yang HY, Cox S-L, Jenkin G, Findlay JK, Trounson A, Shaw J. Graft site and gonadotrophin stimulation influences the number and quality of oocytes recovered from murine ovarian tissue grafts. *Reproduction* 2006 131, 851-859.

76. Yang YH, Toh ML, Clyne CD, Leech M, Aeberli D, Xue J, Dacumos A, Sharma L, Morand EF. Annexin 1 negatively regulates IL-6 expression via effects on p38 MAPK and MAPK phosphatase-1. *J Immunol.* 2006 Dec 1;177(11):8148-53.

77. Zhao YF, Feng DD, Chen C. Contribution of adipocyte-derived factors to beta-cell dysfunction in diabetes. *Int J Biochem Cell Biol.* 2006;38(5-6):804-19.

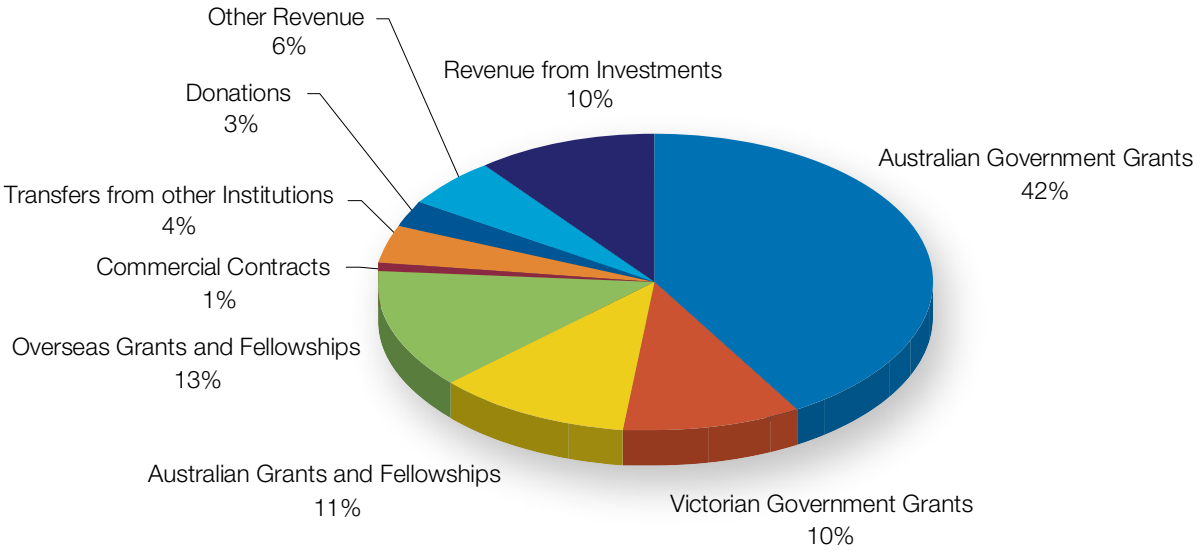
PRINCE HENRY'S INSTITUTE OF MEDICAL RESEARCH

ANNUAL REPORT STATEMENTS FOR THE FINANCIAL YEAR ENDED 30 JUNE 2007

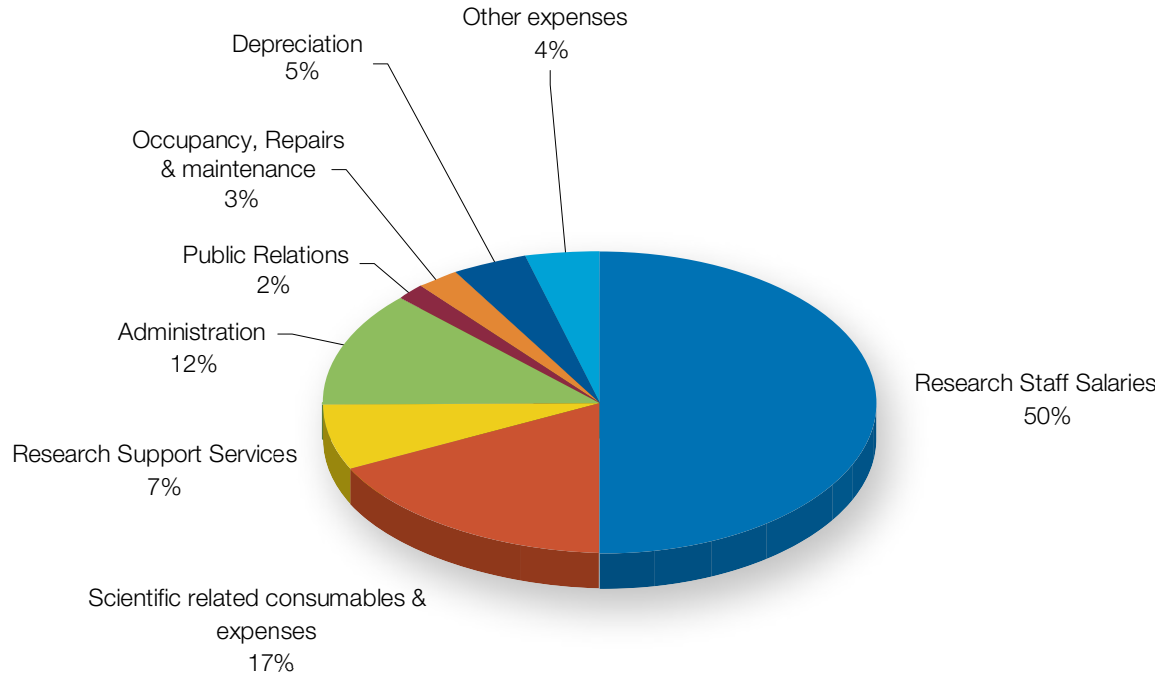
Contents

Financial Snapshot

Income
$11,500,548



Expenditure
$11,239,524



PRINCE HENRY'S INSTITUTE OF MEDICAL RESEARCH

ANNUAL REPORT 2006/2007

This is the Sixteenth Annual Report of Prince Henry's Institute of Medical Research submitted to the Minister for Innovation, Industry and Regional Development in accordance with the requirements of the Financial Act 1994.

The Report covers the Institute's financial period, 12 months ended 30th June 2007 and was approved for submission to the Minister at a meeting of the Board of Prince Henry's Institute of Medical Research on 30th August 2007.

JA Glatz
ACTING DIRECTOR

TT Haining
CHIEF FINANCE AND ACCOUNTING OFFICER

PRINCE HENRY'S INSTITUTE OF MEDICAL RESEARCH

STATEMENT OF OPERATIONS FOR THE FINANCIAL YEAR ENDED 30 JUNE 2007

GENERAL INFORMATION

a) Establishment

The Institute is established by the Prince Henry's Institute of Medical Research Act 1988 (the Act). The responsible Minister is the Minister for Innovation.

b) Objectives

The objectives, powers and functions of the Institute as described in Section 5 of the Act are set out below:

1) The objectives of the Institute are:

a) to operate as a charitable scientific organisation; and
b) to further knowledge in the field of medicine, particularly human medicine and biotechnology, by the conducting and carrying out of research including research
   (i) to discover the nature and causes of human diseases and afflictions; and
   (ii) to improve the methods of preventing, diagnosing and treating diseases; and
c) to develop, commercially exploit and market industrial and intellectual property rights developed by or on behalf of the Institute; and
d) to provide services in the fields of human and animal medicine; and
e) to provide, and aid in the provision of, educational programs relating to the subject of research conducted by the Institute; and
f) to publish information relating to the work of the Institute.

