APPRISE
the Australian Partnership for Preparedness Research on Infectious Disease Emergencies

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Strengthening Australia’s emergency response to infectious diseases through high-impact research
Create evidence base for Australia’s response to:

- New pathogens emerging in Australia
- New pathogens emerging outside Australia
- Existing pathogens that become of concern locally or regionally

**APPRISE**

- What do we want to do (when)?

<table>
<thead>
<tr>
<th>Year 1: 2016-2017</th>
<th>Years 2-5: 2017-2021</th>
<th>Ongoing</th>
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<tr>
<td>Consultation and stakeholder identification</td>
<td>Implementation of research priorities</td>
<td>Sustainable networks, practices and capacity</td>
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APPRISE

20 CIs & Alts: 16 institutions (40+ collaborators)

CHIEF INVESTIGATORS

Prof Sharon Lewin The University of Melbourne
Prof Tania Sorrell Westmead Millennium Institute
Prof Jodie McVernon The University of Melbourne
Prof Steve Webb University of Western Australia
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Prof David Smith Pathwest Laboratory Medicine WA
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ASSOCIATE INVESTIGATORS

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A/Prof Kristine Macartney The Children’s Hosp. at Westmead
Adj/Prof David Irving Australian Red Cross Blood Service
A/Prof Stephen Lambert University of Queensland
Prof Adrian Miller Griffith University
Prof Scott Ritchie James Cook University
A/Prof David Anderson Burnet Institute

Who are we?

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- Prof David Smith, PathWest Laboratory Medicine WA
- Prof Soren Alexanderson, University of Melbourne

**ASSOCIATE INVESTIGATORS**
- Prof David Paterson, University of Queensland
- Prof Nigel Stocks, University of Adelaide
- Dr Peter Massey, James Cook University
- Prof Anne Sawyer, University of Sydney
- A/Prof Emaline Macartney, The Children’s Hosp. at Westmead
- Prof David Irving, Australian Red Cross Blood Service
- A/Prof Stephen Lambert, University of Queensland
- Prof Adrian Miller, Griffith University
- Prof Scott Ritchie, James Cook University
- A/Prof David Anderson, Burnet Institute

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PhD and ECR Academy (Early Career Researcher)

Multi-disciplinary, nationally-distributed CRE
APPRISE structure

- Protocols for urgent studies
- Integration with existing networks
- Protocols for new diseases
- Optimise infection prevention
- Optimise collection of biological samples

- Enhance case finding
- Community-based surveillance studies
- Optimise disease test reporting
- Serosurveillance
- Animal-human interface surveillance

- Optimise specimen collection
- Build diagnostic capacity
- Protocols for new and dangerous pathogens
- Animal-human health collaboration
- Improve vector surveillance
- Tool development for pathogen discovery and transmission understanding

- Engagement and ongoing consultation with at-risk groups, including Indigenous populations, pregnant women, CALD and migrant communities, front-line workers, rural communities
- Enhance existing networks
- Build capacity
APPRISE structure

Cross-cutting platforms

Ethics
Data management
Education and Training
Leadership and Integration

Network structure
## Activities to date

<table>
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<tr>
<th>Consultation</th>
<th>Zika workshop</th>
<th>GloPID-R Zika conference</th>
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<tr>
<td>Expert Reference Panel established</td>
<td>- Melbourne, 2nd December 2016&lt;br&gt;- 50+ national invitees from government, research and industry&lt;br&gt;- Overview of current Australian activities related to Zika&lt;br&gt;- Roundtable discussions to identify research gaps in Zika entomology, virology, clinical and travel medicine, diagnostics, public health</td>
<td>- São Paulo, Brazil 30(^{th}) Nov-2(^{nd}) Dec 2016&lt;br&gt;- Me to represent APPRISE</td>
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International networks

- GOARN
- WHO Polio Regional Reference Laboratory
- WHO Collaborating Centre for Influenza
- Asia-Pacific clinical trial networks e.g. ASID-CRN and ANZICS
- GeoSentinel
- REACTing (France)
- GloPID-R
- OIE

Network collaboration
Unfunded study
Coordinated via ANZIC-RC

Australian Networks
• FLuCAN for non-ICU Patients
• ANZICS CTG for ICU Patients
• ASID CRN advertised the study in 2016

Site Benefits
• Early and effective clinical research response in future epidemics/pandemics
• Hope that sites might participate every few years and keep HREC approval current
• Free online accredited GCP training to interested site staff

Slide courtesy of Steve Webb
APPRISE summary

- Network structure (sound)
- Network capacity (promising)
- Planned clinical trials (infrastructure established)
- Efforts to develop rapid clinical response to emerging infectious diseases (protocols, HREC pre-approvals)
- Collaboration with other networks (yes)

Thanks for getting a flu vaccine in pregnancy mum
Current distribution of *Aedes aegypti* a threat to Brisbane?

Compiled by R.C. Russell from various sources
1996-97: widespread dengue outbreak in Torres… Vectored by *Ae. aegypti*

And now only *Ae. albopictus* on Erub, Mer, Warraber, Iama, Moa, Horn, Hammond and Badu Is.

No *Ae. aegypti* detected in recent surveys!

Figure 2: Torres Strait islands, showing the apparent movement of dengue-infected people within the region and the “dengue-receptive” region of mainland Australia. The total number of confirmed cases on the islands with local transmission is given in parentheses.
Stakeholder consultation

- Priority for first year of APPRISE

- 6-stage process:
  1. Establish Expert Reference Panel
  2. Literature and document review
  3. Stakeholder mapping
  4. Stakeholder consultations
  5. Prioritisation
  6. Report to NHMRC

- Federal and state/territory Health Officers and Medical Advisors
- Indigenous communities
- Veterinary health experts
- Public health researchers
Stakeholder engagement

- Membership of Expert Reference Panel and APPRISE taskforces
- Guideline development with key professional societies
- Engagement with national health advisory groups
- Collaboration with industry partners including commercialisation
- Regular formal reporting to key national and international advisory committees
- Social, mainstream and online media engagement
- Scientific presentations to targeted stakeholder groups
- Annual APPRISE scientific meeting and focused workshops
- Research publication and presentation at local and international conferences
Key projects

Priority pathogens most likely to be:

◦ Respiratory viruses: Influenza, Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV), Middle East Respiratory Syndrome Coronavirus (MERS-CoV)
◦ Haemorrhagic viruses e.g. Ebolavirus (EBOV)
◦ Vector-borne pathogens including arboviruses (particularly in Northern Australia)

Also address:

◦ Antimicrobial resistant pathogens, drug resistant tuberculosis and hospital-acquired infections if necessary
◦ Consolidation of national, multi-disciplinary research team
◦ Development of cohesive research strategy for emergency infectious disease responses
◦ Evidence-base and training for capacity building in emergency responses, including communication with front-line workers, policy makers and consumers
APPRISE will provide a unique, multi-disciplinary, skills-building career development pathway for PhD students and Early Career Researchers.

This will include:
- Interdisciplinary research projects
- Research exchanges between institutions
- Short-term placements e.g. in public health laboratories, AAHL, industry, state/territory health departments
- Advanced skills development opportunities e.g. digital epidemiology, advanced biostatistics
- Annual scientific meeting
- Development of online training resources for use within the academy and for wider dissemination
- PhD and ECR networks
- Professional development opportunities, including supervision, leadership and mentoring
- Interactive workshops with experts outside academia
Outline

- Network structure
- Network capacity
- Planned clinical trials
- Efforts to develop rapid clinical response to emerging infectious diseases
- Collaboration with other networks