

Skin infection research

Jonathan Carapetis



WESFARMERS
CENTRE OF
VACCINES
& INFECTIOUS
DISEASES



Princess Margaret
Hospital for Children

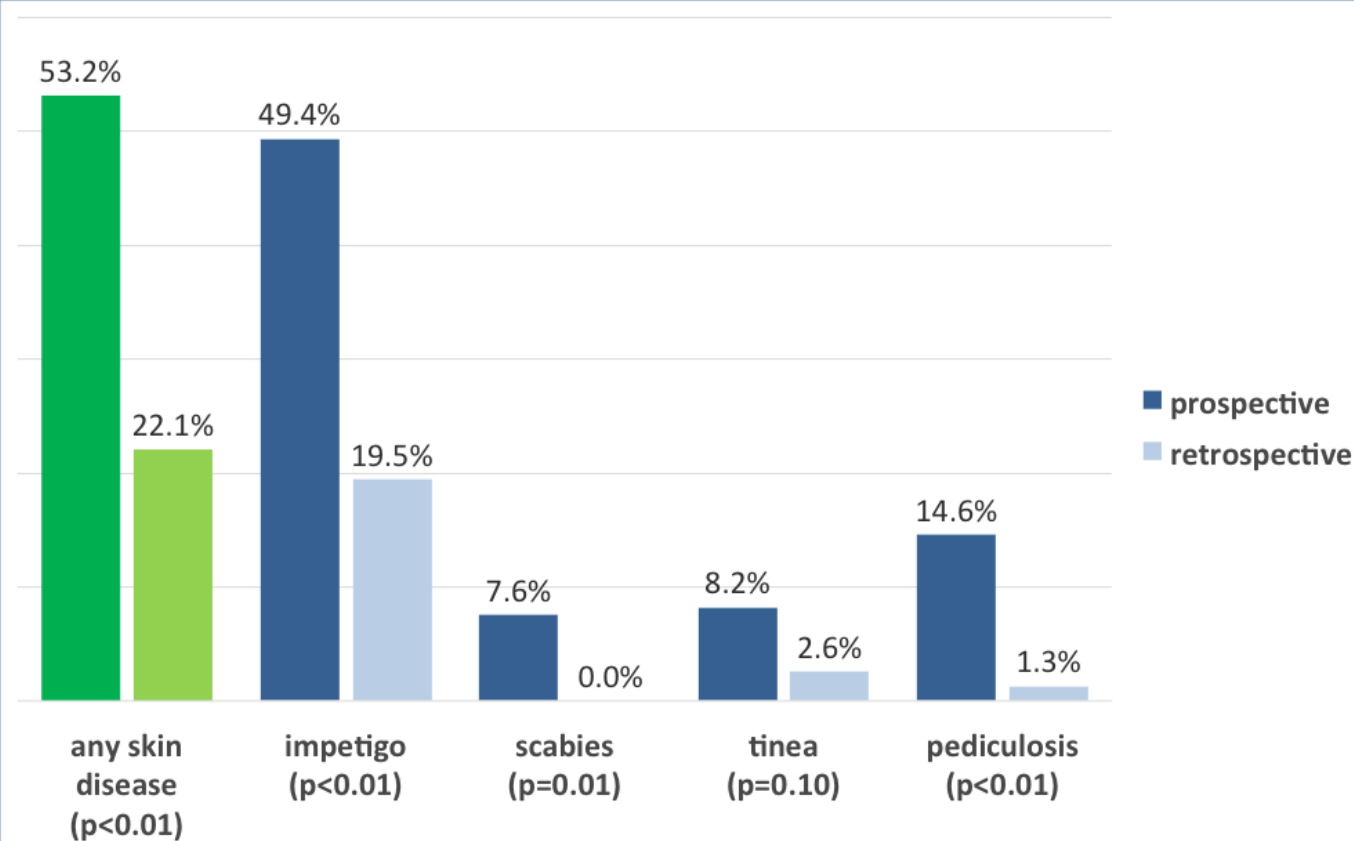


THE UNIVERSITY OF
WESTERN AUSTRALIA

Are scabies and impetigo “normalised”? A cross-sectional comparative study of hospitalised children in northern Australia assessing clinical recognition and treatment of skin infections