2) The Institute shall have the following powers:

a) To enter into contracts, agreements or arrangements;
b) To hold industrial and intellectual property rights relating to inventions or discoveries made by or on behalf of the Institute;
c) To hold money raised, or received by way of grants, subsidies, subscriptions, gifts, bequests or in any other manner;
d) To borrow or otherwise obtain financial accommodation and charge all or any part of its real and personal property as security for the repayment of any liability in accordance with this Act and
e) To create and issue debentures in accordance with this Act and
f) To invest and from time to time vary the investment of any of its money in accordance with this Act.

c) Services

The Institute is dedicated to research in the field of endocrinology - the study of hormones and their role in health and disease, including cancer. In addition, the Institute is affiliated with Monash University and as such, provides teaching services to undergraduates and postgraduates and is associated with Southern Health.

d) Implementation of Government policy

The Institute is not responsible for implementing Government policy.

e) Administrative Structure

i) Members of the Board of Management

Mr John Robinson BSc, MGSc, FIMM
Chairman, Member of the Institute appointed by the Board

Mr Richard Amos BA (Soc/Legal), BA (PR)
Deputy Chairman
Member of the Institute appointed by the Board

Ms Carmel Mortell B.Bus, ICA, EMBA
Honorary Treasurer
Member of the Institute appointed by the Board

Dr Jane Glatz BSc (Hons), PhD, MBA
Acting Director

Mrs Jane Bell BEc, LLB, LLM (Lon), GAICD
Member of the Institute appointed by the Board

Mrs Jay Bonnington BCom, MBA, FAICD, FCPA
Member of the Institute appointed by the Board

Mrs Ann Ellis DipEd
Member of the Institute appointed by the Board

Ms Margaret Lothian BEc, LLB (Hons)
Member of the Institute appointed by the Board

Mr Trevor Montgomery SIPA
Member of the Institute appointed by the Board

Professor Nic Nicola AO BSc (Hons), PhD
Nominated to the Board by the National Health and Medical Research Council

Mr David Pisker Dip. Film Making
Member of the Institute appointed by the Board

A/Professor Wayne Ramsey AM, CSC, MBBS, MHA, FRACMA
Nominated to the Board by Southern Health

Mr Bob Stensholt MP, BA, BD (Hons) MIntLaw Dip Phil
Nominated to the Board by the Minister for Health and Ageing

ii) Office Bearers

Chairman: Mr J Robinson
Deputy Chairman: Mr R Amos
Hon. Treasurer: Ms C Mortell
Acting Director: Dr J Glatz
Deputy Director: Professor J K Findlay AM
Public Officer and Secretary: Mr T T Haining

iii) Organisation Chart (please see page 11)

PRINCE HENRY'S INSTITUTE OF MEDICAL RESEARCH

STATEMENT OF OPERATIONS FOR THE FINANCIAL YEAR ENDED 30 JUNE 2007

iv) Postal address:

PO Box 5152, Clayton, Vic 3168, Australia

Courier address:
Clinical Research & Services, Level 3, Block E
246 Clayton Road, Clayton, Vic 3168, Australia

Administration & Laboratories:
Level 4, Block E, Monash Medical Centre
246 Clayton Road, Clayton, Vic 3168, Australia

Telephone: (03) 9594 4372
Facsimile: (03) 9594 6125
Home Page: http://www.princehenrys.org

Eastwing:
Level 4, 43-51 Kanooka Grove, Clayton

Telephone: (03) 9594 4372
Facsimile: (03) 9594 6125

f) Information
Information about the powers, functions and duties of the Institute can be found in the Prince Henry's Institute of Medical Research Act 1988.

Reports of the activities of the Institute can be found on its website and in the Annual Report of its operations, available from the Institute, reports to funding bodies such as the National Health and Medical Research Council of Australia, The Cancer Council of Victoria, the World Health Organization and other private foundations, and publications in learned scientific and medical journals, theses and reviews available in biomedical libraries.

g) Subsidiaries
The Institute does not have subsidiaries.

REVIEW OF OPERATIONS

a) Operational Objectives
The operational objectives of the Institute for the 12 months ended 30th June 2007 were to further medical knowledge by conducting research in the field of endocrinology, to disseminate new information by publication in learned scientific journals and presentations at scientific and clinical meetings, to apply, where possible, the new information to clinical practice, to commercially develop intellectual property rights, and to provide educational programs particularly relating to the research interests of the Institute.

The Institute is a member of the Monash Health Research Precinct. Stage 1 of the new building development was completed on the 22nd September 2005. This development has enhanced the facilities available for the Institute to meet its objectives.

b) External Influences
There were no legislative or other factors that substantially affected achievement of the operational objectives of the Institute.

c) Changes to Objectives
There were no major changes to the powers or functions of the Institute or to its organisational structure or methods of operation during the 12 month period under review.

d) External Reviews
No external review of the objectives, functions, powers or duties of the Institute were carried out.

e) Summary of Operations
The major research and development activities, and the clinical services and teaching programs of the Institute are summarized in the Annual Report for 12 months ended June 2007.

f) Promotional Activities
Community awareness of the Institute and the services it provides have been developed by circulating newsletters to Members and benefactors of the Institute, distributing the Annual Report to donors and interested parties, including Foundations, Trusts, Companies, and other research and teaching institutions. Community awareness has also been established by the participation of senior members of the Institute in public and professional education programs as well as many of the Institute's activities being reported in the media.

g) Legislative Responsibilities
The Institute had no responsibility for the administration of other Acts of legislation, and was not affected by any judicial decisions during the financial year.

h) Regulations
The Institute has 10 By-Laws, made under Section 19 of the Prince Henry's Institute of Medical Research Act 1988. It is the opinion of the Board that these regulations are too numerous to summarise in this statement, but a list can be obtained from the Institute.

i) Employees
There were 114 full-time, part-time and casual employees on 30th June 2007 and 107 on 30th June 2006. These figures do not include postgraduate scholars studying at the Institute during the 12 months ended 30th June 2007.

j) Pecuniary Interests
Members of the Board have made declarations of interest under Section 14 of Prince Henry's Institute of Medical Research Act 1988.

k) Overseas Visits
All overseas visits undertaken on behalf of or paid for by the Institute were for technical purposes.

STATEMENT OF OPERATIONS FOR THE FINANCIAL YEAR ENDED 30 JUNE 2007

l) Occupational Health and Safety
The OH&S policy is governed by a Safety Committee and is chaired by the Institute's Chief Operating Officer. The Committee convenes six times a year and is comprised of representatives from all groups with several members covering specialised areas such as Radiation, Biosafety and Waste Management; including participation in applicable committees of Precinct partners (Monash University and Southern Health). A dedicated full time OH&S Officer has been appointed to research, facilitate and/or implement OH&S policy and practices within the Institute and to advice the Safety Committee of changes to Federal and State legislation. The OH&S Officer collaborates with the Human Resources Officer on matters of WorkSafe. The OH&S Officer performs all safety orientation of new staff, and organises new and refresher courses such as First Aid and Fire Warden training via accredited agencies. The Laboratory & Technical Services Manager oversees the overall OH&S mandate of the Institute, including the interactions between the Institute's OH&S, Facilities and Purchasing divisions. An independent audit was conducted by The Australian Centre for Health Safety and Environment Management to ensure full compliance with current legislation. The audit provided an excellent platform to further improve the Institute's OH&S policies, and will be the basis for several safety projects in the upcoming year.

m) Environmental Regulations
The Institute complies with the Environmental Protection Act in respect of its operations. Discharges to air and water are below specified levels of contaminants and solid waste is disposed of in an appropriate manner. Biomedical waste and sharps are disposed of through appropriately licensed contractors.

n) Industrial Relations
The Institute largely follows the guidelines of the Public Sector and Monash University with respect to matters of industrial relations, except where provisions are laid down by the National Health and Medical Research Council. There was no time lost due to industrial accidents and disputes during the year.

o) Freedom of Information
There were no requests made directly to the Institute under the Freedom of Information Act 1982.

p) External Committees
No external committees dealing with public policy matters were set up during the financial year.

q) Consultants
Meaningful Solutions – Stragetic Assessment of Governance Structure.
Milura Pty Ltd – Business and IT Services
Wyndarra Consulting – Risk Management and Internal Audit Consultancy

r) Performance Statistics: The financial statistics are summarised in the financial statements which accompany this statement of Operations. Other statistics are summarised in the following table.

