

Dental Health Services

Completed Research and Development Evaluation

Evaluation of Pulpotomies in Deciduous Teeth. A total of ~600 children have been followed for up to four years to determine the outcome of this treatment method. A report has been completed and recommendations are being considered for implementation. A paper has been presented titled "Factors influencing the survival of pulpotomed deciduous teeth" presentation number 3024 at the 82nd general session of the International Association for Dental Research Honolulu, HI, March 10-13, 2004.

Health Status Study

Study on the health status of Kimberley indigenous population to provide base line data for the planning of future dental care services for communities.

Continuing Research and Development Child Dental Health Survey

This survey is ongoing and forms the basis of the Performance Indicators that are supplied to the Department of Health each year.

Adult Dental Programs Survey

This survey is ongoing and forms the basis of the Performance Indicators that are supplied to Department of Health each year.

Caries Progression Monitored Using Radiographs

This study involves the periodic monitoring of radiographs to determine the rate of progress of carious lesions on the interproximal surfaces of teeth. The anticipated follow-up period is four years. About 70 children are currently participating.

Womens and Childrens Health Service

Research Activities at Princess Margaret Hospital (PMH)

Utilisation of therapies in autistic children who have been diagnosed at the State Child Development Centre in Western Australia. S Skeldon.

Immune Surveillance in Cystic Fibrosis-the role of macrophages and dendritic cells.

P Richmond. A pilot study to describe the incidence rate and clinical features of human metapneumovirus infection of the lower respiratory tract in hospitalised children at high risk for severe disease. S Stick.

Family focused physical activity for overweight insulin resistant children. L Jensen.

Microalbuminuria: prevalence, clinical characteristics and familial traits of nephropathy in children and adolescents with type 1 diabetes mellitus in Western Australia. P Herold.

Living with asthma: what's it like for teenagers. D Payne.

Bispectral index-guided sedation as compared to standard practice of sedation in the PICU: a prospective, randomised, single blind experimental study. A Ramelet.

Clinical efficacy of the funhaler in children aged 2-6 years. P Sly.

Relapse rates of children suffering with primary nocturnal enuresis who have been treated using the PMH bedwetting treatment program "Happiness is a Dry Bed". K Murphy.

Promoting Assent: Involving children in the decision-making process in therapeutic clinical trials. A Alessandri.

The evolutionary adaptation of the human inflammatory response to different climatic conditions. P Candelaria.

Daily exposure to indoor air pollutants and asthma exacerbations in children. P Franklin.

The study of postnatal immune development in neonates: immune responses of premature and term infants to immunisation and susceptibility to infection and allergic sensitisation in early life. P Richmond.

Detection of early lung disease in cystic fibrosis. P Sly.

Research Studies Supported by the Womens and Infants Research Foundation (WIRF)

The Women and Infants Research Foundation is Western Australia's sole organisation dedicated to research in the fields of obstetrics, gynaecology and newborn medicine. The organisation is multi-disciplinary and is located on several sites with the administrative office and biostatistics unit in "Carson House" on the campus of King Edward Memorial Hospital, Subiaco, Western Australia.

The Women and Infants Research Foundation conducts research through King Edward Memorial Hospital and the University of Western Australia, together with the community and other tertiary level centres nationally and internationally. A selection of the research undertaken is detailed below.

How events before birth impact on the life-long health of individuals, in particular, the chronic diseases of adult life such as diabetes and coronary heart disease are thought to result from predisposition conferred by the intra-uterine environment.

Delivery before term gestation. The Foundation is the central agency in an international research programme aimed at finding more effective methods of maturing the fetal lungs.

Induction of Labour with an Unfavourable Cervix.

Epidural Analgesia in Labour.

Intranasal Fentanyl for Postoperative Pain Relief.

Randomised Evaluation of Disposable Laryngeal Masks.

Does Magnesium Sulphate Reduce the Short and Long Term Requirements for Pain Relief Following Caesarian Section?

Immunogenetic Susceptibility To Neonatal Group B Streptococcal Sepsis (Starter Grant funded by the Women and Infants Research Foundation).

The Relationship Between Early Feeding and Communication Development in Preterm and Term Infants; Birth to 12 Months (Starter Grant funded by the Women and Infants Research Foundation).

HRT for Overactive Bladder in Postmenopausal Women.

The Effect of TVT Surgery on the Tissues of the Urinary System in Female Sheep.

The Effectiveness of TENS (Transcutaneous Electrical Nerve Stimulation) in the Treatment of Bladder Urgency in Women.

Breastfeeding and Breast Expression: The Determination of Factors Responsible for the Optimal Removal of Milk from the Breast.

Effectiveness of Therapeutic Ultrasound in Treatment of Blocked Milk Ducts.

The Effect of Pumping Regimen on Milk Production in Mothers of Pre-Term Infants.

Effect of Antenatal Corticosteroids on the Initiation of Lactation.

Maximising the Fat Content of Milk Expressed by Mothers who Deliver Prematurely (Starter Grant funded by the Women and Infants Research Foundation).

Effect of Phototherapy on the Incidence of Patent Ductus Arteriosus in Extremely Preterm Infants (Starter Grant funded by the Women and Infants Research Foundation).

A Preventative Intervention for Illicit Drug Using Mothers and their Infants (HIT Study).

Extended Follow-Up of Infants Exposed to Illicit Drug Use: A Feasibility Study.

Does Maternal Recreational Use of Amphetamines Constitute a Health Hazard to the Breastfed Infant?

Perinatal Care for Illicit-Drug Using Mothers and Their Infants.

What is the Role of Etonogestrel Contraceptive Implants (Implanon) in the Prevention of Repeat Teenage Pregnancy?

A Prospective Study to Determine the Efficacy and Acceptability of Etonogestrel Contraceptive Implants (Implanon) in an Adolescent Postnatal Population (Starter Grant funded by the Women and Infants Research Foundation).

A Randomised Trial of the Effect of Stripping and Ablation of Ovarian Endometriomas on Ovarian Function (Starter Grant funded by the Women and Infants Research Foundation).

Details of the research listed above and more is available at www.wirf.com.au

East Metropolitan Health Service

Research Administration Centre (RAC)

The RAC is the administrative research arm of the hospital, and is run by the Director of Research Prof Peter Leedman and his assistant Liz Criddle. Since taking on their respective positions in late 2002, the RAC has put in place an intranet web site, coordinated grant applications, played a role in Medical Research Week, organised a high profile visiting speaker to visit RPH and deliver multiple lectures in the week of the Young Investigators Day, overseen the awarding of internal MRF grants, and in the latter part of 2003 and the first part of 2004 developed a high quality database program in collaboration with the IT Dept at RPH that will deliver access to a vast array of research information on publications, research projects, ethics and intellectual property for the campus. The database, called RACS (for Research Administration Centre System), is nearing completion and already in service at RPH enabling the collection of all relevant data for 2002. The generation of annual reports is made a simple process by the RACS program. The 2003 data will be collected in the next few months, and 2004 data early in the New Year.

Research Projects

There were multiple projects in 2003 under way, some of which are listed below. These represent projects funded by the MRF in their annual round of funding, which is based on the financial year calendar.

Investigation of the Methylation Status of the CD30 Gene in Anaplastic Large Cell Lymphoma - Associate Professor R L J Abraham.

Rapid identification of *Staphylococcus aureus* directly from blood and sterile sites by real-time polymerase chain reaction – Dr R Murray.

Does the coagulation factor Protein S provide the link between high oestrogen conditions and increased risk of venous thromboembolism? - Dr A Barden.

Novel interactors of C-reactive protein: have we identified the elusive mechanism of CRP action? – Dr M Sayer.

