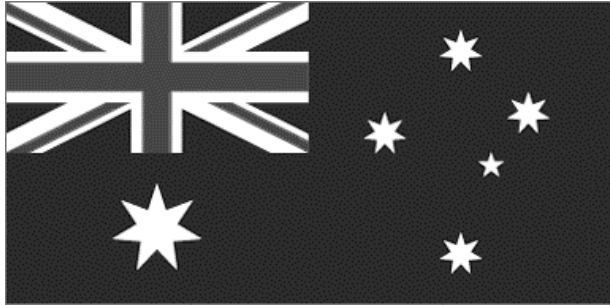


Neonatal Screening Models: Australia & Hong Kong

Bradley McPherson PhD
University of Hong Kong





Australia

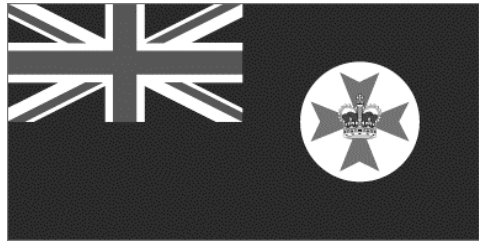
- 20 million population spread over an area just slightly smaller than USA
- Health care system organized mainly on a 6 state and 2 territory basis



UNHS in Australia: Queensland

- Queensland Hearing Health Program targets UNHS from 6/2006. \$A22 million provided by state for set-up costs.
- Based on the principles of
 - No new screening workforce
 - Integrated into everyday business
 - Nurse screeners
 - Hospital based + Flying Doctor Service + Indigenous Health Care Workers





Queensland UNHS

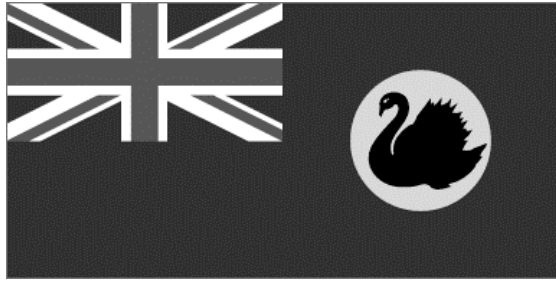
- Queensland will use a two stage AABR screening program
- State divided into 3 zones with a coordinator in each zone
- 50,000 births/year over an enormous area
- Anticipated problem of making UNHS truly “universal”



Western Australia UNHS

- UNHS commenced in the Perth area 2/2000
- UNHS program terminated 7/2004 and only a high-risk register approach now
- Program only funded \$A350,000/year
- Used two stage screening (1) TEOAE and (2) AABR





Western Australia UNHS

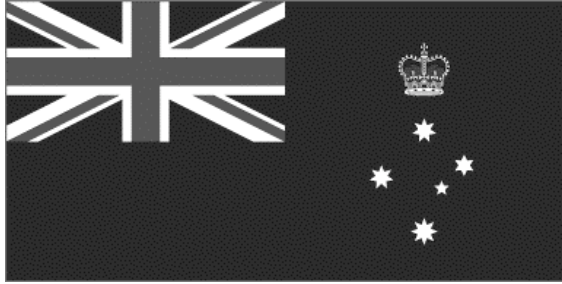
- Prevalence hearing loss in NiCU graduates 2.08/1000
- Prevalence in well-baby population 0.31/1000
- Low prevalence ... program deemed “ineffective”



Victoria UNHS

- No state-wide UNHS program
- Number of smaller, regional programs
- 3 country regions use OAE: 1 x 1 stage TEOAE; 1 x 2 stage TEOAE; 1 x 2 stage DPOAE
- All at-risk register infants screened AABR