TABLE 1

	2007	2006
Scientific papers published or accepted for publication	77*	67**
Postgraduate Students:		
Total number of students	43	30
Enrolled for Ph.D	31	25
Enrolled for Masters, Honours and BMedSci	12	5
Number Graduating:		
Ph.D	2	5
Masters, Honours and BMedSci	1	4

Institute Staff (July 1 2006 - June 30 2007):

	2007		2006	
	Number	EFT	Number	EFT
Research Staff	116	75.40	109	72.18
Laboratory Support	3	.60	3	.50
Buildings/Facilities Operations	1	.50	1	.50
Management/ Administrative Staff	22	14.65	22	15.44
TOTAL	**142**	**91.29**	**135**	**88.62**

* Denotes calendar year 2007
**Denotes calendar year 2006

PRINCE HENRY'S INSTITUTE OF MEDICAL RESEARCH

OPERATING STATEMENT FOR THE FINANCIAL YEAR ENDED 30 JUNE 2007

	Note	2007 $	2006 $
Revenue from operations			
Australian Government Grants	2(a)	5,956,180	6,248,160
Non-Government Grants	2(b)	3,387,963	3,599,221
Share of profits from associate using the equity method of accounting	2(c)	44,390	12,928
Other income	2(d)	2,112,315	2,120,500
Total revenue from operations		**11,500,848**	**11,980,809**
Expenditure for operations			
Scientific and laboratory expenses	2(e)	(8,669,126)	(8,810,978)
Administration expenses	2(e)	(2,064,455)	(1,806,846)
Depreciation and amortisation expense	2(e)	(505,943)	(553,892)
Impairment of non-current assets	2(e)	-	(192,000)
Total expenditure for operations		**(11,239,524)**	**(11,363,716)**
Net operating result for the financial year		**261,324**	**617,093**

The accompanying notes on pages 70 to 80 form part of these financial statements

PRINCE HENRY'S INSTITUTE OF MEDICAL RESEARCH

BALANCE SHEET AS AT 30 JUNE 2007

	Note	2007 $	2006 $
Current Assets			
Cash and cash equivalents	21(b)	1,678,314	1,987,264
Receivables	4	1,751,448	2,106,728
Inventories	5	30,044	64,331
Investments in listed companies	6	9,621,263	7,451,307
Other assets	7	-	38,390
Total current assets		**13,081,069**	**11,648,020**
Non-current assets			
Investment in non-listed companies		14,000	14,000
Investments in associate using the equity method of accounting	8	5,686,027	5,641,637
Property, plant and equipment	9	1,775,134	2,003,101
Total non-current assets		**7,475,161**	**7,658,738**
Total assets		**20,556,230**	**19,306,758**
Current liabilities			
Payables	10	1,475,554	1,702,834
Provisions	11	1,494,437	1,411,242
Total current liabilities		**2,969,991**	**3,114,076**
Non-current liabilities			
Provisions	11	163,706	130,668
Total non-current liabilities		**163,706**	**130,668**
Total liabilities		**3,133,697**	**3,244,744**
Net assets		**17,422,533**	**16,062,014**
Equity			
Contributed capital		5,711,063	5,711,063
Reserves		3,409,229	2,310,034
Accumulated surplus		8,302,241	8,040,917
Total equity		**17,422,533**	**16,062,014**

The accompanying notes on pages 70 to 80 form part of these financial statements

STATEMENT OF CHANGES IN EQUITY FOR THE FINANCIAL YEAR ENDED 30 JUNE 2007

	Note	Contributed Capital $	Asset Revaluation Reserve $	Available-for-sale Revaluation Reserve $	Specific Purpose Reserve $	Accumulated Surplus $	Total $
Balance as at 1 July 2005		5,711,063	191,610	-	12,427	7,411,397	13,326,497
Asset revaluation – Werribee		-	(191,610)	-	-	-	(191,610)
Transfer to/(from) reserves		-	-	-	(12,427)	12,427	-
Adoption of AASB 139 from 1 July 2005	-	-	1,668,970	-	-	1,668,970	
Movement in fair value of investments in listed companies	6	-	-	641,064	-	-	641,064
Net result for the financial year		-	-	-	-	617,093	617,093
Balance as at 30 June 2006		**5,711,063**	**-**	**2,310,034**	**-**	**8,040,917**	**16,062,014**
Movement in fair value of investments in listed companies	6	-	-	1,099,195	-	-	1,099,195
Net result for the financial year		-	-	-	-	261,324	261,324
Balance as at 30 June 2007		**5,711,063**	**-**	**3,409,229**	**-**	**8,032,241**	**17,422,533**

The accompanying notes on pages 70 to 80 form part of these financial statements

PRINCE HENRY'S INSTITUTE OF MEDICAL RESEARCH

CASH FLOW STATEMENT FOR THE FINANCIAL YEAR ENDED 30 JUNE 2007

	Note	2007 $	2006 $
Cash flows from operating activities			
Receipts from Government		6,496,030	6,796,176
Receipts from other entities		3,488,273	4,005,454
Payments to suppliers and employees		(10,586,460)	(9,865,774)
Goods and Services Tax recovered from the ATO		864,979	452,243
Goods and Services Tax paid to the ATO		(922,956)	(470,339)
Interest received		100,057	98,032
Dividends received		908,661	904,769
Other revenue		691,329	487,385
Net cash provided by operating activities	21(a)	**1,039,913**	**2,407,946**
Cash flows from investing activities			
Payment for investments in associate		-	(1,048,240)
Payment for investments		(1,642,587)	(1,601,292)
Proceeds on sale of investments		571,826	1,248,270
Payment for property, plant and equipment		(278,102)	(568,815)
Proceeds from sale of property, plant and equipment		-	58,000
Net cash used in investing activities		**(1,348,863)**	**(1,912,077)**
Net increase / (decrease) in cash held		**(308,950)**	**495,869**
Cash and cash equivalents at the beginning of the financial year		**1,987,264**	**1,491,395**
Cash and cash equivalents at the end of the financial year	21(b)	**1,678,314**	**1,987,264**

The accompanying notes on pages 70 to 80 form part of these financial statements

PRINCE HENRY'S INSTITUTE OF MEDICAL RESEARCH

NOTES TO THE FINANCIAL STATEMENTS FOR THE FINANCIAL YEAR ENDED 30 JUNE 2007

NOTES TO THE FINANCIAL STATEMENTS FOR THE FINANCIAL YEAR ENDED 30 JUNE 2007

1. Summary of accounting policies

Prince Henry's Institute of Medical Research ("the Institute") is an organisation formed under an Act of the Victorian Parliament, 1988 No 43. The Institute is exempt from income tax under Subdivision 30-BA of the Income Tax Assessment Act 1997.