Control of NKX3.1 expression in prostate cancer cells – Dr J Bentel.

An 'open-label' pilot investigation of Botulinum toxin Type A [Dysport®] injection as an adjunct to rehabilitation of chronic patello-femoral joint dysfunction – Associate Professor K P Singer.

In vitro studies of L343V, a novel missense mutation in the *APOB* gene – Dr J Burnett.

The effectiveness of the Assessment of Motor and Process Skills (AMPS) in demonstrating responsiveness to change when measuring functional performance in people with early Traumatic Brain Injury- a pilot study - MS K Spagnolo.

New aspects of cholesterol absorption and transport in obesity – Dr D C F Chan.

The role of MET and HET in regulating steroid action – Dr S M Colley.

Development of a simple, high-throughput, cost efficient method for SNP analysis - Dr J Staton.

COX-2-selective inhibition to treat aspirin-insensitive thromboxane biosynthesis: a randomised cross over trial – Dr J Eikelboom.

Variation in TNF response to bacterial stimuli throughout the menstrual cycle - DR G Waterer.

Importance of 1,25 Dihydroxyvitamin D in the pathogenesis of secondary hyperparathyroidism in hip fracture cases and the response to calciferol therapy – Dr P Glendenning.

Molecular analyses of viral interference in Interferon- α Mediated Jak-STAT Signalling - Dr M Watson.

Influence of genetic variation in the LRP gene on metabolism of dietary fat – Dr C Mamotte.

Construction and evaluation of an inducible antisense system for specific gene inhibition in *Pseudomonas aeruginosa* - Dr S Webb.

The effect of amino acids on glutathione metabolism and ischaemia reperfusion injury – Dr R McCauley.

Generation of Npm-Mlf1 transgenic mice – Dr L Winteringham.

Current Research Projects at RPH

There are a vast number of research projects ongoing at RPH, with ~140 clinical trials operating through the Pharmacy, a substantial number of population health projects and a strong basic science component. The following represent some examples from across the campus.

Community-acquired pneumonia (CAP) is the major cause of death from infection in our community and mortality will increase as the population ages and antibiotic resistant bacteria become more prevalent. We do not know why CAP, even when due to the same pathogen, can be an uncomplicated illness in one patient, and a rapidly fatal illness in another. Specific genetic markers of susceptibility may lead to the development of new preventative and therapeutic strategies. However, we first need to understand how these genetic markers elicit their effects. Our group has shown that a mutation in an important protein, MIF, is a predictor of the severity of pneumonia in patients with CAP. MIF has been shown to be a good target for immunomodulatory therapies. To avail ourselves of any therapeutic implications that may result from MIF we need to understand the mechanisms behind its' association with inflammatory and infectious diseases. The outcome of this information will help to elucidate the development of CAP and thus improve the treatment and outcome of the patient.

Studies are in progress in the Laboratory for Neuroscience in the WAIMR labs (MRF building) to understand the mechanisms governing cell death observed in neurodegenerative diseases such as Alzheimer's disease and Parkinson's disease, and after brain or spinal cord injury. Dr Sam Busfield, a recipient of one of the prestigious Career Development Awards from the NHMRC, has identified a molecule (DR6) that is expressed in the brain and spinal cord, and is capable of inducing cell death. Their investigations are tracking partners for DR6, which may be a central component of the pathway that can be utilised for targeting novel therapeutics in these debilitating neurodegenerative diseases.

Investigators from the UWA School of Surgery and Pathology have taken a novel approach to treating cancer by using antisense gene therapy. Dr Rosalie McCauley has found that levels of glutaminase are elevated in a variety of cancer cells. The rate of usage of glutamine, the most abundant amino acid in the body, by cells is governed by the activity of glutaminase an enzyme that enables the breakdown of glutamine to yield energy. Their studies have shown that deprivation of glutamine to the cancer cells, kills them rapidly. The team are

now investigating ways of delivering gene therapy to knock out the glutaminase in tumour cells to facilitate killing of breast and prostate tumours.

The Department of Clinical Immunology and Biochemical Genetics participated in a number (eleven at present) of national and international HIV-related drug trials. These trials are subsidised by either the National Centre in HIV Epidemiology and Clinical Research or by private drug companies.

Associate Professor Martyn French and Dr Patricia Price, have been awarded an NHMRC grant of \$400,000 to investigate the cause of Immune Restoration Disease, which can affect people being treated for HIV. These patients (~10% of all treated) respond to the anti-HIV treatment, but their immune system responds adversely, causing tissue inflammation. This problem is increasing in HIV patients in the developing world. Their research aims to identify patients who are risk of developing the disease and lead to new therapies for its treatment.

Professor Peter Leedman, Professor of Medicine and Endocrinologist, continues his work on studies co-funded by the Cancer Foundation of WA and the National Breast Cancer Foundation to investigate novel regulators of hormone action in cancer cells. His team in the Laboratory for Cancer Medicine based in the WAIMR labs have discovered a novel protein that targets a recently discovered regulator of steroid hormone (eg. oestrogen) action. His studies will provide novel insight into how hormones, such as oestrogen, act in cancer cells, and may create new potential avenues for developing therapeutics in breast cancer.

Dr Geoffrey Forbes, Head of Gastroenterology, leads a national team of collaborators that has been awarded a two-year Cancer Foundation of WA grant to perform a clinical trial that will compare screening tests for colorectal neoplasia in average risk asymptomatic subjects. Bowel cancer is common, affecting one in twenty Australians. Screening aims to prevent bowel cancer or detect it at an early curable stage. This study will compare four different screening tests and provide information about how and why individuals participate in screening, and a comparison of the acceptability of these tests and their

effectiveness in the general community. The tests range from a simple stool test performed at home to the latest in fibre-optic endoscopy examinations and x-ray technology. This research will determine which test people prefer and why, and whether offering a choice of tests improves participation in screening.

Professor Ian Puddey, Head of Internal Medicine at RPH, maintains his NHMRC Centre of Clinical Research Excellence (CCRE) renewal grant of \$2 million over 5 years (2003-2008). The renewal is a validation of the high quality clinical research that Professor Puddey and his team perform at RPH in the area of cardiovascular disease. The funding provides scholarships for Masters and PhD students and supports ongoing research projects.

Professor Graeme Hankey is a member of a successful NHMRC Program grant on stroke based in Melbourne and awarded for 5 years with an annual budget for the whole program of ~\$1.25 million. Professor Hankey is collaborating with Professors Donnan and Davis in Melbourne on stroke with a focus on translation of new biological findings into therapies. In addition, Prof Hankey runs the Vitatops clinical research trial out of RPH. This is a multi-Centre international trial that is investigating the benefit that might be gained from using vitamins to reduce stroke. The study is ongoing, and has recruited hundreds of patients for study to date.

Multiple myeloma results from a complex interaction between genetic and environmental factors. Chromosome analysis of malignant cells from patients with myeloma has identified groups of patients who respond differently to treatment. Patients with total or partial loss of chromosome 13q appear to have a more aggressive type of myeloma. Loss of chromosome 13q can also occur in patients with monoclonal gammopathy of undetermined significance, a benign disease that can precede myeloma in 20% of patients. The significance of loss of chromosome 13q in this condition has not been resolved. This study examines gene expression in the purified tumour cells of myeloma patients with and without a chromosome 13q deletion and patients with monoclonal gammopathy of undetermined significance. Using a microarray approach we hope to identify genes contained on chromosome 13 that when lost have an adverse impact on patient survival.

