PROPOSAL

Clinical Research Centre for Familial Disorders of Lipid Metabolism, Royal Perth Hospital, University of Western Australia.
Purpose

➢ To establish a collaborative research centre that will increase clinical knowledge of genetic disorders of lipid metabolism and improve the outcomes of families suffering from these conditions across a wide continuum of care.
Health Networks Branch
Report Template
Australian Better Health Initiative
Department of Health of the Government of Western of Australia

Familial Hypercholesterolaemia Program WA (FHWA)
Key Facts about FH

- Marked hypercholesterolaemia
- Premature coronary artery disease
- Dominantly inherited, high penetrance
- LDL receptor mutation
- Prevalence at least 1:500
- Less than 15% of families diagnosed
Why Screen for FH?

- Serious consequences from birth
- Absent signs and symptoms in young
- Good tests
- Good therapy
- Cost-effective
- Responsibility
Clinical Disorders

- Hypercholesterolaemia
- Combined Hyperlipidaemia
- Dysbetaliproteinaemia
- Chylomicronaemia
- Hypobetalipoproteinaemia
- Obesity
- Insulin Resistance
- Metabolic Syndrome
Possible Key Investigators

- W/Professor G F Watts
- Professor F van Bockxmeer
- C/Professor JR Burnett
- W/Professor PHR Barrett
- W/Professor J Emery
- A/Professor A Kirke
- Dr A Martin
- Dr R French
- C/Professor J Goldblatt
- Professor P Davidson
- R/Professor T Mori
- A/Professor D Playford
- Professor D Liew
- E/Professor TG Redgrave
- A/Professor H Dawkins
- C/Professor S Towler
Disciplines

- Cardiology
- Paediatrics
- Biochemistry
- Genetics
- Psychology
- Nursing
- Therapeutics
- Pharmacy
- General Practice
- Rural Health
- FH Australasia Network
- Cardiovascular Network, DHWA
- Epidemiology and Health Economics
Resources

- Clinical Trials Unit
- Metabolic Research Unit
- Mass Spectrometry Facility
- Cardiovascular Imaging Facility
- Cardiovascular Genetics Laboratory
- Systems Biology and Biostatistics Facility
- Health Economics Unit

- Lipid Disorders Clinic
- Cardiometabolic Clinic
- Coronary Care Unit
- FHWA Program
- Health Networks WA
- FH Australasia Network
- Masters of Clinical Research Program
- Industry links
National and International Collaborations

- FH Australasia Network, Australian Atherosclerosis Society
- Health Networks, Department of Health of Western Australia
- Cardiovascular Genetics Council, CSANZ
- FH Family Support Group, GS Council WA
- Office of Population Health Genomics, Department of Health of Western Australia
- School of Primary, Aboriginal and Rural Health Care, UWA
- International Cholesterol Foundation
- **Universities**: Adelaide, Melbourne, Sydney, Queensland, Griffiths, Otago, London, Amsterdam, Rotterdam, Copenhagen, Hong Kong, Cape Town, Singapore
Familial hypercholesterolaemia: A model of care for Australasia

(Australian Atherosclerosis Society)
Training and Education

- Masters of Clinical Research Program
- Research Seminars
- Journal Clubs
- UWA support courses
- Medical undergraduates
- Mentored PhD
- FRACCP trainees
Governance

• Steering Committee
• Research Meetings
• Budget Meetings
• Hospital Executive
• Quality Improvement Committee
• Ethics Committee
Sample Research Projects

1. Assessment of screening methods in primary care
2. Phenotypic predictors of genetic mutations
3. Prevalence in premature myocardial infarction
4. Investigation of effectiveness of LDL-apheresis
5. Health economic evaluation of cascade screening
6. Fatty liver disease in familial hypobetalipoproteinaemia
Research Projects

7. New diagnostic genetic tests for FH
8. Postprandial lipid metabolism and treatments
9. Characterisation of novel mutations in chylomicronaemia
10. Nutritional regulation of lipid metabolism
11. Effectiveness of cascade screening in the young
12. Practical aspects of setting up a national registry
13. Psychological impact of cascade screening in families
14. Value of vascular imaging in targeting therapy
15. Investigation of new CV risk factors: Lp(a), CRP, PLA₂
Funding to Date 2008-12

- NHMRC: Project and CD Research Fellow
- Health Networks DHWA: FHWA Program
- Australian Better Health Initiative: FHWA
- UWA VC Strategic Funds: Genetics Laboratory
- PathWest: Genetics Service
- Val Lishman Foundation: FHSW
- Lotteries Commission: FHSW
The proposed CRC focuses on an unmet clinical need in coronary prevention in high risk individuals and families.

Developed from clinicians and scientists collaborating to provide excellence in value across continuum of care for patients with familial hypercholesterolaemia.

Multidisciplinary approach has triggered a research culture with translational, transfer and utilization value.

Existing governance structure and opportunities for health policy with links to DHWA.
Next Steps?

• Stakeholder workshops
• Seeding grants, PhD students
• Concrete evidence of collaboration
• Joint publications
• Consolidate clinical service
• UWA Centre
• Academic-service partnership