Statement of compliance
This financial report is a general purpose financial report prepared in accordance with the Financial Management Act 1994, applicable Financial Reporting Directions, Australian Accounting Standards and other mandatory professional reporting requirements. Accounting Standards include Australian equivalents to International Financial Reporting Standards (IFRS).

The financial statements were authorised for issue by the Financial Services Manager – Prince Henry's Institute of Medical Research on 30 August 2007.

Basis of preparation
The financial report has been prepared on the basis of historical cost, except for the revaluation of certain non-current assets and financial instruments. Cost is based on the fair values of the consideration given in exchange for assets.

In the application of A-IFRS management is required to make judgments, estimates and assumptions about carrying values of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and various other factors that are believed to be reasonable under the circumstances, the results of which form the basis of making the judgments. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

Accounting policies are selected and applied in a manner which ensures that the resulting financial information satisfies the concepts of relevance and reliability, thereby ensuring that the substance of the underlying transactions or other events is reported.

The following significant accounting policies have been adopted in the preparation and presentation of the financial report:

(a) Cash and Cash Equivalents
Cash and cash equivalents comprise cash on hand and in banks and investments in money market instruments.

(b) Contributed Capital
Consistent with AASB Interpretation 1038 'Contributions by Owners Made to Wholly-Owned Public Sector Entities' and after satisfying Accounting Standard AASB 1004, grants for additions to net assets have been designated as contributed capital. Other transfers that are in the nature of contributions or distributions have also been designated as contributed capital.

(c) Depreciation
Depreciation is provided on property, plant and equipment, including leasehold improvements. Depreciation is calculated on a straight line basis so as to write off the net cost or other revalued amount of each asset over its expected useful life to its estimated residual value. Leasehold improvements are depreciated over the period of the lease or estimated useful life, whichever is the shorter, using the straight line method. The estimated useful lives, residual values and depreciation method is reviewed at the end of each annual reporting period.
The following estimated useful lives are used in the calculation of depreciation:

	2007	2006
Leasehold improvements	10 years	10 years
Plant and equipment	2 – 10 years	2 – 10 years

(d) Provisions - Employee benefits
Provision is made for benefits accruing to employees in respect of wages and salaries, annual leave and long service leave when it is probable that settlement will be required and the benefits are capable of being measured reliably.

Consistent with AASB 101 para 60 (d) the Institute does not have an unconditional right to defer settlement of the employee benefits liabilities at the time the entitlement becomes an employee right. Provisions made in respect of employee benefits are categorised between current and non-current on the basis of the employees' right to access the entitlements.

Provisions made in respect of employee benefits expected to be settled within 12 months, are measured at their nominal values using the remuneration rate expected to apply at the time of settlement.

Provisions made in respect of employee benefits which are not expected to be settled within 12 months are measured as the present value of the estimated future cash outflows to be made by the Institute in respect of services provided by employees up to reporting date.

The amount charged to the Operating Statement in respect of superannuation represents the contributions made by the Institute to superannuation funds during the financial year. (Refer Note 16)

(e) Investments in listed companies
Investments in listed companies are recognised and derecognised on trade date where purchase or sale is under a contract whose terms require delivery of the investment within the timeframe established by the market concerned, and are initially measured at fair value, net of transaction costs.

Investments held by the Institute are classified as being available-for-sale and are stated at fair value. Gains and losses arising from changes in fair value are recognised directly in equity, until the investment is disposed of or is determined to be impaired, at which time the cumulative gain or loss previously recognised in equity is included in profit or loss for the period.

(f) Payables
The Institute's policy for settlement of payables is 30 days from invoice.

1. Summary of accounting policies (cont.)

Trade payables and other accounts payable are recognised when the Institute becomes obliged to make future payments resulting from the purchase of goods and services.

(g) Goods and services tax

Revenues, expenses and assets are recognised net of the amount of goods and services tax (GST), except:

- where the amount of GST incurred is not recoverable from the taxation authority, it is recognised as part of the cost of acquisition of an asset or as part of an item of expense; or
- for receivables and payables which are recognised inclusive of GST.

The net amount of GST payable to the Australian Taxation Office is included as part of payables.

Cash flows are included in the cash flow statement on a gross basis.

(h) Comparative figures

When required by A-IFRS, comparative figures have been adjusted to conform to changes in presentation for the current financial year.

(i) Impairment of assets

Physical assets are assessed annually for indications of impairment, except for:

- inventories; and
- financial assets.

Where there is an indication of impairment, the assets concerned are tested as to whether their carrying value exceeds their recoverable amount. Where an asset's carrying value exceeds its recoverable amount, the difference is written-off by a charge to the operating statement except to the extent that the write-down can be debited to a revaluation reserve amount applicable to that specific asset.

Recoverable amount for assets primarily used to generate net cash inflows is measured at the higher of the present value of future cash flows expected to be obtained from the asset and fair value less cost to sell.

It is deemed that, in the event of the loss of an asset, the future economic benefits arising from the use of the asset will be replaced unless a specific decision to the contrary has been made.

(j) Foreign currency

All foreign currency transactions during the financial year are brought to account using the exchange rate in effect at the date of the transaction. Foreign monetary items at reporting date are translated at the exchange rate existing at reporting date.

Exchange differences are recognised in profit or loss in the period in which they arise.

(k) Investments in associate using the equity method of accounting

Associates are those entities over which the Institute exercises significant influence, but not control.

Investments in associates are accounted for in the financial statements using the equity method. Under this method, the Institute's share of the post-acquisition profits or losses of associates is recognised in the operating statement and its share of post-acquisition movements in reserves is recognised in reserves.

The cumulative post-acquisition movements are adjusted against the cost of the investment.

(l) Inventories

Inventories are valued at the lower of cost and net realisable value.

(m) Leases

Leases are classified as finance leases whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee. All other leases are classified as operating leases.

Finance Leases

A lease asset and a lease liability equal to the present value of the minimum lease payments are recorded at the inception of the lease.

Lease payments are apportioned between finance charges and reduction of the lease obligation so as to achieve a constant rate of interest on the remaining balance of the liability. Finance charges are charged directly against income, unless they are directly attributable to qualifying assets, in which case they are capitalised.

Operating Leases

Payments made under operating leases are expensed on a straight line basis over the term of the lease, except where an alternative basis is more representative of the pattern of benefits derived from the leased property.

Lease Incentives

Lease incentives are recognised as liabilities. The aggregate benefits of incentives are recognised as a reduction of rental, on a straight line basis except where an alternative basis is more representative of the time pattern in which economic benefits from the leased asset are consumed.

(n) Revenue recognition

Government grants are recognised as revenue when the Institute gains control of the underlying assets. Where grants are reciprocal, revenue is recognised as performance occurs under the grant. Non-reciprocal grants are recognised as revenue when the grant is received or receivable. Conditional grants may be reciprocal or non-reciprocal depending on the terms of the grant.

Dividend revenue is recognised as dividends are received.

Interest revenue is recognised on a time proportionate basis that takes into account the effective yield on the financial asset.

Income from the sale of goods and disposal of other assets is recognised when the Institute has passed control of the goods or other assets to the buyer.

Income from a contract to provide services is recognised by reference to the stage of completion of the contract.

Royalty income is recognised as earned or received.

NOTES TO THE FINANCIAL STATEMENTS FOR THE FINANCIAL YEAR ENDED 30 JUNE 2007

1. Summary of accounting policies (cont.)

(o) Revaluations

Assets other than those that are carried at cost are revalued with sufficient regularity to ensure that the carrying amount of each asset does not differ materially from its fair value.

Leasehold improvements are carried at deemed cost on the transition to A-IFRS based on the independent valuation performed by Egan National Valuers on the date of transition. The financial impact of this valuation is disclosed in Note 9 Property, plant and equipment.