Breast cancer growth is regulated by hormones and growth factors which interact to produce fast-growing or slower growing tumours that respond with varying efficacy to

current treatments. The androgen receptor is widely expressed in human breast tumours and androgens are known to inhibit the growth of breast cancer cells. However, factors which regulate the levels of androgen receptors or control the androgen responsiveness of breast tumours are not well characterised. Work in our laboratory is characterising interactions between the androgen receptor and MAPK signalling pathways. We have found that changes (activation / inhibition) of MAPK signalling in breast cancer cells can alter the levels of androgen receptors in the cells as well as the stability of the receptors. An important finding has been that MAPK signalling does not interfere with androgen receptor activity in that androgens are still able to control expression of their target proteins. These proteins are involved in regulation of the cell cycle and therefore are important for androgen-mediated inhibition of breast cancer cell growth. The research, supported by MRF funding, is continuing with further evaluation of the androgen responsiveness of breast cancer cells that exhibit hyperactivated MAPK signalling. These findings will indicate whether breast cancer treatments that target the androgen receptor would be useful in breast tumours that exhibit upregulated MAPK signalling, as such tumours are characteristically resistant to current treatments.

Approximately 500 patients present each year to Royal Perth hospital with a hip fracture. Deficiency of vitamin D is the likely cause of most hip fractures and treatment with vitamin D has been shown to reduce hip fractures. Two different forms of vitamin D can be given to patients and only one of these forms, vitamin D₂ (ergocalciferol), is available in Australia. Vitamin D₃ (cholecalciferol), the alternative preparation available overseas, is the only formulation which has been shown in large randomised trials to reduce hip fracture rates. Currently it is assumed that both forms of vitamin D are equally effective but this has not been studied in a vitamin D deficient population and may not be true. Our study aims to compare the effects of ergocalciferol with cholecalciferol when given in equivalent dosage to vitamin D deficient individuals following hip fracture. This study will determine if ergocalciferol and cholecalciferol are bioequivalent. The results of our study may have implications for the treatment of many other individuals who suffer from osteoporosis.

The Foundation for Nursing Research continued to support nursing research at Royal Perth Hospital. Nursing research was supported in areas such as burns nursing,

patient observations in surgical areas, post heart surgery recovery, delayed discharge from ICU, perceptions of staff about ICU visiting and staff attitudes and satisfaction in medical specialities. Other areas included a systematic review of intravenous teams and restraints in-patient care.

Nurse Researchers, Drs Heather Kidd (Director) and Judith Finn, continue research into education in evidence based practice of nursing, and have established the Centre for Clinical Nursing Research. RPH's Nursing Professional Development Unit over the past year has been most successful in providing a central facility for nursing education, research and professional development.

Associate Professor Kevin Singer in the Department of Physiotherapy is actively

pursuing collaborative research with UWA Department of Surgery in the Centre for Musculoskeletal Studies. The research is investigating back muscle function in chronic back pain patients.

RPH had a very successful booth at the Medical Research Week Expo which was held at Scitech in June 2003 and organised by the Australian Society for Medical Research (ASMR). A variety of areas of research were presented, including virtual colonoscopy, stroke and the VITATOPS study, deep venous thrombosis and air travel, breast cancer and burns. Over 1,100 people attended Scitech during the day, and vast numbers came through the RPH booth where research staff provided advice and answered many questions regarding our newest research discoveries.

South Metroplitan Health Service

Research Completed Between 2003-04
Analysis of low acuity presentations to metropolitan emergency departments (at Armadale Health Service).

Examination of impact of a collocated emergency department and after hours general practice at Armadale.

Qualitative study examining the presentation behaviours of patients attending an outer metropolitan emergency department (at Armadale Health Service).

Examining the impact of a fast-track system for single system illness (at Armadale Health Service).

Preoperative use of herbal medications.

Infection rate of wound infusion catheters.

Audit of DVT prophylaxis for surgical patients.

Delirium in Fractured Neck of Femur patients.

Factor 5 Leiden deficiency in cardiac surgery.

Use of Aprotinin in cardiac surgery.

PROVE-IT STUDY: Pravastatin or Atorvastatin evaluation and infection therapy.

The purpose of this study is to compare the effectiveness of pravastatin (Pravachol®) 40mg and atorvastatin (Lipitor®) 80mg in reducing the risk of recurrent cardiovascular events in patients who have been hospitalised for a heart attack or unstable angina within the previous ten days.

ADONIS STUDY: American-Australian trial with DronedarONE in atrial fibrillation or flutter patients for the maintenance of sinus rhythm. This study is designed to assess the efficacy of dronedarone versus placebo for the maintenance of sinus rhythm following reversion from Atrial fibrillation and Atrial flutter.

CHARM Clinical Program: 3 Parts - Study of Candesartan in patients with heart failure who are ACE-Inhibitor intolerant and have depressed LV-function; Study of Candesartan in patients with heart failure who are treated with ACE-Inhibitors and have depressed LV systolic function; Study of Candesartan in patients with heart failure and preserved LV systolic function.

Evaluation of stentless kangaroo heart valves in a juvenile sheep model.

ADAPT treated porcine valve tissue (Cusp and Wall) versus Medtronic Freestyle and Prima Plus - Crosslink stability and calcification behaviour in the subcutaneous rat model.

Examination of impact of low acuity patients on ambulance diversion in metropolitan Perth (Nagree, Grainger, Sprivulis).

Examination of low acuity presentations to outer metropolitan EDs (Nagree, Sprivulis)

Examination the impact of access block on ED performance (Fatovich, Nagree, Sprivulis).

The seroprevalence of HIV in the emergency department, Port Moresby General Hospital, Papua New Guinea - C.H. Curry, P. Bunungam, C. Annerud.

The treatment of anaphylaxis precipitated by Jack Jumper Ant sting challenge, a randomised placebo controlled trial - Simon Brown.

The utility of paramedic triage in Perth, the findings of which have been implemented via new ambulance distribution procedures in Perth in his role as State Clinical Director of Acute Demand Management. - Peter Sprivulis.

A major achievement in 2003-04 was the completion, submission and awarding of Doctor of Philosophy of Medicine degrees by Flinders University to Dr Brown and Doctor of Philosophy from the University of Western Australia to Dr Sprivulis respectively for the above research.

International Phase III Trial of Primary Therapy for B-Cell Chronic Lymphocytic Leukaemia.

A randomised trial of Idarubicin dose escalation in consolidation therapy following intensive induction chemotherapy incorporating high dose cytarabine in patients with untreated adult.

Myeloma Study MM6 (Alfred Hospital/Melbourne).

A Multicentre Randomised Phase III Study of low-dose Thalidomide, Prednisolone and Zoledronic Acid versus Prednisolone and Zoledronic Acid for Post-ASCT Maintenance Therapy in Patients with Multiple Myeloma.

Mabthera Trial (Roche) Randomised study of Mabthera in patients with relapsed follicular lymphoma prior to high dose therapy as In Vivo purging and to maintain remission following high dose therapy¹³¹ I Radiolabelled Rituximab Study (Fremantle Hospital) Radioimmunotherapy with Iodine-131 Anti-CD 20 chimeric Murine/Human monoclonal antibody (Rituximab) for relapsed or refractory low grade Non-Hodgkin's Lymphoma.

F-GIV Chemo (Alfred Hospital/Melbourne) A multicentre phase II study of risk-adjusted, outpatient-based salvage therapy for relapsed and refractory lymphoma.

BEAM I-131 Trial (Fremantle Hospital) Autologous Bone Marrow/Peripheral Blood Stem Cell Transplantation for relapsed or refractory B-cell Non-Hodgkin's Lymphoma, using radioimmunotherapy (¹³¹I Rituximab) and BEAM conditioning. A Phase I/II Single Centre Study.

