

RESEARCH, EDUCATION & ETHICS

Models for Clinical Research - Alfred Medical Research and Education Precinct (AMREP)

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Alfred Medical Research and Education Precinct (AMREP)

- ALFRED HOSPITAL
 - Major clinical services for southern Melbourne
- AMREP Research Partnerships
 - Australian Centre for Blood Diseases
 - Baker IDI Heart & Diabetes Institute
 - Bayside Health
 - Burnet Institute
 - Monash University
 - La Trobe University



Alfred Medical Research and Education Precinct (AMREP)

RESOURCES

- The Ian Potter Library
- AMREP Education Centre
- Flow Cytometry facilities
- Confocal Microscopy facilities
- The Alfred Research & Ethics Unit
- Precinct Animal Centre



Alfred Medical Research and Education Precinct (AMREP)

AMREP Research Partnerships

- Australian Centre for Blood Diseases
- Baker IDI Heart & Diabetes Institute
 - cardiovascular disease & diabetes
- Bayside Health
 - heart / lung transplantation; haematology; cancer radiotherapy
- Burnet Institute
 - infectious diseases; immunology; public health
- Monash University
 - epidemiology; clinical school; immunology
- La Trobe University

Nucleus Network



Burnet Institute Research - overview

- THEMES
 - Infectious diseases
 - Vaccines, diagnostics & therapeutics
 - Disease prevention
 - Education & capacity building
- RESEARCH CENTRES

– Virology	– Population Health
– Immunology	– International Health

Within and beyond AMREP



Burnet Institute for Medical Research & Public Health

Population Health / International Health

- Infectious disease transmission
- Risk behaviours
- HIV, hepatitis, malaria, TB
- Immunology
- Cancer & inflammatory disease



STAFF:
350 in Melbourne
>100 in 11 offices; 7 countries




Burnet Institute translational research

Immunology / Immunotherapies

Inflammatory Diseases

Cancer & Infectious Diseases

Immuno-monitoring



Clinical Research Excellence

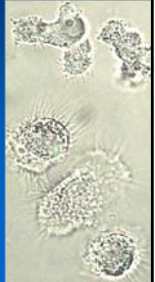
Burnet Institute translational research

Immunology / Immunotherapies

Cancer

- direct injection of 'cancer antigen'
 - Phase I trials, >100 patients
 - ineffective
- dendritic cells + cancer antigen
 - Phase I & II trials, 42 patients
 - indicative clinical responses

The 'right' strategy is needed



Clinical Research Excellence


Burnet Institute Research - overview

Immunology / Immunotherapies

Chronic Hepatitis C infection

Associated with liver cancer

- dendritic cells + lipopeptide antigen
 - Phase I trial
 - NIH funding
 - Cell Therapies cGMP facility (Peter Mac)
 - indicative immune responses
 - ongoing research



Clinical Research Excellence

Burnet Immunology cGLP Laboratory

Immune monitoring

- from the immunotherapy research:

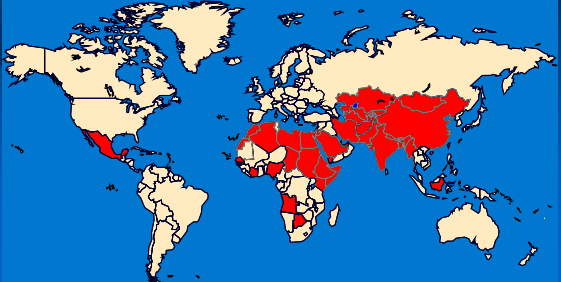
- Assist development of vaccines & immunotherapeutics
 - Move candidates more quickly into human clinical trials
- Provide the expertise of cGLP processes for specialized immunology assays
- Support Burnet & AMREP research
- A subcontracting facility

Clinical Research Excellence

Burnet Institute translational research

- a "point of care" diagnostic test for Hepatitis E virus

Geographic distribution of human HEV

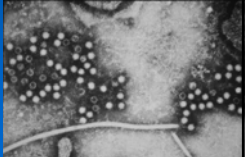


Clinical Research Excellence

Burnet Institute translational research

- a "point of care" diagnostic test for Hepatitis E virus

- Symptoms - malaise, anorexia, abdominal pain, fever
- Fatality: 0.1 – 1%; but ~20% in pregnant women
- Waterborne epidemics: diagnosis & prevention of spread are best controls
- Infection is clinically indistinguishable from hepatitis A, thus diagnosed by antibody levels

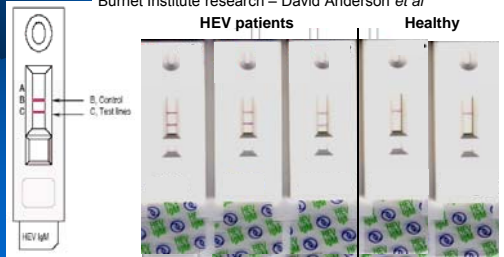


Clinical Research Excellence

Hepatitis E IgM rapid test

- Genelabs Diagnostics (MP Biomedical) Assure™
- licensed from Select Vaccines Ltd

Burnet Institute research – David Anderson *et al*



Clinical Research Excellence

HEV point of care Diagnostics

Genelabs Diagnostics (MP Biomedical) Assure™
- licensed from Select Vaccines Ltd

Burnet Institute research – David Anderson *et al*

Study	Sensitivity (n)	Specificity (n)
Nepal, PR China	96.7% (n=151)	98.6% (n=208)
Nepal, PRC, Indonesia	93.0% (n=200)	100% (n=275)
PR China*	97.0% (n=502)	96.5% (n=683)
Overall	96.0% (n=853)	97.7% (n=1166)

* Two site clinical trial in China

Clinical Research Excellence

Burnet Institute translational research the Networks II study of Hepatitis C virus in the Melbourne area

- IDUs followed for > 3 years
- 374 recruited
- 196 had multiple bleeds and interviews (max 9, min 5)



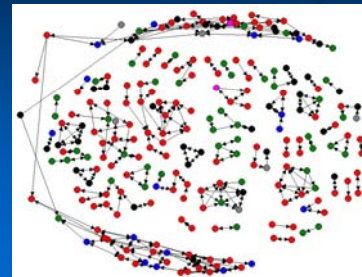
Clinical Research Excellence

Using social networks of injecting drug users to understand the transmission of hepatitis C

Networks II – longitudinal cohort study
of hepatitis C transmission in IDUs

Network studies
examine “risk”

Investigate the effects
of relationships
between individuals



Clinical Research Excellence

Burnet Institute translational research Population Health – the Networks II study of Hepatitis C virus in the Melbourne area

- Improved understanding of HCV incidence: for both naïve & recurrent infections
- HCV reinfection is far more common than previously recognised
- Evidence that some IDUs avoid HCV infection despite behavioural and immunological evidence of repeat risk behaviour with infectious partners

Clinical Research Excellence

Burnet Institute translational research Population Health – the Networks II study of Hepatitis C virus in the Melbourne area

- Demonstration that network factors are important to determine exposure to HCV
- Identified recombinant adenoviral constructs for HCV immunotherapy & vaccine development
- Observed superinfection (mixed genotype) and genotype change in IDUs at a similar rate to new infections
- Treatment implications for superinfection & genotype change

Clinical Research Excellence

Burnet Institute for Medical Research & Public Health

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Where we work



AMREP development



AMREP development

- Expansion of facilities
 - Bayside Health
 - Burnet Institute
 - Baker IDI Heart & Diabetes Institute
 - Monash University
 - La Trobe University
- Recruitment



AMREP development

Alfred Centre Stage 2 – Punt Road