Revaluation increments are credited directly to equity in the available-for-sale revaluation reserve, except that, to the extent that an increment reverses a revaluation decrement in respect of the same asset previously recognised as an expense in the net result, the increment is recognised as revenue in determining the net result.

Revaluation decrements are recognised immediately as expenses in the net result, except that, to the extent that a credit balance exists in the revaluation reserve in respect of the same asset, they are debited to the revaluation reserve. Revaluation reserves are transferred to accumulated surplus on sale or derecognition of the relevant asset.

(p) Non-current physical assets

Each class of property, plant and equipment is carried at cost or fair value, less where applicable, any accumulated depreciation and impairment losses.

The carrying amount of plant and equipment is reviewed annually to ensure it is not in excess of the recoverable amount. The recoverable amount is assessed on the basis of replacement value. The recoverable amount for the leasehold assets is measured at the higher of the present value of future cash flows expected to be obtained from the asset and fair value less costs to sell.

(q) Rounding of amounts

Unless otherwise disclosed, amounts in the financial report have been rounded to the nearest dollar.

2. Net result for the financial year

Income from Operations	2007 $	2006 $
(a) Australian Government Grants		
Australian Government Grant – National Health & Medical Research Council	4,125,824	3,836,358
Victorian Government Grant – Department of Innovation, Industry & Regional Development	973,299	984,800
Australian Government Grant – National Health & Medical Research Council - infrastructure	628,087	1,204,393
Victorian Government Grant – Department of Human Services	228,970	222,609
Total Australian Government Grants	**5,956,180**	**6,248,160**
(b) Non-Government Grants		
(i) Overseas Grants and Fellowships		
Bayer Schering Pharma AG	1,300,265	1,410,245
National Institutes of Health	108,062	117,595
University of California LA	38,460	41,157
CONRAD Program	22,167	147,374
Granulosa Cell Tumor of the Ovary Foundation	12,792	24,946
Endocrine Pharmaceuticals UK	-	61,566
Serono Foundation	-	59,218
Axzo Nobel Organon	-	3,637
Total overseas grants and fellowships	**1,481,746**	**1,865,738**
(ii) Australian Grants and Fellowships		
Cancer Council Victoria	456,131	566,996
Ovarian Cancer Research Foundation	236,807	142,890
Monash IVF Pty Ltd	220,601	-
Schering Pty Ltd	125,000	100,000
National Breast Cancer Foundation	115,000	15,000
Eli Lilly Australia Pty Ltd	40,000	-
Pfizer Australia Pty Ltd	39,745	157,213
National Heart Foundation	30,000	60,000
Susan G Korman Breast Cancer Foundation	25,264	-
RANZOG Research Foundation	20,000	-
Diabetes Australia	-	22,500
The Royal Australian College of Physicans	-	20,000
Novartis Australia Pty Ltd	-	9,091
Total Australian grants and fellowships	**1,308,548**	**1,093,690**

2. Net result from Operations (cont.)

	2007 $	2006 $
(iii) Commercial Contracts		
Diagnostic System Laboratories	61,500	95,559
NV Organon (Aust) Pty Ltd	22,787	-
Murdoch Childrens Research Institute	10,000	-
Chemicon Australia Pty Ltd	7,500	-
Acrux DDS Pty Ltd	4,350	6,900
Novo Nordisk Pharmaceuticals	-	3,637
Total commercial contracts	**106,137**	**106,096**
(iv) Transfers from Other Institutions		
Murdoch Childrens Research Institute	378,800	307,047
Monash University	112,732	213,125
Southern Health	-	13,525
Total transfers from other institutions	**491,532**	**533,697**
Total Non-Government Grants	**3,387,963**	**3,599,221**

(c) Share of profits from associate using the equity method of accounting

	2007 $	2006 $
Profit receivable from associate – Monash Health Research Precinct	44,390	12,928

(d) Other Income

Share dividends	908,661	904,769
Australian Government Grant – National Health & Medical Research Council – Monash Health Research Precinct Pty Ltd – Capital Donation	-	445,454
Australian Government Grant – National Health & Medical Research Council – Capital Equipment Grant	97,650	102,562
Donations general	314,744	398,845
Travel Support	95,614	115,641
Interest	100,057	98,032
Royalties	104,926	56,362
Other	341,428	208,639
Gain / (loss) on disposal of property, plant and equipment	(126)	9,756
Gain / (loss) on disposal of investments	149,361	(219,560)
Total other income	**2,112,315**	**2,120,500**
Total Revenue from operations	**11,500,848**	**11,980,809**

(e) Expenditure for Operations

Net result for the financial year has been arrived at after crediting (charging) the following items:

	2007 $	2006 $
Scientific and laboratory expenses		
Employee benefits - Scientific	5,705,651	6,083,245
Scientific related consumables	1,368,309	1,233,839
Research support services	788,962	674,040
Travel and accommodation	449,776	380,895
Occupancy and maintenance	255,991	309,267
Other scientific and research related expenses	100,437	129,692
Total scientific & laboratory expenses	**8,669,126**	**8,810,978**
Administration expenses		
Employee benefits - Administration	1,390,592	1,148,405
Travel and Accommodation	19,280	8,124
Occupancy	2,000	2,000
Public Relations	180,065	190,552
Legal Expenses	80,476	76,477
Repairs and maintenance	38,386	9,420
Write-down of leasehold property - Werribee (refer Note 9)	-	90,390
Other	353,655	281,478
Total administration expenses	**2,064,455**	**1,806,846**
Depreciation and amortisation expense		
Depreciation on non-current assets	482,343	528,695
Write-back of depreciation on revaluation - Werribee property	-	25,197
Amortisation on leasehold premises	23,600	-
Total depreciation and amortisation expense	**505,943**	**553,892**
Impairment of non-current assets		
Werribee leasehold (Refer to Note 9)	-	192,000
Total Expenditure	**11,239,524**	**11,363,716**

3. Remuneration of auditors

Victorian Auditor General's Office		
Audit of the financial report	12,500	9,800

NOTES TO THE FINANCIAL STATEMENTS FOR THE FINANCIAL YEAR ENDED 30 JUNE 2007

4. Receivables

	2007 $	2006 $
Current		
National Health Medical Research Council – Long Service Leave	-	335,915
Other receivables	1,751,448	1,770,813
Total Receivables	**1,751,448**	**2,106,728**

5. Inventories

	2007 $	2006 $
Supplies and consumables for Institute operations	30,044	64,331
	30,044	64,331

6. Investments in listed companies

Balance at beginning of financial year (at cost)	7,451,307	5,007,809
Movement in market value of shares on adoption of AASB 139 from 1 July 2005	-	1,668,970
	7,451,307	6,676,779
Purchase / sale of shares at cost during the financial year	1,070,761	133,464
Movement in fair value of shares held for the financial year	1,099,195	641,064
Balance at end of the financial year	**9,621,263**	**7,451,307**

7. Other assets

Prepayments	-	38,390
	-	38,390

8. Investments in associate using the equity method of accounting

In 2002 the Institute entered into an agreement with the Commonwealth Government of Australia, acting through and represented by the Department of Health and Ageing, in which the Government agreed to fund the construction of research laboratories for the Institute at the Monash Health Research Precinct ("the Precinct") located at the Monash Medical Centre campus of Southern Health. In accordance with the Agreement, the Commonwealth provided funding of $4,500,000 towards the construction of a building to house the research laboratories with a further $1,000,000 provided to complete the fit-out of those laboratories.