Primary Thrombocythaemia Trial (ALLG/UK MRC) A Medical Research Council randomised trial to compare Aspirin vs Hydroxyurea vs Anegrilide in Primary thrombocythaemia.

Van Gogh-DVT Trial (Sanofi-Synthelabo)-A multicentre, international, randomised, open-label, assessor-blind, non-inferiority study comparing the efficacy and safety of once-weekly subcutaneous SanOrg34006 with the combination of (LMW) Heparin and vitamin K antagonist (VKA) in the treatment of acute symptomatic deep vein thrombosis.

The Van Gogh-Extension Trial -A multicentre, international, randomized, double-blind, study comparing the efficacy and safety of once-weekly subcutaneous SanOrg 34006 with placebo in the long-term prevention of symptomatic venous thromboembolism in patients with symptomatic pulmonary embolism or deep-vein thrombosis who completed 6 months of treatment with vitamin K antagonist or SanOrg 34006.

The SAFE study. This is a 7000 patient Australia / New Zealand study looking at the effect of resuscitation fluid on 28-day mortality. This is the largest ICU study ever undertaken and Fremantle was the only WA hospital involved. Recruitment ceased about two months ago and Fremantle recruited well ahead of target. The results are currently in press. This study has NHMRC funding as well as State and Federal Government funding.

The Nutrition Guidelines study. This is also an Australia / New Zealand collaboration looking at the implementation of a feeding protocol in ICU and its effect on mortality. The study has just finished and we are currently completing data collection and submission.

Spaced Retrieval Programme to Aid memory in Patients Diagnosed with Mild to Moderate Dementia – M A Reid.

Carer Training project for the management of BPSD By Home-Based Carers. - S Dicker, S Chawla & M Duckworth.

Carer Training Project for The Management of BPSD By Residential-Based Carers – S Dicker.

Quetiapine use: a national multicentre study (Part of national audit of antipsychotic medicines in the elderly and doctors attitudes - Tiller, Hustig, Dteinberg, Chiu, Ames, Brodaty, Snowden, S Chawla.

Post-stroke depression. - S Starkstein & S Chawla.

Insight- how to measure? - S Starkstein & S Chawla.

Management of sleep disorders and insomnia. - D Chawla, D Alderton & L Johnson
Sexual disorders in elderly dementia persons. - S Chawla.

Retrospective audit of use of antipsychotic medication. - D K Arya.

E-star study to investigate use of Risperdal Consta. - D K Arya.

Low prevalence of nonconservative mutations of serum and glucocorticoid-regulated kinase (SGK1) gene in hypertensive and renal patients.- N Trochen, S Ganapathipillai, P Ferrari, B M Frey, F J Frey.

Linkage of a CYP11B2-CYP11B1 haplotype associated with decreased 11-hydroxylase activity. - S Ganapathipillai, J Nicod, G Laval, L X Cubeddu, F J Frey, B M Frey, P Ferrari.

A single base substitution in the human proximal promoter of the steroidogenic acute regulatory (StAR) protein gene leads to markedly reduced promoter activity in response to activators of aldosterone synthesis. - A J Casal, V Sinclair, A M Capponi, U Huynh-Do, P Ferrari.

Predicting intradialytic hypotension from experience, statistical models and artificial neural networks. - L Gabutti, M Machacek, C Marone, P Ferrari.

Effects of smoking on renal function in patients with diabetes. - S Orth, T Schroeder, E Ritz, P Ferrari.

Swiss Hypertension and Risk Factor Program: Cardiovascular risk factors management in patients with type 2 diabetes in Switzerland. - A Pechère-Bertschi, P Greminger, P Ferrari, J Philippe.

Pilot pre-phase I/II clinical trial of intrahepatic arterial rhenium-188 lipiodol therapy of unresectable hepatocellular carcinoma.

Factors that influence people from Asian communities access to and delivery of mental health care. - D Wynaden, R Chapman, A Orb, S H Yeak, S McGowan & Z Zeeman.

Needs Assessment of the Research Priorities in Community Health in the South Metropolitan Health Service. A Delphi Survey. - J Downie, S Henderson, D Juliff & A Munns.

A murine model of chronic-inflammation induced intestinal fibrosis down-regulated by antisense NF-κB.

A phase III, international, multicenter, double-blind, placebo-controlled study of the safety, efficacy and tolerability of intravenous Antegren™ (natalizumab) in subjects with moderately to severely active Crohn's disease.

A phase III, international, multicenter, double-blind, placebo-controlled study of the efficacy, safety and tolerability of intravenous Antegren™ (natalizumab) (300 mg monthly) in maintaining clinical response and remission in subjects with Crohn's disease.

A prospective comparative study of ASCA and ANCA in Chinese and Caucasian IBD patients. Correlation between Clinical impression and Neoplastic risk of the Small Colonic Polyp.

Knowledge and quality of life in inflammatory bowel disease: a cross-cultural comparison of Hong Kong and Australian patients.

A Multicenter, Double-Blind, Randomised, Placebo-Controlled Study to evaluate the Safety and efficacy of the addition of MK-0767 to patients with Type 2 diabetes with inadequate glycaemic control on combined Metformin and Sulfonylurea therapy.

AT.LANTUS Study: A Phase IV, Multinational, Multicentre, Randomised, Open Study to establish the Optimal Method for initiating and maintaining Lantus® (Insulin Glargine) therapy based on a Comparison of Two Treatment Algorithms in subjects with Type 1 Diabetes Mellitus.

AT.LANTUS Study: A Phase IV, Multinational, Multicentre, Randomised, Open Study to establish the Optimal Method for initiating and maintaining Lantus® (Insulin Glargine) therapy based on a Comparison of Two Treatment Algorithms in subjects with Type 2 Diabetes Mellitus.

Hypoglycaemic Avoidance with Lantus Trial (HALT) – A Multicentre, Open Clinical Trial to assess the Effect of Insulin Glargine on Symptomatic Hypoglycaemia, Fear of Hypoglycaemia and Quality of Life in Patients with Type-1 Diabetes Mellitus.

Hypoglycaemic Avoidance with Lantus Trial (HALT) – A Multicentre, Open Clinical Trial to assess the Effect of Insulin Glargine on Symptomatic Hypoglycaemia, Fear of Hypoglycaemia and Quality of Life in Patients with Type-2 Diabetes Mellitus.

Effect of AC2993 (Synthetic Exendin-4) Compared with Insulin Glargine in patients with Type 2 Diabetes. Also using combination therapy with Sulfonylurea and Metformin.

A multicenter, randomised, double blind, phase II study versus placebo and metformin. Dose ranging study of S 15261-3 administered orally bid at the doses of 12.5 mg, 25 mg, 50 mg, 100 mg and 200 mg for 12 weeks in type 2 diabetic patients.

An examination of the ethnic differences in insulin use in type 2 diabetes: the Fremantle Study.

Serum cholesterol profiles in diabetic and non-diabetic Malay adults and their children : A cross-sectional study.

Characterisation of the mechanisms of gastrointestinal and hepatic iron transport in hereditary haemochromatosis. - D Trinder, J Olynyk, E Morgan, P Leedman.

Non-invasive measurement and imaging of hepatic iron concentrations using nuclear magnetic resonance - T St Pierre, J Olynyk, G Jeffrey, P Clark, W Chua-Anosorn.

Determining the effects of antiviral therapy on chronic hepatitis C on hepatic oval cells and risk for hepatocellular carcinoma. - J Olynyk, J McHutchison.

Pilot study of medicated honey in chronic venous leg ulcers. – M C Stacey

An investigation of Clinical and Demographic Factors Predicting Aspiration Pneumonia in Acute Stroke Patients in collaboration with Claire Langdon, Masters candidate- data collection completed November 2003.