Daniel K. Yeoh^{1,2,3*}, Aleisha Anderson^{1,3,4}, Gavin Cleland^{2,3}, Asha C. Bowen^{1,2,5,6}

Figure B. Prevalence of Skin Disease in Prospective vs Retrospective Case Review

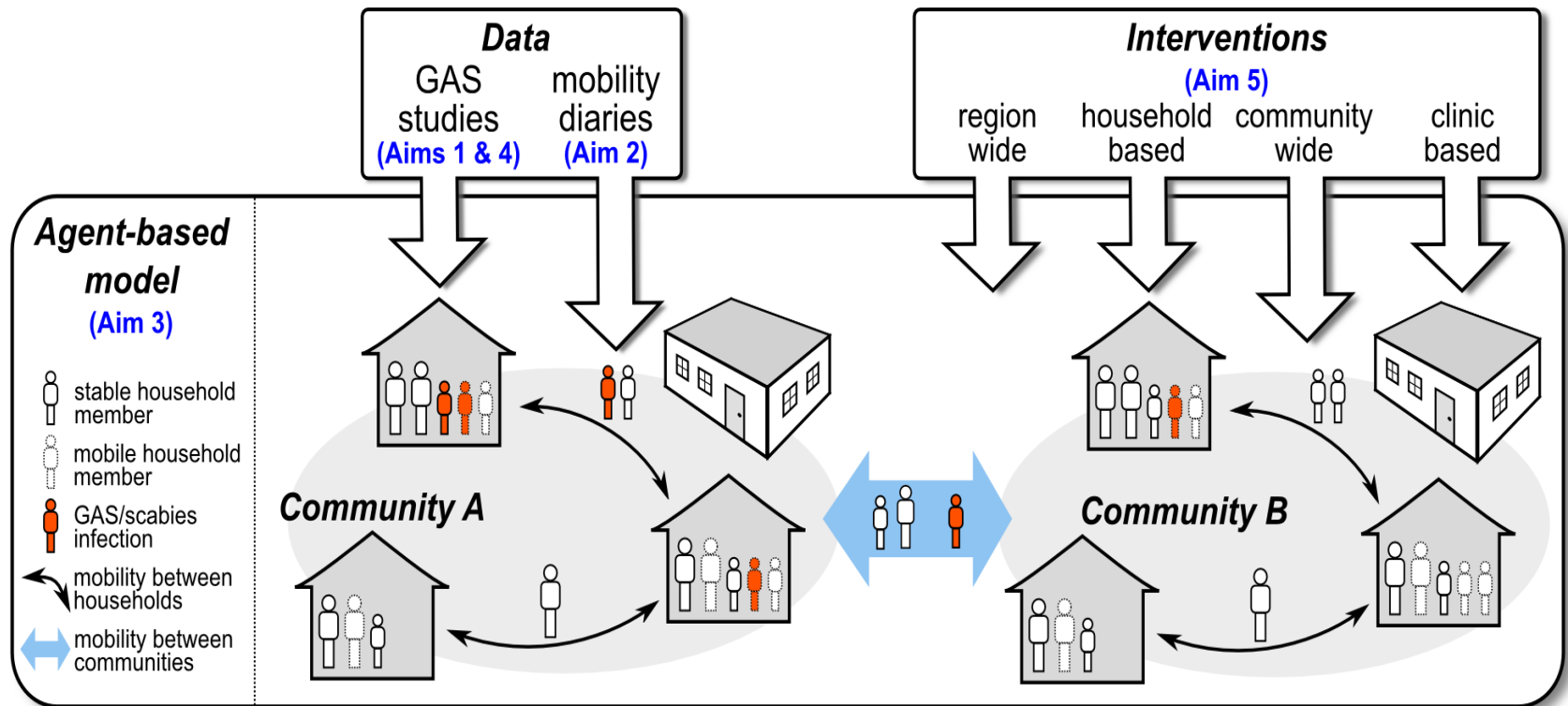


