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# WELCOME

UNIVERSITY RESEARCH WEEK 14-18 JULY 2014

# Towards a therapeutic vaccine for *Chlamydia* in the koala: an important conservation tool for an iconic species



Courtney Waugh, PhD

*Chlamydia* Research Group

Prof. Peter Timms

Dr. Adam Polkinghorne

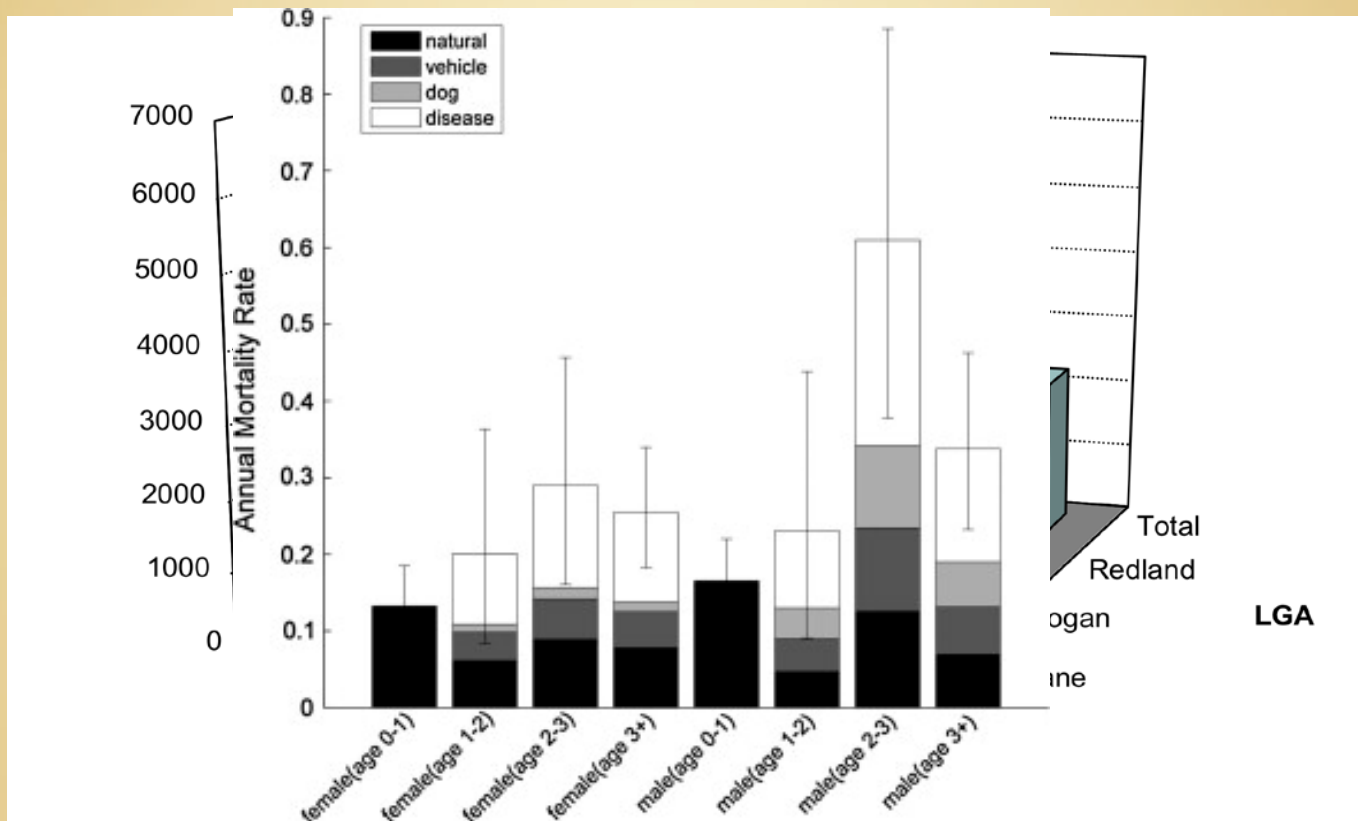
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# The decline of the koala (*Phascolarctos cinereus*)



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Department of Environment & Resource Management, 2009