Publications 1 July 2003 – 30 June 2004

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North Metropolitan Health Service

Population Health Program

The Population Health Program collaborated with the local District Education offices to explore the use of the Canadian Early Development Instrument (EDI). The EDI is a questionnaire designed for teachers of five-year-olds to gauge children's development. The EDI indicates that of the 4,300 children that were observed in the NMHS, 26% are vulnerable and 13% are at high risk of having learning difficulties. This study is a further step towards improving the outlook for children in WA, but is also proving influential in deciding on a national measure of children's development.

The Virtual Infant Parenting (VIP) program is a school-based health promotion program, which aims to reduce negative maternal and child health outcomes associated with unplanned teenage pregnancy. VIP is implemented by Community Nurses in conjunction with GPs. Previous evaluations of VIP, Baby Think it Over and other programs utilising an infant simulator have been limited to short-term attitudinal and behaviour change. This study, conducted by the Population Health Program in conjunction with the Institute for Child Health Research, will follow 2,000 female participants from 13 to 20 years of age. In addition to short-term effects, participants will be followed in the longer-term for maternal and child health outcomes.

Osborne Park Hospital Program

Osborne Park Hospital Program have completed a Gestational Breast Cancer Project by Angela Ives, MSc, Research Associate, WA Safety and Quality of Surgical Care Project, Centre for Health Services Research, The School of Population Health, The University of Western Australia. This project was approved in 2002 and completed July 2003.

Continuing research:

- Research on the Relationship between Time of Hospital Discharge and Depressive Symptoms in the First Three Months Postpartum by A Farcut, MPsych, ECU was approved in April 2004.
- Research by K Giesan on the Cognitive Vulnerability to Depression and research by J Forbes (both ECU) on the Positive Dimension of Depression were both approved in November 2003.
- A number of ongoing projects from previous years continue, including research as part of the National Post-Natal Depression Prevention and Early Intervention Program by S Pope, ECU, and research on 'Why some babies are born big and some small'

by David Coall of the School of Biology, UWA.

Sir Charles Gairdner Hospital

Completed research:

- Development of a research-based web site for researchers at the QEII Medical Centre to share medical research information.
- Development of a research network linking researchers in the QEII MC.
- Development of an educational resource for good clinical research practice for clinical trials in SCGH.
- Completion of needs analysis and development of a planning process for a major research facility on the QEII MC site.
- Completion of a detailed report on all research activity, resources and researchers on the QEII MC site.
- Development of an agreement for establishment of the QEII MC facility of the WA Institute of Medical Research.
- The SCGH Research Advisory Committee supported research by hospital staff and encouraged participation in a large number of research projects. 14 research projects including one PhD research applicant were funded in the 2003 round of grants.
- SCGH was successful in securing two 2003 NHMRC grants. In addition, there are a number of UWA administered NHMRC grant recipients located on site.
- 117 applications were submitted by QEII MC researchers to the Human Ethics Committee.
- SCGH research has produced \$6.3 million for the 2003-2004 period, most of which is provided by pharmaceutical companies and other external sources, who continue to support research at the SCGH site.

Continuing research:

- Supervision of all research activities and allocation of research funding for young hospital-based researchers funded by the SCGH Research Advisory Committee on research on sleep apnoea, asthma, bone thinning in osteoporosis, mesothelioma, brain protection in stroke, and liver disease.
- Allocation of major funds for research from the Foundation for Advanced Medical Research on projects in open heart surgery and falls in the elderly.
- Processing of applications for national competitive funding for research.
- Supervision of approximately \$6m of clinical trials research funded from external sources.
- Supervision of the ethical conduct of clinical research, and the ethical standards of animal research in the QEII MC.

NMHS Area Mental Health Services Neurosciences

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- PhD Title: The application of the Mindfulness treatment for anxiety disorders. Cojoint investigation CCI/UWA. PhD candidate: Mark Craigie. Supervisor: Dr Clare Rees, Senior Lecturer, School of Psychology, Curtin University.

Centre for Clinical Interventions (CCI)

- Nathan, P R, McEvoy, P, Rees, CS (submitted) An Australian Effectiveness Benchmarking Study: Group Cognitive-Behavioural Therapy for Depression and Anxiety in a Community Mental Health Centre. *Journal of Consulting and Clinical Psychology*. (submitted).
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Dept of Psychiatry and Behavioural Sciences

The Family Connections Project was a joint initiative of the Department of Psychiatry and Behavioural Science at SCGH and the Centre for Mental Health Services Research. The Office of Mental Health funded it as a QI project. It was developed to improve services offered to family members and relatives experiencing a first episode of mental illness. A systemic psycho-educational program was designed and implemented over a 12 month period. The results of the study showed that families value a program that focuses upon family wellbeing in the areas of increased knowledge of mental illness, ameliorating caregiver burden and increasing satisfaction with mental health services.

John Walsh, Lauren Shiels, Ee Mun Lim, Chootooi Bhagat, Lynley C Ward, Bronwyn Stuckey, Satvinders Dhaliwal, Gerald T Chew, Minott C Bhagat, Andrea J Cussons. Combined Thyroxine/Liothyronine treatment does not improve wellbeing, quality of life or cognitive function compared to thyroxine alone: a randomised controlled trial in patients with primary hypothyroidism. *J Clinical Endocrinology and Metabolism*

Dr Lee

"Effectiveness of Olanzapine in Tablet and Wafer Forms on Improving Negative Symptoms in the treatment of inpatients with schizophrenia" (Principal Investigator at Graylands Hospital).

Published Abstracts

Graves, A, Frencham, K & Panegyres, PK (2003). The clinical differentiation of fronto-temporal lobar degeneration from psychiatric disorder. *Australian Journal of Psychology*, 55S, 155.

Panegyres, PK, Frencham, K & Davis, S (2003). The aetiology and natural history of cognitive decline in young adults: A five year cohort study of 201 patients. *Australian Journal of Psychology*.

Evaluation of referral source satisfaction with neuropsychology reports and other Neurosciences Services (C Connor & C Hoeltje).

A Comparison of Three Memory Tests of Biased Responding to Detect Sub-optimal Effort in a Litigating and Non-litigating Clinical Population. (Dr C. Connor & A/Prof. J Foster). A study evaluating the cognitive sequelae of different types of anaesthesia (in collaboration with

Anaesthetists at Sir Charles Gairdner Hospital). (A/Prof. J. Foster).

Research into the Clinical Differentiation of Fronto-Temporal Lobar Degeneration from Psychiatric Disorder. (A Graves, K Frencham & PK Panegyres).

The aetiology and natural history of suspect dementia in young adults. (PK Panegyres, K Frencham and S Davies).

Huntington's Disease and the orbitofrontal circuit: aggression, executive dysfunction and functional independence (R Zombor).

Genetic Discrimination in Australia: an exploration of the nature and extent of the phenomenon within the legal and social context. (In collaboration with Dr Sandy Taylor, Department of Social Work and Social Policy, University of Queensland; Assoc. Professor Otlowski, Faculty of Law, University of Tasmania and Dr Barlow-Stewart of the Genetics Education Program in Sydney). (Dr C Connor).

Effects of allergic rhinitis on cognitive functioning in children (J Foster, et al).

Effects of upper airway obstruction on cognitive functioning (J Foster, et al).

Glucose and cognitive functioning (J Foster, et al).

The effects of exercise on cognitive functioning (J Foster et al).

Investigating the cognitive correlates of diabetes and dementia (J Foster, et al).

Biological/genetic predictors and associates of cognitive change and decline (J Foster, et al).