Dan Yeoh –
Masters of Child
Health Research,
UWA



Understanding skin infections / modelling

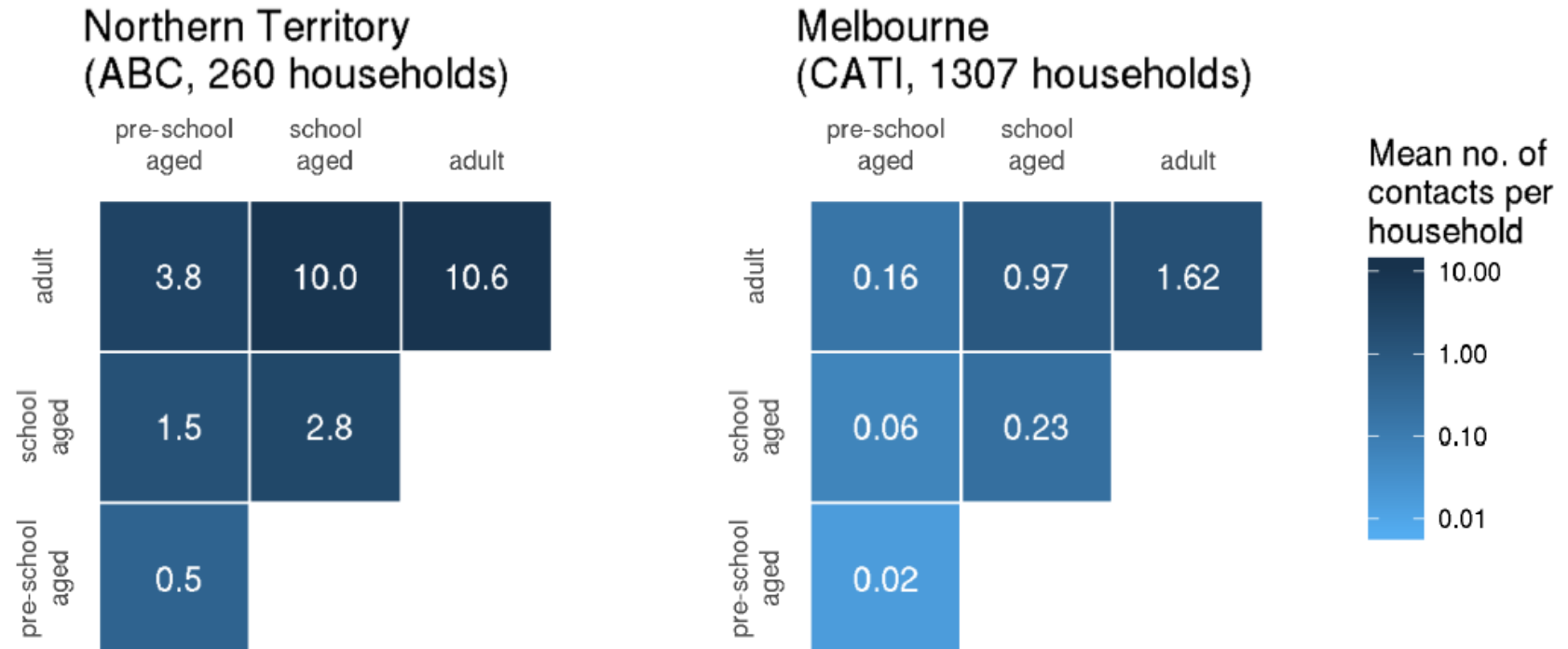
Mathematical modelling of GAS transmission