These funds were pooled with other grant funds and bank loans to enable the construction of a new research facility to accommodate not only the Institute, but also certain activities of Monash University represented by Monash Institute of Medical Research ("MIMR") and the Monash Institute of Health Services Research ("MIHSR").

Monash Health Research Precinct Pty Ltd ("MHRP") was established to facilitate the above and specifically for the purpose of the following:

- constructing a new research facility at the Precinct:
- ensuring the company remains solvent; and
- allocating to the shareholders the costs and expenses of any shared resources and facilities of the Precinct.

Southern Health, Monash University and the Institute are each shareholders of MHRP. As at 30 June 2007, the issued capital of MHRP totalled 15,338,478 shares of $1.00 each (2006: 15,338,478 shares at $1.00 each). These shares were held by the following entities:

- Monash University holds 6,591,579 shares (43%) (2006: 6,591,579);
- Prince Henry's Institute of Medical Research holds 5,628,709 shares (37%) (2006: 5,628,709); and
- Southern Health holds 3,118,190 shares (20%) (2006: 3,118,190).

The MHRP financial year ends on 31 December with an audit undertaken at that time. Figure provide by MHRP to the 30 June are unaudited.
The table below details the Institute's investment in MHRP :

	PHIMR share		MHRP 100%	
	2007 $	2006 $	2007 $	2006 $
Current assets	1,149,241	1,145,488	3,131,736	3,104,573
Non-current assets	6,818,029	6,871,124	18,579,456	18,622,545
Share of total assets	7,967,270	8,016,612	21,711,192	21,727,118
Current liabilities	123,024	154,249	335,246	352,767
Non-current liabilities	2,158,219	2,220,726	5,881,250	6,018,750
Share of total liabilities	2,281,243	2,374,975	6,216,496	6,371,517
Net assets	**5,686,027**	**5,641,637**	**15,494,696**	**15,355,601**
Revenue	255,601	387,834	696,525	1,048,200
Net Profit	44,390	37,017	102,371	100,047

9. Property Plant and Equipment

	2007 $	2006 $
Leasehold improvements at valuation	236,000	236,000
Accumulated amortisation	(23,600)	-
	212,400	**236,000**
Plant and equipment at cost	6,262,177	5,778,425
Accumulated depreciation	(4,699,443)	(4,011,324)
	1,562,734	**1,767,101**
Total property, plant and equipment	6,498,177	6,014,425
Accumulated depreciation and amortisation	(4,723,043)	(4,011,324)
Total Property, Plant and Equipment	**1,775,134**	**2,003,101**

Movements in Carrying Amounts

	Leasehold improvements $	Plant and equipment $	Total $
Balance at beginning of financial year	236,000	1,767,101	2,003,101
Additions	-	278,102	278,102
Disposals	-	(9,923)	(9,923)
Depreciation expense	(23,600)	(482,343)	(505,943)
Write back depreciation on revaluation	-	9,797	9,797
Carrying amount at end of financial year	**212,400**	**1,562,734**	**1,775,134**

In 1995 the Institute signed a 21 year lease for the use of a property at Werribee in order to perform research activities. In December 2005 the research associated with the Werribee site ceased. On 5 June 2006 a valuation on the leasehold improvements situated at the leased property at Werribee was undertaken by Egan National Valuers. The basis of the valuation was in accordance with AASB 116 'Property, Plant and Equipment'.

10. Payables

	2007 $	2006 $
Current		
Goods and Services Tax - ATO	57,977	18,096
Funds held for other entities	389,339	516,853
Trade suppliers	723,062	889,747
Employee benefits payable	305,176	278,138
	1,475,554	**1,702,834**

11. Provisions

	2007 $	2006 $
Current		
Employee benefits - annual leave		
– short term payable within 12 months - nominal value	341,581	344,584
– long term payable beyond 12 months - present value	104,521	40,584
Employee benefits - long service leave (unconditional)		
– short term payable within 12 months - nominal value	98,775	80,690
– long term payable beyond 12 months - present value	949,560	945,384
	1,494,437	**1,411,242**
Non-Current		
Employee benefits - long service leave (unconditional) - present value	163,706	130,668
Total Provisions	**1,658,143**	**1,541,910**
Movement in long service leave:		
Balance at beginning of financial year	1,156,742	1,056,093
Provision made during the financial year	186,973	212,556
Settlement made during the financial year	(131,674)	(111,907)
Balance and end of financial year	**1,212,041**	**1,156,742**
Institute employees as at 30 June	114	107

Note 1(d) details the basis on which employee benefits are calculated in the financial statements. Consistent with AASB 101 para 60 (d) the Institute does not have unconditional right to defer settlement of the employee benefits liabilities at the time the entitlement becomes an employee right. Provisions made in respect of employee benefits are categorised between current and non-current on the basis of the employees' right to access the entitlements. Provisions made in respect of employee benefits expected to be settled within 12 months, are measured at their nominal values using the remuneration rate expected to apply at the time of settlement. Provisions made in respect of employee benefits which are not expected to be settled within 12 months are measured as the present value of the estimated future cash outflows to be made by the Institute in respect of services provided by employees up to reporting date. The employee benefits disclosed as non-current relate to long service leave benefits where the Institute does have an unconditional right to defer settlement of the entitlement until the employee has completed the requisite qualifying years of service.

12. Leases

Aggregate lease expenditure contracted at balance date:

	2007 $	2006 $
Operating Lease – Werribee Property		
Not later than one year	2,000	2,000
Later than one year but not later than five years	8,000	8,000
Later than five years	8,000	8,000
	18,000	**20,000**

Operating Lease – Monash Health Research Precinct:

The Institute has entered into a lease agreement for the provision of laboratory facilities at the Monash Health Research Precinct. Provisions of the lease require a per annum lease payment of $289,300, increasing at the rate of 3% per annum. The lease commenced on 1 September 2005.

	2007 $	2006 $
Not later than one year	305,428	296,533
Later than one year but not later than five years	1,316,132	1,277,798
Later than five years	6,136,930	6,480,693
	7,758,491	**8,055,024**

13. Economic Dependency

The Institute is reliant upon grants from the National Health and Medical Research Council for approximately 42% (2006: 44%) of operating expenditure and the Victorian Government for approximately 10% (2006: 11%) of operating expenditure for support of its basic research activities.

14. Responsible Persons

a) Responsible Minister

The Hon. G. Jennings in his capacity as Minister for Innovation.

(b) Directors

The Directors of the Institute during the year were:
John Robinson *(Chair)*
Jane Glatz *(Acting Chief Executive Officer)* appointed 01/01/07
Richard Amos *(Deputy Chair)*
Carmel Mortell *(Treasurer)* appointed 19/12/06
Jane Bell
Jay Bonnington appointed 28/08/06
Anne Ellis
Margaret Lothian
Trevor J. Montgomery
Nicos Nicola AO
David Pisker
Bob Stensholt MP
Wayne Ramsey appointed 06/06/07
Edward Byrne AO resigned 08/12/06
Russell J. Fynmore AO resigned 07/12/06
Denise Heinjus resigned 04/06/07
Lisa Hinrichsen resigned 19/12/06
Anne Molyneux resigned 28/04/07
Evan R. Simpson (Chief Executive Officer) resigned 31/12/06

	2007 $	2006 $
(c) Remuneration of Directors		
Remuneration received or due and receivable by Non-executive Directors	-	-
Insurance to indemnify liabilities whilst acting as a Director	20,725	20,024
Retirement benefits to Non-executive Directors	-	-
Loans to Non-executive Directors	-	-
Transactions with Non-executive Directors	-	-
Superannuation paid for Non-executive Directors	-	-
Remuneration paid / payable to the Institute Director	176,207	204,986

Related party transactions involving organisations with which the directors are associated are detailed in Note 18.