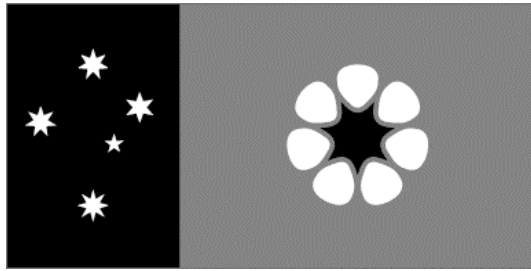




Victoria UNHS

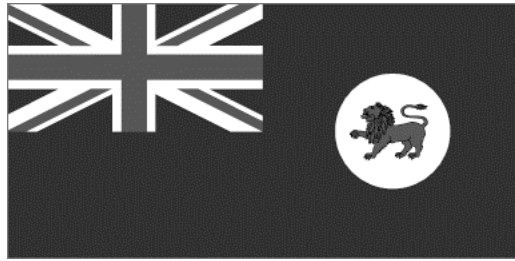
- Melbourne hospitals \$A6.8 million in 2004-2008 to initiate UNHS programs.
- Programs fragmented and using different refer criteria/methodologies
- By 2008 estimated 25% of births will have access to NHS





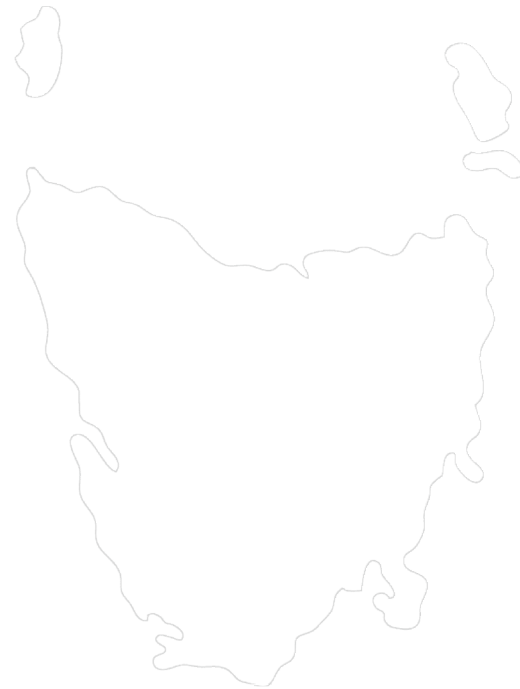
Northern Territory UNHS

- Trial UNHS has commenced in Darwin
- Small population and $< 4,000$ births/year
- Large proportion of the population is Indigenous Australian
- Very high prevalence of otitis media
- Often OME begins by 3 weeks
- OAE not appropriate; AABR program



Tasmania UNHS

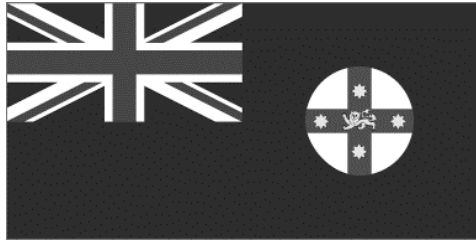
- UNHS
- DPOAE screen >
2nd stage DPOAE
screen > refer
SSEPs
- Hospital-based
program



New South Wales UNHS

- In June 2002 NSW government gave \$A8 million to set up state-wide UNHS program
- Money to be spent and program started by December 2002
- AABR protocol with 2 referral pathways:
 - Bilateral fail > 2nd screen > bilateral fail > diagnostic audiology
 - Unilateral fail > general practitioner follow-up

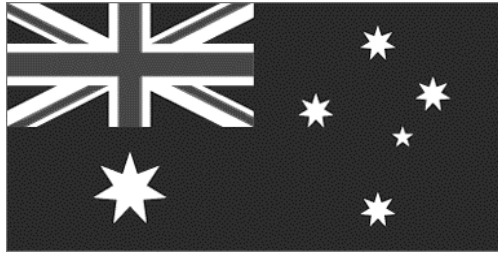




New South Wales UNHS

- Prevalence rate 0.8/1000 births
- 55% of “significant” h/loss cases have risk factors
- Average h/aid fitting age 3.8 months; 85% < 6 months; 96% < 12 months
- 6 cochlear implant cases with implant at 8-10 months
- 95% coverage rate