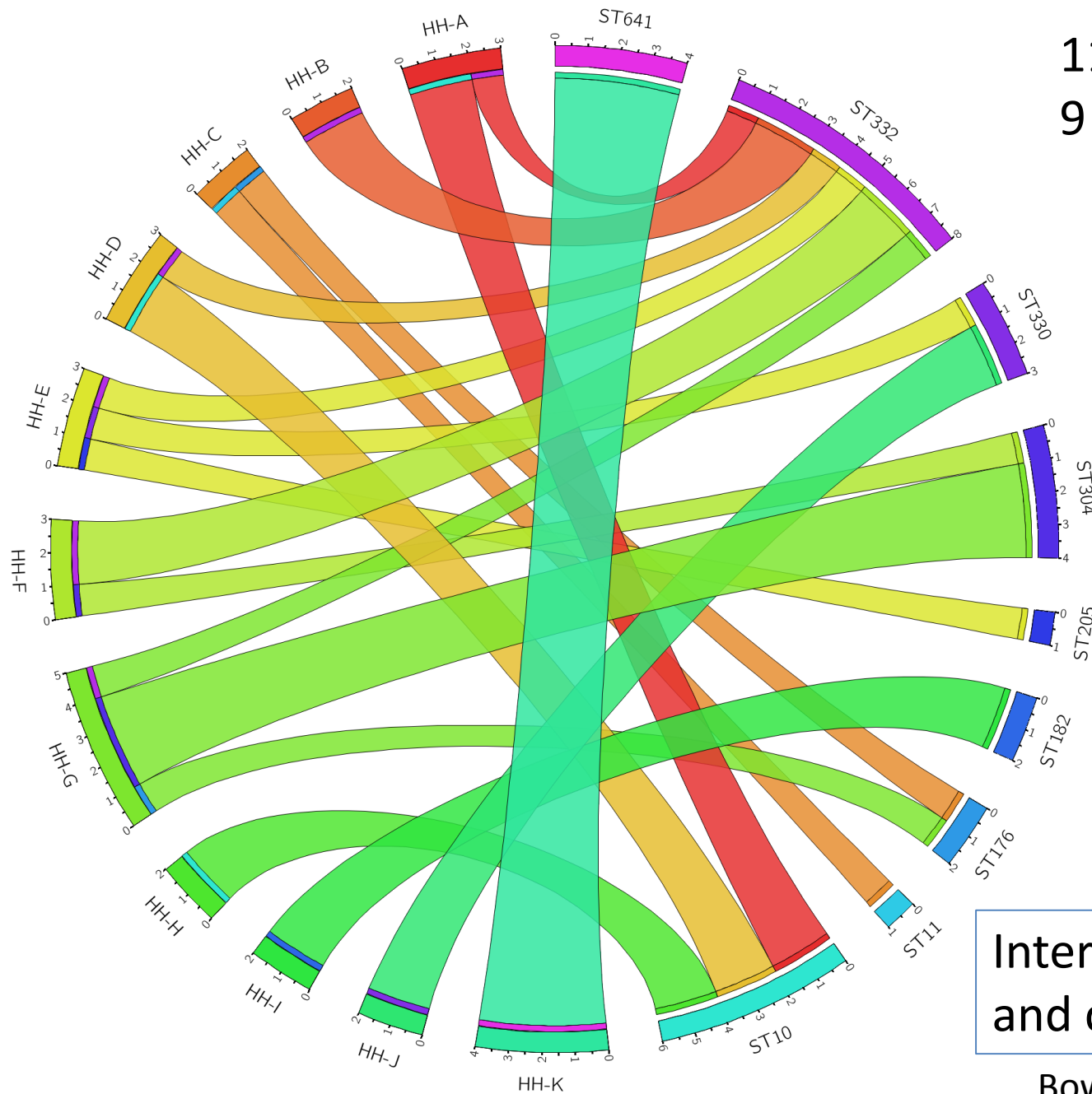
Households



Increase contacts

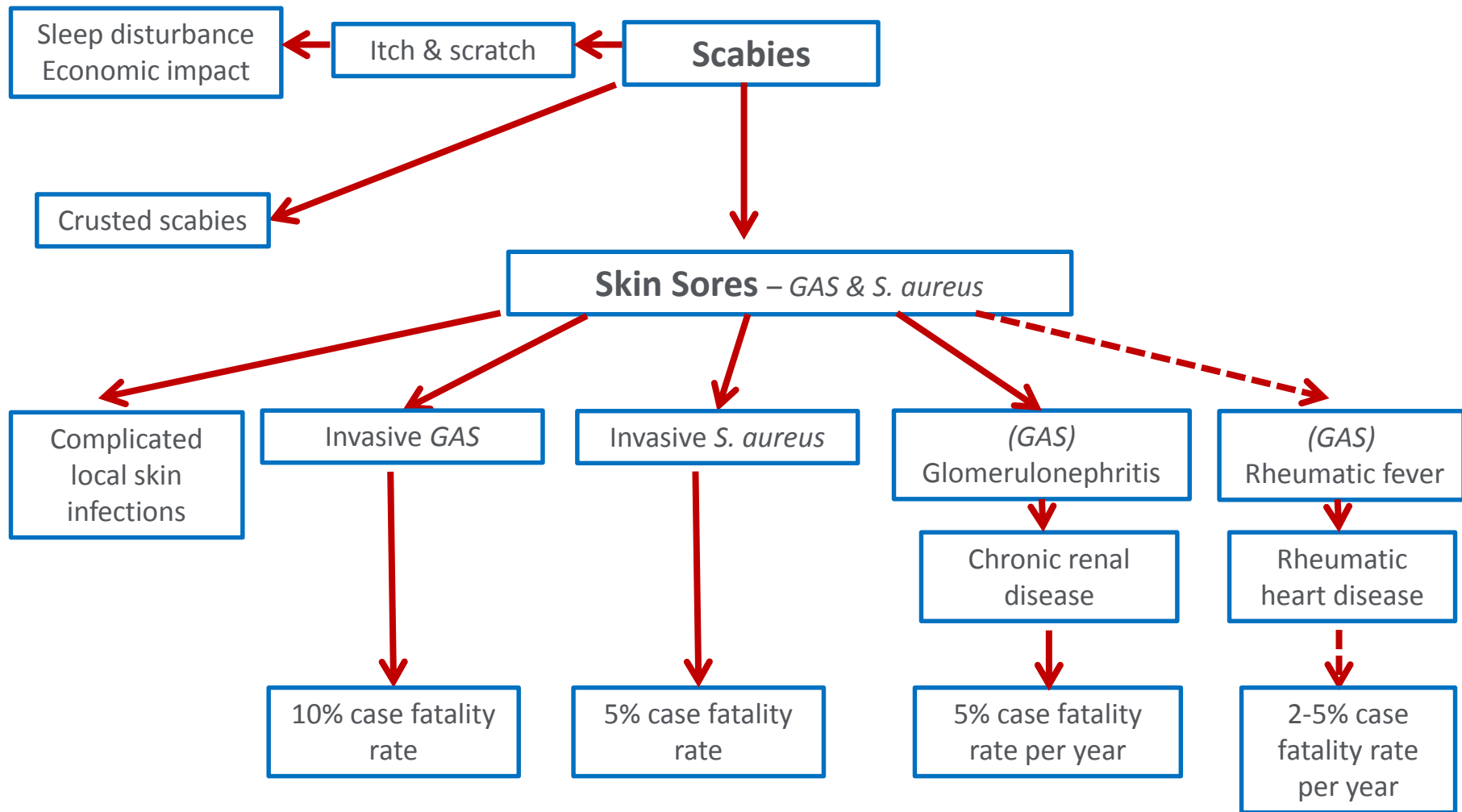


11 households
9 sequence types



Intervene at household