15. Remuneration of executives

The number of the Institute's executive officers and their total remuneration during the financial year are shown in the first two columns in the table below in their relevant income bands. The base remuneration of executive officers is shown in the third and fourth columns. Base remuneration is exclusive of bonus payments, royalty payments, long-service leave payments, redundancy payments and retirement benefits.

Several factors have affected total remuneration payable to executive officers over the year. A number of the executive officers received bonus payments during the year. These bonus payments depend on the terms of individual employment contracts and are dependent on achievement of outcomes.

	Total Remuneration		Base Remuneration	
	2007 No.	2006 No.	2007 No.	2006 No.
$100,000 – 109,999	2	2	1	-
$110,000 – 119,999	-	1	3	3
$120,000 – 129,999	-	1	1	-
$130,000 – 139,999	3	-	1	1
$140,000 – 149,999	-	1	-	-
$150,000 – 159,999	1	1	1	-
$160,000 – 169,999	-	-	-	-
$170,000 – 179,999	2	-	-	-
$200,000 - $209,999	1	-	-	-
Total numbers	**9**	**6**	**6**	**5**
Total amount	**$1,317,007**	**$758,714**	**758,795**	**$582,989**

16. Superannuation

The majority of employees of the Institute are members of VicSuper Pty Ltd, which is a defined contribution fund. Institute contributions are calculated at rates of a minimum of 9% to a maximum of 17% of the employee's salary.

	2007 $	2006 $
Employer Contributions		
VicSuper Pty Ltd	569,419	598,215
Uni Super Management Pty Ltd	91,098	61,241
Other	55,397	42,439
	715,914	**701,895**
The above includes outstanding employer contributions at 30 June of:		
VicSuper Pty Ltd	21,320	64,835
Uni Super Management Pty Ltd	2,924	7,537
Other	2,322	5,775
	26,566	**78,147**

17. Capital commitments

	2007 $	2006 $
Commitments for capital expenditure not provided for in the accounts:		
Plant and equipment		
– contracted within twelve months	**36,674**	**110,594**

18. Related party transactions

Transactions between affiliated entities are on normal commercial terms and conditions no more favourable than those available to other parties.

	2007 $	2006 $
Other Transactions of responsible persons and their related entities		
Southern Health **Ms D Heinjus (Director resigned 04/06/07))** **– Executive Director Nursing and Midwifery Services**		
Adjunct Associate Professor W Ramsey **(Director appointed 04/06/07)** **– Executive Director Medical Services**		
Southern Health has provided services to the Institute for several years on normal commercial terms and conditions.		
Consumables, Telephone and Diagnostic Services	228,880	244,100
The Institute has provided services to Southern Health for several years on normal commercial terms and conditions.		
Medical and Nursing Services	18,893	36,638
Monash University **Professor E. Byrne** **(Director resigned 08/12/06)** **– Dean Faculty of Medicine**		
Monash has provided services to the Institute for many years on normal commercial terms and conditions.		
Animal Services, Maintenance, Network and Training Services	911,897	1,093,061
The Institute has provided services to Monash University for several years on normal commercial terms and conditions		
Research and Animal Services	332,038	213,125
Mr T. Montgomery (Director) **– Employed at Goldman Sachs J B Were, who are the Institute's Stockbrokers.**		
Goldman Sachs J B Were has provided services for several years on normal commercial terms and conditions.		
Purchase of Investments	1,642,587	1,246,286
Sale of investments	671,826	1,147,723

19. Subsequent events

There were no significant events after balance date.

20. Contingent Assets and Liabilities

As at 30 June 2007 there were no Contingent Assets or Liabilities (2006: $Nil).

NOTES TO THE FINANCIAL STATEMENTS FOR THE FINANCIAL YEAR ENDED 30 JUNE 2007

21. Notes to cash flow statement

(a) Reconciliation of net result for the financial year

	2007 $	2006 $
Net result for the financial year	261,324	617,093
(Gain)/loss on sale or disposal of non-current assets	126	(9,756)
Depreciation and amortisation of non-current assets	505,943	553,892
Capital donations in kind	-	(344,000)
Loss on sale of investments	-	219,561
Share of profit from associate using the equity method of accounting	(44,390)	(12,928)
Impairment of non-current assets	-	192,000
	723,003	**1,559,862**

Changes in net assets and liabilities

(Increase)/decrease in assets:		
Current receivables	355,280	145,068
Current inventories	34,287	(24,965)
Other current assets	38,390	(3,234)
Non-current receivables	-	399,145
Increase/(decrease) in liabilities:		
Current payables	(227,280)	439,226
Current provisions	83,195	(89,912)
Non-current provisions	33,038	(17,244)
Net Cash from operating activities	**1,039,913**	**2,407,946**

(b) Cash and cash equivalents

	2007 $	2006 $
Cash on hand and at bank	188,546	112,019
Investments at call	1,489,768	1,875,245
	1,678,314	**1,987,264**

22. Financial instruments

(a) Financial risk management objectives

The Institute's activities expose it primarily to the financial risks of changes in foreign currency exchange rates and interest rates. The Institute does not enter into derivative financial instruments to manage its exposure to interest rate and foreign currency risk.

The Institute does not enter into or trade financial instruments, including derivative financial instruments, for speculative purposes. The use of financial derivatives is governed by the Institute's policies approved by the board of directors, which provide written principles on the use of financial derivatives.

(b) Significant accounting policies

Details of the significant accounting policies and methods adopted, including the criteria for recognition, the basis of measurement and the basis on which income and expenses are recognised, in respect of each class of financial asset, financial liability and equity instrument are disclosed in note 1 to the financial statements.

(c) Significant terms and conditions

The Institute holds a significant portion of its investment funds in share equities and managed funds. The value of these investments is subject to market trading conditions. These funds are primarily utilized to supplement the operating and capital investment requirements of the Institute. A Board sub-committee manages the exposure of these investments ensuring the risk profile of the portfolio operates within the Institutes investment policy to provide adequate diversification, capital growth and income. The Institutes policy defines asset categories and market weightings within each industry sector.

(d) Interest rate risk

2007	Weighted average effective interest rate %	Variable interest rate	Maturity dates: Less than 1 year	1-2 years	2-3 years	3-4 years	4+ years	Non interest bearing	Total
			$	$	$	$	$	$	$
Financial assets:									
Cash and cash equivalents	5.75	1,489,768	-	-	-	-	-	188,546	1,678,314
Trade and other receivables		-	-	-	-	-	-	1,751,448	1,751,448
Investments in listed companies		-	-	-	-	-	-	9,621,263	9,621,263
		1,489,768	**-**	**-**	**-**	**-**	**-**	**11,561,257**	**13,051,025**
Financial liabilities:									
Trade and other payables		-	-	-	-	-	-	1,475,554	1,475,554
		-	**-**	**-**	**-**	**-**	**-**	**1,475,554**	**1,475,554**

The following table details the Institute's exposure to interest rate risk as at 30 June 2006:

2006	Weighted average effective interest rate %	Variable interest rate	Maturity dates: Less than 1 year	1-2 years	2-3 years	3-4 years	4+ years	Non interest bearing	Total
			$	$	$	$	$	$	$
Financial assets:									
Cash and cash equivalents	5.23	1,875,245	-	-	-	-	-	112,019	1,987,264
Trade and other receivables		-	-	-	-	-	-	2,106,728	2,106,728
Investments in listed companies		-	-	-	-	-	-	7,451,307	7,451,307
		1,875,245	**-**	**-**	**-**	**-**	**-**	**9,670,054**	**11,545,299**
Financial liabilities:									
Trade and other payables		-	-	-	-	-	-	1,702,834	1,702,834
		-	**-**	**-**	**-**	**-**	**-**	**1,702,834**	**1,702,834**

(e) Credit risk

Credit risk refers to the risk that a counterparty will default on its contractual obligations resulting in financial loss to the Institute. The Institute has adopted a policy of only dealing with creditworthy counterparties and obtaining sufficient collateral where appropriate, as a means of mitigating the risk of financial loss from defaults. The Institute measures credit risk on a fair value basis.