Cognitive dysfunction in degenerative disease (P Panegyres, C Connor & J Foster). The cognitive sequelae of IV versus volatile anaesthesia (J Foster, et al).

The Neurobiological Predictors of Huntington's Disease (Predict HD) is a study funded by the National Institute of Health and is being conducted through the Huntington Study Group. The goal of Predict HD is to determine the earliest signs of active disease in at-risk persons so that future clinical trials of new drugs to delay onset of HD can be administered at the earliest optimal time. This is the first large scale study to recruit at-risk persons who have undergone predictive testing. Predict HD is an international study involving over 500 people and is being carried out at over 25 sites across Canada, Australia and the United States of America.

Centre for Clinical Interventions (CCI)

- Continuing evaluation of CCI evidence-based treatment manuals.
- Development, implementation and evaluation of new treatment protocols.
- Development, implementation and evaluation of new modular-based clinical treatment protocols for individual psychotherapy.
- Benchmarking individual evidence-based treatments at CCI with international benchmarks.
- The relation between training and competence; and outcomes in evidence-based treatments.
- Therapeutic processes in evidence-based group psychotherapy.
- The therapeutic - patient alliance in evidence-based psychotherapy.
- Individual differences and outcomes in evidence-based practice (collaboration with A/Prof. Andrew Page, the School of Psychology, UWA).
- Bipolar Disorder and Anxiety Co-morbidity.
- Bipolar Self-Efficacy Project.
- Complex and disabling social anxiety disorder.
- Vulnerability to depression and the role of conditional goal setting (collaboration with Dr Street - School of Psychiatry and Clinical Neurosciences, UWA).
- Attitudes of mental health practitioners to evidence-based practice (collaboration with Dr Street - School of Psychiatry and Clinical Neurosciences, UWA; Dr Clare Rees, Senior Lecturer, School of Psychology, Curtin University).
- Quality of Life in complex mental health disorders.

Dept of Psychiatry and Behavioural Sciences

- What is the optimal serum TSH concentration during Thyroxine treatment for primary hypothyroidism? Effects of fine titration of thyroxine dosage on wellbeing, quality of life and cognitive function.
- A Dialectical Behaviour Therapy program for women with Borderline Personality Disorder has been completed and is being evaluated. An article is being prepared for publication entitled: [24 hour Heart Rate as a predictor of treatment outcome for women with Borderline Personality Disorder.](#)

Graylands Hospital Dr Lee

- Antipsychotic medication and cannabis use effects on prepulse inhibition of the startle reflex in schizophrenia (as co-investigator with Associate Professor Mathew Martin-Iverson).
- e-STAR Electronic Schizophrenia Treatment Adherence Registry - An observational registry to collect data on patients with schizophrenia receiving treatment with Risperdal Consta. (Principal Investigator).

- A prospective observational study of intramuscular antipsychotic medications (Principal Investigator at Graylands Hospital to commence in May 2004).
- ACTAMESA: Active-Controlled, Two-Armed Multicentre, Efficacy & Safety Assessment of Asenapine (Organon 5222) and Olanzapine in the treatment of Patients with Schizophrenia or Schizoaffective Disorders. (Co-investigator).

Centre of Clinical Research in Neuropsychiatry (CCRN)

At CCRN we apply the dual arms of risk factor epidemiology and clinical research to the study of serious mental illness. Schizophrenia and related conditions is the principal, but not the exclusive, focus of this research effort. Besides centre staff, there are 17 PhD students involved in this research program. The discovery of more effective treatments and prevention strategies in schizophrenia depends critically on progress in the understanding of its aetiology.

Western Australian Family Study Of Schizophrenia (WAFSS)

The WAFSS has the broad aim to refine the clinical and neurocognitive characterisation of the disorder, to identify biological trait markers suitable for genetic research into its causation, and to conduct molecular genetic studies with the ultimate objective of discovering genes that confer risk of developing schizophrenia. The main findings, thus far, as summarised below.

Molecular genetics

Using a subset of the WA families, we obtained suggestive evidence of genetic linkage to chromosome 6p for a pervasive deficit subtype. More recently, we obtained genome-wide significant linkage for this deficit subtype in a narrow region on chromosome 6p and on chromosome 10q. The magnitude of the linkage is sufficient to justify genomic searches for specific genes that may be involved in causal pathways of schizophrenia. The recruitment from Germany of Prof. Dieter Wildenauer and Dr. Sibylle Schwab provides a strong impetus to our neurogenetics research, which is likely to focus increasingly on genomic studies in the next few years. Already this has led to the establishment of the CCRN-WAIMR genetics laboratory.

Neurophysiology: Mismatch Negativity

CCRN findings support the suggestion that reduced MMN amplitude, an auditory event-related brain potential, may be an endophenotype marker of the genetic predisposition to schizophrenia.

Neuropsychology

A number of studies have targeted specific deficits of working memory, inhibitory processes, and speed of information processing. An example is the CCRN study of people with schizophrenia who show preserved intellectual ability. We found that individuals with preserved general ability still experience enduring cognitive difficulties, related to the speed of processing, similar to that found in the deteriorated or compromised groups.

Behavioural pharmacology: Prepulse inhibition and animal studies

Research conducted by A/Professor Matt Martin-Iverson and several PhD students is focused on the prepulse inhibition (PPI) of the acoustic startle reflex, which provides a model of the putative sensory gating deficit in schizophrenia. This ongoing research program continues to provide insights into neurobiochemistry of schizophrenia.

Record Linkage Epidemiology

Population-based epidemiological research is a major component of the ongoing work at CCRN.

Developmental outcomes in children at high genetic risk

Some of the early findings highlight an unexpectedly broad spectrum of morbidity and developmental aberrations – such as a sixfold increase in the relative risk for learning disability among the children of women with schizophrenia and a fivefold increase in epilepsy among the children of women with bipolar disorders.

Criminal offending and schizophrenia

In this study we have linked the psychiatric records of some 220,000 persons on the Mental Health Information System (MHIS) with close to 390,000 individual records of various offences on the research database created by the UWA Crime Research Centre.

Intellectual disability and psychiatric illness

This ongoing study will result in a State-wide database identifying persons with a co-morbid psychiatric disorder and intellectual disability, thereby allowing more systematic investigations of this population than it had been possible to date.

This sample of CCRN studies, plus the many not listed, have already generated a wealth of novel data converging on a working model of schizophrenia as a complex, heterogeneous disorder (see Grants and Publications below). We are planning to increase further the size of our sample of families with schizophrenia and develop an epidemiological sampling frame for case-control studies. An important priority will be the judicious translation of some of our research findings – especially those related to the neurocognitive sub-typing of schizophrenia – into prospective clinical trials of selected interventions.

But, an overriding concern should be that future, hopefully groundbreaking, research into the nature of schizophrenia and other major psychiatric disorders, will require large-scale data collection that can only be achieved through extended collaborative networks.