and community level

Bowen et al. *Epid Infect* 2016





Community based skin infection strategies

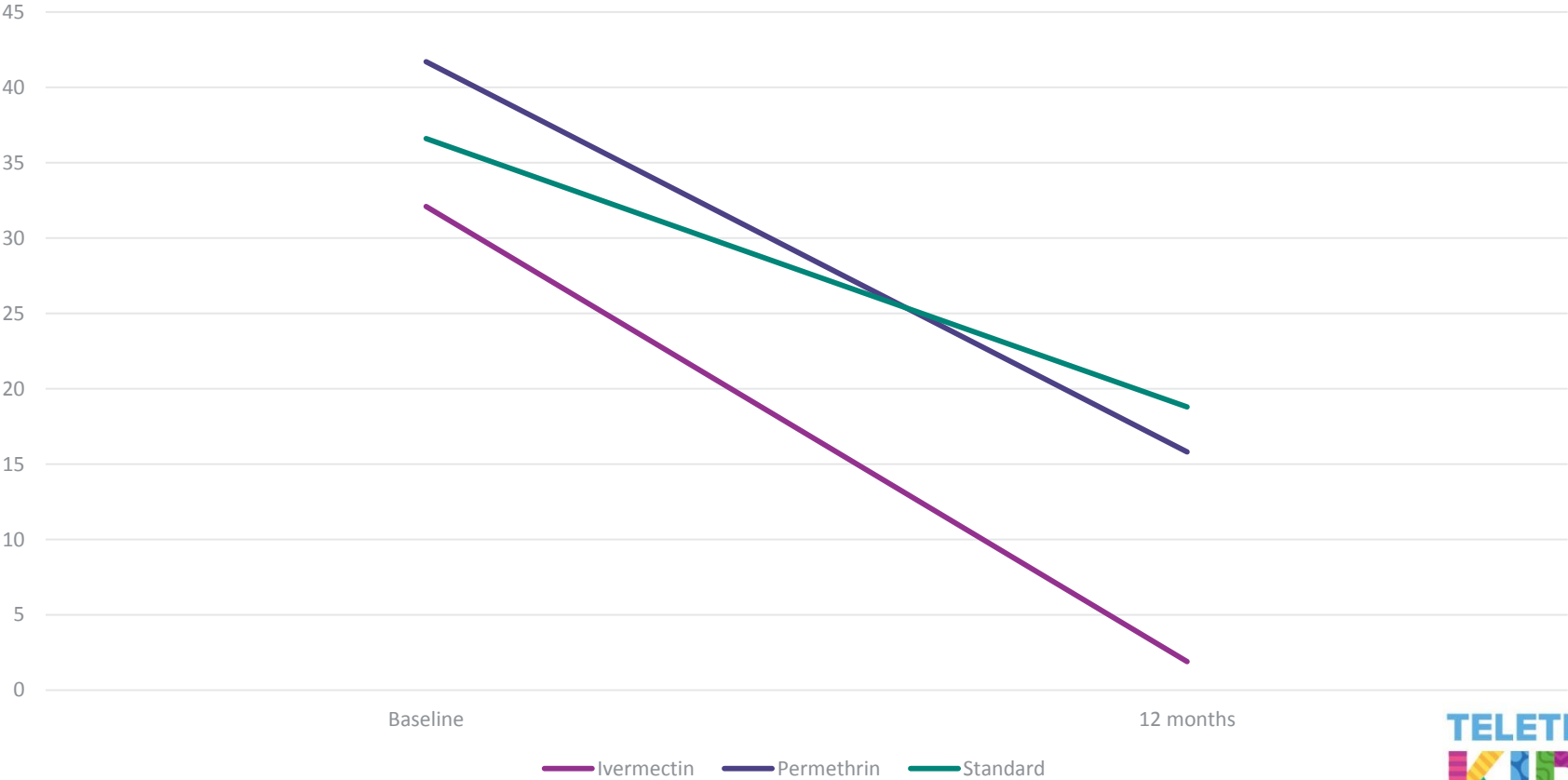
- NT – mass treatment approaches in 1990s/2000s – permethrin based
- NT 2000-2010s - ivermectin
- NT 2000s-2010s – crusted scabies (One Disease)
- Fiji 2010s - ivermectin