The Institute does not have any significant credit risk exposure to any single counterparty or any group of counterparties having similar characteristics. The credit risk on liquid funds and derivative financial instruments is limited because the counterparties are banks with high credit-ratings assigned by international credit-rating agencies.

(f) Fair value

The Institute considers that the carrying amount of the net financial assets and financial liabilities recorded in the financial statements approximates their fair values.

The fair values and net fair values of financial assets and financial liabilities are determined as follows:

- the fair value of financial assets and financial liabilities with standard terms and conditions and traded on active liquid markets are determined with reference to quoted market prices; and
- the fair value of other financial assets and financial liabilities are determined in accordance with generally accepted pricing models based on discounted cash flow analysis.
- the fair value of derivative instruments, included in hedging assets and liabilities, are calculated using quoted prices. Where such prices are not available use is made of discounted cash flow analysis using the applicable yield curve for the duration of the instruments.

Transaction costs are included in the determination of net fair value.

PRINCE HENRY'S INSTITUTE OF MEDICAL RESEARCH

ACCOUNTABLE OFFICER, CHIEF FINANCE AND ACCOUNTING OFFICER'S AND DIRECTOR'S DECLARATION

We certify that the attached Financial Statements and notes for Prince Henry's Institute of Medical Research have been prepared in accordance with Standing Direction 4.2 of the Financial Management Act 1994, applicable Financial Reporting Directions, Australian Accounting Standards and other mandatory professional reporting requirements.

In our opinion, the information set out in the Operating Statement, Balance Sheet, Statement of Changes in Equity, Cash Flow Statement and notes to and forming part of the Financial Statements, presents fairly the financial transactions during the year ended 30 June 2007 and financial position of the Prince Henry's Institute of Medical Research as at 30 June 2007.

At the time of signing the Financial Statements, we are not aware of any circumstances which would render any particulars included in the Financial Statements to be misleading or inaccurate.

J Robinson
Chair
Prince Henry's Institute of Medical Research
Melbourne
30 August 2007

J Glatz
Accountable Officer
Prince Henry's Institute of Medical Research
Melbourne
30 August 2007

T Haining
Chief Finance and Accounting Officer
Prince Henry's Institute of Medical Research
Melbourne
30 August 2007

VAGO

Victorian Auditor-General's Office

INDEPENDENT AUDIT REPORT

Prince Henry's Institute of Medical Research

To the Members of the Parliament of Victoria and Members of the Board of the Institute

Matters Relating to the Electronic Presentation of the Audited Financial Report

This auditor's report for the financial year ended 30 June 2007 relates to the financial report of Prince Henry's Institute of Medical Research included on its web site. The Members of the Board of Prince Henry's Institute of Medical Research are responsible for the integrity of the web site. I have not been engaged to report on the integrity of the web site. The auditor's report refers only to the statements named below. An opinion is not provided on any other information which may have been hyperlinked to or from these statements. If users of this report are concerned with the inherent risks arising from electronic data communications, they are advised to refer to the hard copy of the audited financial report to confirm the information included in the audited financial report presented on this web site.

The Financial Report

The accompanying financial report for the year ended 30 June 2007 of Prince Henry's Institute of Medical Research which comprises operating statement, balance sheet, statement of changes in equity, cash flow statement, a summary of significant accounting policies and other explanatory notes to and forming part of the financial report, and the accountable officer, chief finance and accounting officer's and director's declaration has been audited.

The Responsibility of the Members of the Board for the Financial Report

The Members of the Board of the Prince Henry's Institute of Medical Research are responsible for the preparation and the fair presentation of the financial report in accordance with Australian Accounting Standards (including the Australian Accounting Interpretations) and the financial reporting requirements of the *Financial Management Act* 1994. This responsibility includes:

- establishing and maintaining internal controls relevant to the preparation and fair presentation of the financial report that is free from material misstatement, whether due to fraud or error
- selecting and applying appropriate accounting policies
- making accounting estimates that are reasonable in the circumstances.

Auditors Responsibility

As required by the *Audit Act* 1994, my responsibility is to express an opinion on the financial report based on the audit, which has been conducted in accordance with Australian Auditing Standards. These Standards require compliance with relevant ethical requirements relating to audit engagements and that the audit be planned and performed to obtain reasonable assurance whether the financial report is free from material misstatement.

Level 24, 35 Collins Street, Melbourne Vic. 3000
Telephone 61 3 8601 7000 Facsimile 61 3 8601 7010 Email comments@audit.vic.gov.au Website www.audit.vic.gov.au

Independent Audit Report (continued)

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial report. The audit procedures selected depend on judgement, including the assessment of the risks of material misstatement of the financial report, whether due to fraud or error. In making those risk assessments, consideration is given to internal control relevant to the Board Members' preparation and fair presentation of the financial report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Institute's internal control. An audit also includes evaluating the appropriateness of the accounting policies used, and the reasonableness of accounting estimates made by the Board Members, as well as evaluating the overall presentation of the financial report.

I believe that the audit evidence obtained is sufficient and appropriate to provide a basis for my audit opinion.

Independence

The Auditor-General's independence is established by the *Constitution Act* 1975. The Auditor-General is not subject to direction by any person about the way in which his powers and responsibilities are to be exercised. The Auditor-General, his staff and delegates comply with all applicable independence requirements of the Australian accounting profession.

Auditor's Opinion

In my opinion, the financial report presents fairly, in all material respects, the financial position of Prince Henry's Institute of Medical Research as at 30 June 2007 and its financial performance and cash flows for the year then ended in accordance with applicable Australian Accounting Standards (including the Australian Accounting Interpretations), and the financial reporting requirements of the *Financial Management Act* 1994.

MELBOURNE
6 September 2007

D.D.R. Pearson
Auditor-General

Level 24, 35 Collins Street, Melbourne Vic. 3000
Telephone 61 3 8601 7000 Facsimile 61 3 8601 7010 Email comments@audit.vic.gov.au Website www.audit.vic.gov.au

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Capital donations or named funds are a vital component of the Institute's funding and can be in memory of a loved one or on behalf of a business or community group.

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Bequests can be made to contribute to a specific area of research you choose. (Research areas detailed in pages 20 to 45). In addition, bequests can support a fellowship program, scholarship or award, or go to purchase important laboratory equipment.

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Corporate support can be realised in a variety of experiences that have meaning for your organisation and align with your organisation's social responsibility policy. PHI welcomes corporate support through donations, sponsorships, pro-bono services, fundraising events, staff volunteering and so much more. We welcome the opportunity to create a valued relationship that impacts so many lives.

Our Integrity

The Prince Henry's Institute operates on the mandate of ensuring that 100% of proceeds from donations fund important research discoveries, new cutting edge technologies and contribute to the education of our students who are our future. In all we do, we strive to ensure that your support makes the difference you intended.

For more information please contact:

Misha Prusa
Marketing & Fundraising Manager
Prince Henry's Institute
PO Box 5152
Clayton VIC 3168 Australia

Tel: 61 3 9594 4048
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Prince Henry's Institute

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