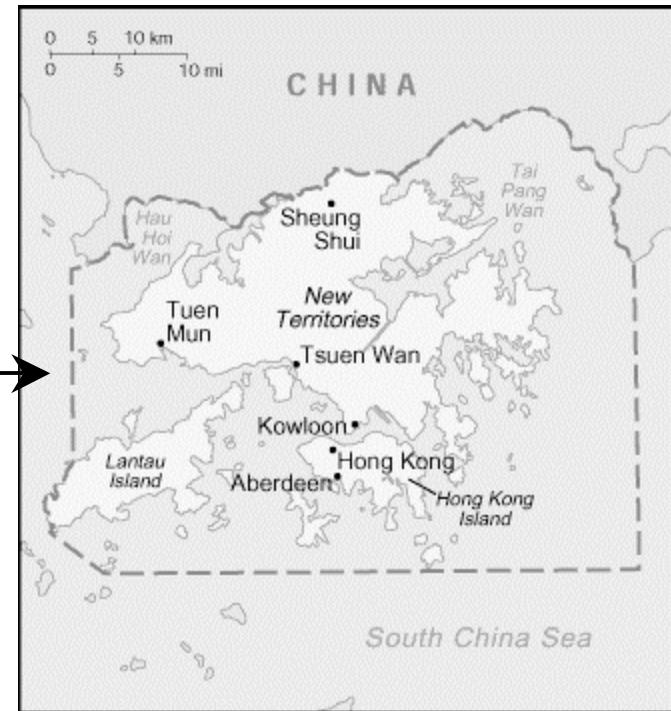


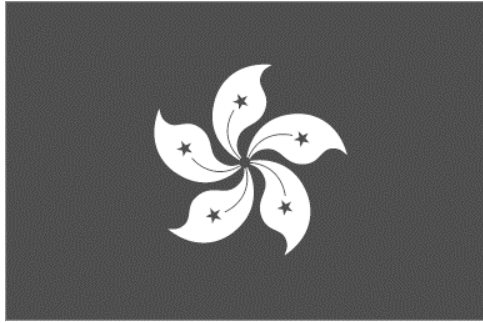
Australia UNHS summary

- Political hazards
 - Too much too soon*
 - Lack of understanding of prevalence*
- Fragmentation of services causes confusion and service delivery breakdown
- Diversity of techniques
 - Screening training*
 - Referral criteria*
 - Technical problems*



Hong Kong UNHS

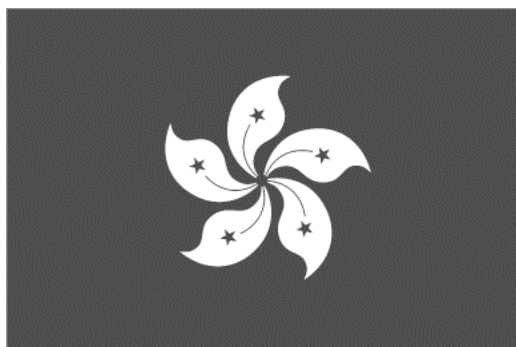




Hong Kong UNHS

- 7 million population spread over an area 6x Washington, DC
- 50,000 births/year
- Health care system organized mainly on a Hong Kong wide basis by HK government agencies
- Paediatric hearing health care provided by *Hospitals Authority, Maternal & Child Health Care Centres, and Education & Manpower Bureau*





Hong Kong UNHS

- *Hospitals Authority*: 2 pilot studies of UNHS using (1) two stage, in-patient AABR procedures and (2) three stage DPOAE [1 in-patient screen; 2 outpatient screens]; High program uptake 99.3%
- *MCH*: pilot study of 4,000 babies, 1-3 months, 3.8% screen-refer rate but only 72% program uptake



Hong Kong UNHS

- What agency to screen? In a hospital-based study 20% mothers preferred MCH – ease of access
- What agency to screen? Hospital before discharge *or* Hospital as outpatients at routine 1 month follow-up *or* MCH Clinic at 1-2 months?
- Cultural factors? Babies remain at home 1 month after birth



Hong Kong UNHS

- Which procedure in which HA regions?
OAE or AABR? Still unresolved
- Liaison between HA and MCH and
EMB still needs further planning
- Lack of government commitment to
UNHS