Publications 2003-04 and In Press

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- Hallmayer JF, Jablensky A, Michie P, Woodbury M, Salmon B, Combrinck J, Wichmann H, Rock D, D'Ercole M, Howell S, Dragović M, Kent A (2003). Linkage analysis of candidate regions using a composite neurocognitive phenotype correlated with schizophrenia. *Molecular Psychiatry*, 8: 511-523.
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- Lawrence D, Holman CD, Jablensky A, Hobbs M (2003). Death rate from ischaemic heart disease in Western Australian psychiatric patients 1980-1998. *British Journal of Psychiatry*, 182: 31-36.
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- Badcock JC, Williams RJ, Anderson M, Jablensky A. Speed of processing and individual differences in IQ in schizophrenia: general or specific cognitive deficits? *Cognitive Neuropsychiatry* (in press).
- Badcock JC, Michie P, Rock D. Spatial working memory and planning ability: Contrasts between schizophrenia and bipolar I disorder. *Cortex* (in press).
- Badcock JC, Waters FAV, Maybery MT, Michie PT. Auditory hallucinations: failure to inhibit irrelevant memories. *Cognitive Neuropsychiatry* (in press).
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Abbreviations

ABS	Australian Bureau of Statistics
ACAT	Aged Care Assessment Team
ACEM	Australasian College for Emergency Medicine
ACHS	Australian Council of HealthCare Standards
ACIR	Australian Childhood Immunisation Register
AHS	Armadale Health Service
AIDS	Acquired Immunodeficiency Syndrome
AIMS	Australian Incident Monitoring System
AIMS	Adverse Incidents Monitoring System
AKMH	Armadale Kelmscott Memorial Hospital
ALHMWU	Australian, Liquor, Hospitality and Miscellaneous Workers Union
ALSO	Acute Life Support in Obstetrics
AMHS	Area Mental Health Service
AMI	Acute Myocardial Infarction
ANTA	Australian National Training Authority
APGAR	Activity (muscle tone/movement), Pulse, Grimace (reflex), Appearance (skin colour - blue etc), Respiration
ASHI	American Society of Histocompatibility & Immunogenetics
BHS	Bentley Health Service
CAMHS	Child And Adolescent Mental Health Service
CAMS	Centre for Anaesthesia Skills and Medical Simulation
CAP	Care Awaiting Placement
CCRN	Clinical Research in Neuropsychiatry
CENA	College of Emergency Nursing Australasia
CIVAS	Central Intravenous Additive System
CNE	Centre for Nursing Education
CPDSS	Country Patients' Dental Subsidy Scheme
CPI	Consumer Price Index
CPU	Child Protection Unit
CT	Computed Tomography
DHS	Dental Health Service
DMFT	Decayed, missing or filled teeth
DMG	Diverse Management Group
DNA	deoxyribonucleic acid
DOH	Department of Health
DRG	Diagnostic Related Groups
DVT	Deep Venous Thrombosis
ECU	Edith Cowan University
ED	Emergency Department
EDI	Early Development Instrument
EEO	Equal Employment Opportunity
ELISA	Enzyme Linked Immunosorbent Assay
EMHS	East Metropolitan Health Service
EQUIP	Evaluation and Quality Improvement Program
FHHS	Fremantle Hospital and Health Service
FISH	Fluorescence In Situ Hybridisation
FOI	Freedom of Information
FTE	Full Time Equivalent
GP	General Practitioner
HACC	Home and Community Care
HEPA	High Efficiency Particulate Air
HIP	Health in Pregnancy
HIV	Human Immunodeficiency Virus
HMDS	Hospital Morbidity Data System
HR	Human Resource
HRC	Health Reform Committee
HRMC	Human Resource Management Committee
HSD	Highly Specialised Drugs
ICMHS	Inner City Mental Health Service
ICU	Intensive Care Unit

ISO	International Standards Organisation
IT	Information Technology
KEMH	King Edward Memorial Hospital for Women
MERITS	Medical Record Tracking System
MHIDP	Mental Health Information Development Plan
MHS	Mental Health Service
MHS	Metropolitan Health Service
MPDSS	Metropolitan Patients' Dental Subsidy Scheme
MRI	Magnetic Resonance Imaging
MSOAP	Medical Specialist Outreach Assistance Program
NAATI	National Accreditation Authority for Translators and Interpreters
NATA	National Association of Testing Authority
NDHP4	National Demonstration Hospitals Program Phase 4
NHMRC	National Health Medical Research Council
NIH	National Institutes of Health
NMHS	North Metropolitan Health Service
NOCC	National Outcome Casemix Collection
NOF	Neck of Femur
OHCWA	Oral Health Centre of WA
OPH	Osborne Park Hospital
OPHP	Osborne Park Hospital Program
OPSSC	Office of Public Sector Standards Commissioner
OS&H	Occupational Safety and Health
OT	Occupational Therapist
PARKHS	Peel and Rockingham/ Kwinana Health Service
PACS	Picture and Archiving Communication System
PBS	Pharmaceutical Benefits Scheme
PCR	Polymerase Chain Reaction
PET	Positron Emission Tomography
PGME	Post Graduate Medical Education
PHP	Population Health Program
PID	Public Interest Disclosure
PIMS	Patient Information Management System
PMH	Princess Margaret Hospital
PR	Public Relations
PSOLIS	Psychiatric Services Online Information System
QEII MC	Queen Elizabeth II Medical Centre
RCPA	Royal College of Pathologists of Australasia
RKDH	Rockingham Kwinana District Hospital
RKHS	Rockingham Kwinana Health Service
RN	Registered Nurse
RPH	Royal Perth Hospital
SCGH	Sir Charles Gairdner Hospital
SCSEP	Statewide Clinical and Service Enhancement Program
SHED	State Health Emergency Director
SHMT	State Health Management Team
SHS	Swan Health Service
SKHS	Swan Kalamunda Health Service
SMHS	South Metropolitan Health Service
SMMHS	South Metropolitan Mental Health Service
TOPAS	The Open Patient Accounting System
TTY	Teletypewriter
UWA	University of WA
VRE	Vancomycin-Resistant Enterococci
WAIMR	WA Institute for Medical Research
WANEP	Western Australian Neonatal Education Program
WCHS	Women's and Children's Health Service

Australian Council on Healthcare Standards (ACHS)

The ACHS is an independent, not-for-profit organisation, dedicated to improving the quality of health care in Australia through continual review of performance, assessment and accreditation.

Acute Myocardial Infarction (AMI)

Also known as a heart attack. It literally means sudden death of heart muscle. AMI results in sudden, severe chest pain that occurs when a portion of the heart no longer receives oxygen-rich blood, usually due to total or near-total blockage of a coronary artery by a blood clot formed in an area already narrowed by plaque. The surrounding heart muscle dies and the heart stops working effectively.

APGAR Score

The Apgar score is given to newborns and occurs right after a baby's birth. The Apgar test is usually given to a baby twice: once at 1 minute after birth, and again at 5 minutes after birth. Rarely, if there are serious problems with the baby's condition and the first two scores are low, the test will be scored for a third time at 10 minutes after birth. Five factors are used to evaluate the baby's condition, heart rate (pulse), breathing (rate and effort), activity, grimace (reflex irritability) and appearance (skin colouration) and each factor is scored on a scale of 0 to 2.

CT Scan

A Computed Tomography scan or CT is a diagnostic imaging procedure that uses a combination of x-rays and computer technology to produce cross-sectional images (often called "slices"), both horizontally and vertically, of the body. A CT scan shows detailed images of any part of the body, including the bones, muscles, fat, and organs. CT scans are more detailed than general x-rays. This diagnostic tool is sometimes referred to as a CAT scan.

Community Treatment Order

Community Treatment Orders (CTOs) were introduced to Western Australia as part of the *Mental Health Act 1996* (the 'Act') which came into force on 13 November 1997. In line with the use of CTOs in other jurisdictions and Part 9, '*Involuntary treatment in the community*', of the Model Mental Health Legislation document, the introduction of CTOs was seen as a way patients would receive treatment, if necessary without their consent, while living in the community. This form of involuntary treatment was viewed as a less restrictive option than being a detained patient in an authorised hospital and would reduce the 'revolving door' of admission, discharge and readmission that had become so common for many people with a mental illness.

DNA (deoxyribonucleic acid)

DNA molecules carry the genetic information necessary for the organization and functioning of most living cells and control the inheritance of characteristics.