Mass Drug Administration for Scabies Control in a Population with Endemic Disease

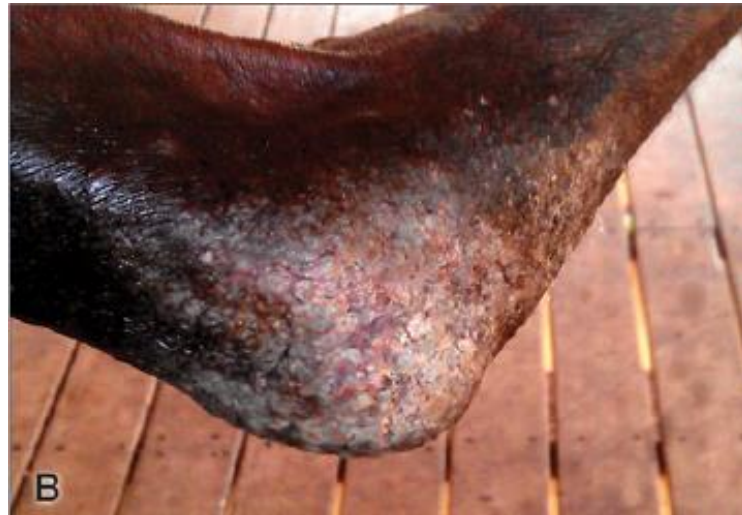
Lucia Romani, M.Soc.Dev., Margot J. Whitfield, M.B., B.S., Josefa Koroivueta, M.B., B.S., Mike Kama, M.B., B.S., Handan Wand, Ph.D., Lisi Tikoduadua, M.B., B.S., Meciusela Tuicakau, M.B., B.S., Aminiasi Koroi, B.A., Ross Andrews, Ph.D., John M. Kaldor, Ph.D., and Andrew C. Steer, Ph.D.

Change in Scabies prevalence



Crusted Scabies

- Severe form of scabies with crusting of skin
- Millions of mites, highly infectious
- Core transmitters within community
- Often don't present to health service, hidden



Lokuge
et al
MJA
2014

Crusted Scabies: Australia

- 1 in 460 Indigenous people in the NT have crusted scabies through active case findings
- Burden undescribed elsewhere in Australia
- Crusted scabies rates are highest in the world