Deep Vein Thrombosis

This is another name for blood clots that form in the deep veins of the legs and pelvis. People recovering from abdominal surgery are at increased risk for these clots, as are overweight individuals. Symptoms may include pain, swelling or no symptoms at all. If untreated, the clot could travel to the lungs.

ECG (Electrocardiogram)

Electrocardiogram (ECG or EKG) is the graphic record of the heart's electrical currents obtained with the electrocardiograph, an instrument designed for recording the electrical currents that traverse the heart and initiate its contraction.

Early Development Instrument (EDI)

The Early Development Instrument: A Population-based Measure for Communities (EDI) is a research tool to gauge school readiness of children at the junior and senior kindergarten level, that is, just before entering grade one. It can evaluate the effectiveness of community environments and resources for groups of children and help communities decide how best to support their young children. It can be employed as a predictor of later school performance for groups of children. When it is widely administered, comparisons can be made of the patterns of school readiness for groups of children and the effectiveness of different communities. It can be used as a first-stage screen to identify children that may require special assessments and interventions.

Hospital Morbidity Data System (HMDS)

Hospital Morbidity Data System is part of the Health Data Collection program of the Health Information Centre Directorate. The HMDS collects in-patient discharge summary data from all public and private hospitals in Western Australia.

Human Immunodeficiency Virus (HIV)

A retrovirus of the subfamily lentivirus that causes acquired immunodeficiency syndrome (AIDS). The most common type of HIV is HIV-1, identified in 1984. HIV-2, first discovered in West Africa in 1986, causes a loss of immune function and the subsequent development of opportunistic infections identical to HIV-1 infections. The two types developed from separate strains of simian immunodeficiency virus.

Ischaemic Heart Disease

A serious problem caused by inadequate circulation of blood to the heart muscle. The blood flow to the heart is reduced due to a narrowing of heart arteries by cholesterol deposits. Ischemic heart disease is often the major underlying disorder for heart attacks as well as the chronic condition of angina. Ischemic heart disease is also called coronary artery disease.

MRI (Magnetic Resonance Imaging)

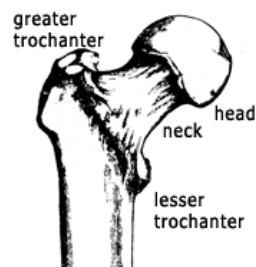
MRI (Magnetic Resonance Imaging) is one of the latest diagnostic methods for viewing inside the body. MRI is very useful for detecting abnormalities of the brain and spinal cord, blood vessels and other internal organs. MRI is a way of creating pictures of your body that does not use X-rays or radiation. The MRI machine makes pictures by organising and collecting the magnetic fields that naturally occur within the body. MRI pictures show the soft tissues of the body (muscles, nerves, brain, discs, ligaments etc). During an MRI scan, pictures are taken from different angles and a computer processes these to produce a detailed picture of the body part being scanned.

Methicillin-resistant staphylococcus aureus (MRSA)

The organism *Staphylococcus aureus* or *Golden Staph* is found on many individuals skin and seems to cause no major problems. However if it gets inside the body, for instance under the skin or into the lungs, it can cause important infections such as boils or pneumonia. Individuals who carry this organism are usually totally healthy, have no problems whatever and are considered simply to be carriers of the organism. MRSA is a strain of this organism that are resistant to commonly used antibiotics. Methicillin was an antibiotic used many years ago to treat patients with *Staphylococcus aureus* infections. It is now no longer used except as a means of identifying this particular type of antibiotic resistance. MRSA organisms are often associated with patients in hospitals but can also be found on patients not in a hospital. Usually it is not necessary to do anything about MRSA organisms. However if MRSA organisms are passed on to someone who is already ill, then a more serious infection may occur in that individual. When patients with MRSA are discovered in a hospital, the hospital will usually try to prevent it from passing around to other patients. This is known as infection control.

Fractured Neck of Femur

The femur or thigh bone is the longest, largest and strongest bone of the human body. The femur's head forms a ball-and-socket joint at the hip. Classically, this is a fracture of old age that effects men and women in their seventies and eighties. It is often caused when diseases such as osteoporosis have weakened the bone.



Occupational Therapist (OT)

Occupational therapists (OTs) help people improve their ability to perform tasks in their daily living and working environments. They work with individuals who have conditions that are mentally, physically, developmentally, or emotionally disabling. They also help them to develop, recover, or maintain daily living and work skills. Occupational therapists help clients not only to improve their basic motor functions and reasoning abilities, but also to compensate for permanent loss of function. Their goal is to help clients have independent, productive, and satisfying lives.

Pertussis

Commonly called "whooping cough, pertussis is an infectious disease marked by a severe, dry cough. The prevalence of Pertussis can be reduced through immunisations.

Positron Emission Tomography (PET)

Positron emission tomography, also called PET imaging or a PET scan, is a diagnostic examination that involves the acquisition of physiologic images based on the detection of positrons. Positrons are tiny particles emitted from a radioactive substance administered to the patient. The subsequent views of the human body developed by this technique are used to evaluate a variety of diseases. PET scans are used most often to detect cancer and to examine the effects of cancer therapy by characterizing biochemical changes in the cancer. These scans are performed on the whole body. PET scans of the heart can be used to determine blood flow to the heart muscle and help evaluate signs of coronary artery disease. PET scans of the heart can also be used to determine if areas of the heart that show decreased function are alive rather than scarred due to a prior heart attack, called a myocardial infarction. PET scans of the brain are used to evaluate patients who have memory disorders of an undetermined cause; who have suspected or proven brain tumors; or who have seizure disorders that are not responsive to medical therapy and, therefore, are candidates for surgery.

Public Interest Disclosure (PID)

The *Public Interest Disclosure Act 2003* commenced operation on 1 July 2003. The object of the Act is to:

- ~ facilitate the disclosure of public interest information;
- ~ provide protection for those who make disclosures; and
- ~ provide protection for those who are the subject of a disclosure.

This is achieved by:

- ~ protecting the person making the disclosure from legal or other action;
- ~ providing for the confidentiality of the identity of the person making the disclosure and a person who is the subject of a disclosure; and
- ~ providing remedies for acts of reprisal and victimisation that occur substantially because the person has made a disclosure.

State Health Management Team (SHMT)

The SHMT was first established in November 2001. The SHMT assists the Director General of Health in leading and managing the State health system.

Service Animals

Service animals perform some of the functions and tasks that the individual with a disability cannot perform for themselves. "Seeing eye dogs" are one type of service animal, used by some individuals who are blind.

This is the type of service animal with which most people are familiar. But there are service animals that assist persons with other kinds of disabilities in their day-to-day activities. Some examples include:

Alerting persons with hearing impairments to sounds.

Pulling wheelchairs or carrying and picking up things for persons with mobility impairments.

Assisting persons with mobility impairments with balance.

Vancomycin Resistant Enterococci (VRE)

Enterococci are bacteria found in the faeces of most humans and many animals. The commonest infections caused by enterococci are urinary tract infections and wound infections. These, and a variety of other infections, including infection of the blood stream (bacteraemia), heart valves (endocarditis) and the brain (meningitis) can occur in severely ill patients in hospital. Enterococci also frequently colonise open wounds and skin ulcers. Enterococci are amongst the most antibiotic resistant bacteria isolated from humans.

Vancomycin is an antibiotic used to treat serious infections. Sometimes, the enterococci germs become resistant to certain antibiotics, including Vancomycin. This means the drugs are no longer effective against them, making it harder to treat infection. These resistant germs are called Vancomycin Resistant Enterococci (VRE).