Treatment: better options



Impetigo Rx



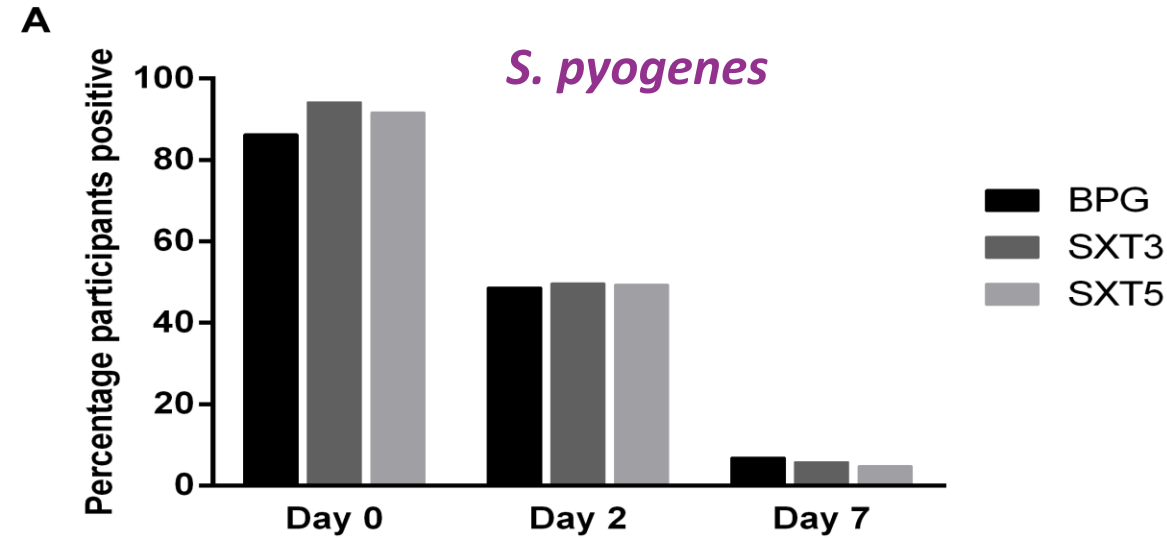
Short-course oral co-trimoxazole versus intramuscular benzathine benzylpenicillin for impetigo in a highly endemic region: an open-label, randomised, controlled, non-inferiority trial

Day 7 results

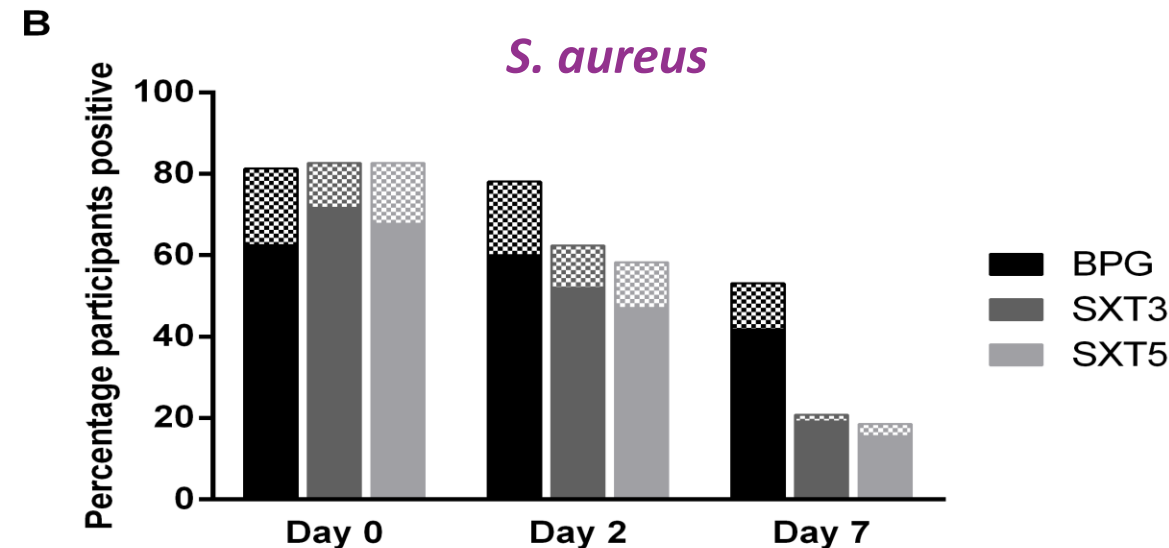
Asha C Bowen, Steven Y C Tong, Ross M Andrews, Irene M O'Meara, Malcolm I McDonald, Mark D Chatfield, Bart J Currie, Jonathan R Carapetis



Microbiology



GAS clearance
predicts treatment
success,
OR 5.2



Bowen et al Lancet
2014

Treat: Scabies



Prevent: sores & scabies