# *Chlamydia* in the Koala



Narangba

A



B



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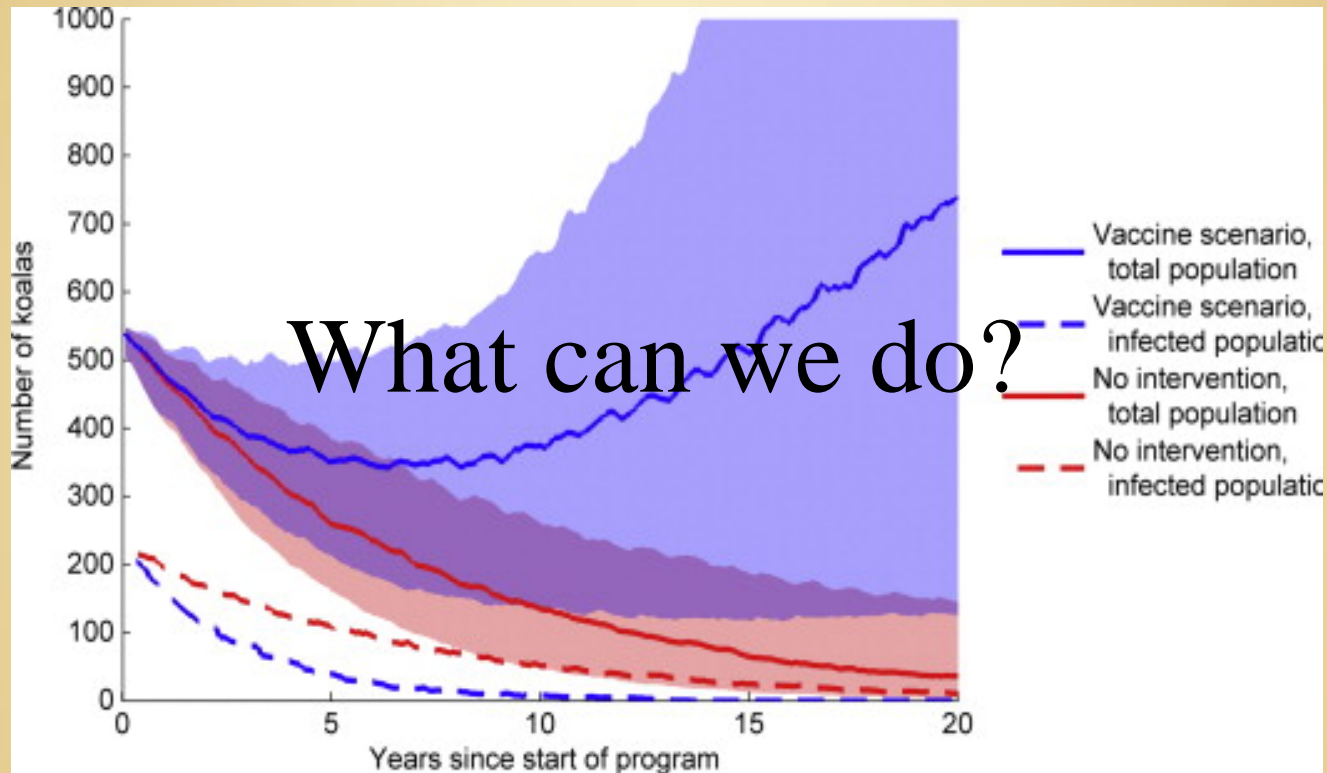


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Polkinghorne et al., 2013. *Vet Micro* 165: 214-223

# *Chlamydia* Vaccine Modeling



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Craig et al., 2014. *Vaccine* 32(33): 4163-4170

# Towards a *therapeutic* vaccine...

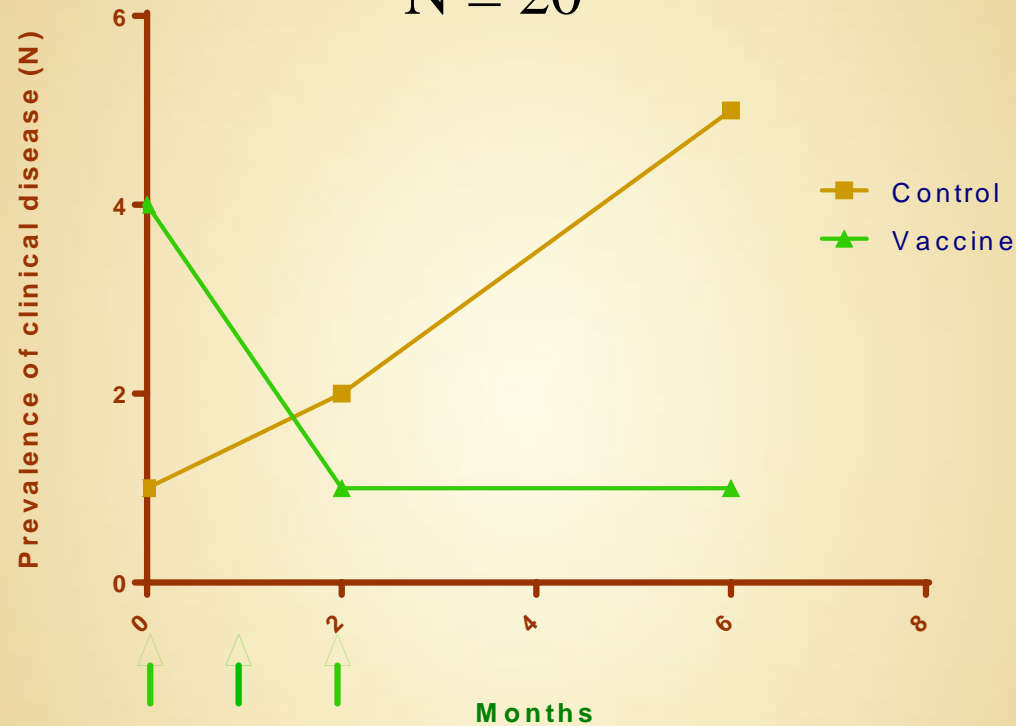
- Vaccinate 60 free-ranging koalas (30 Vaccine; 30 Control)
- Vaccine formulation
  - Antigen: Major Outer Membrane Protein (MOMP) A, F, and G
  - Adjuvant: Immune Stimulating Complex (ISC; Pfizer)
- Immunisation Schedule
  - Day 0, 30 and 60
- Sample Analysis
  - Day 0, 60 and 180



# Effects on Disease Levels

Prevalence of clinical disease

N = 20



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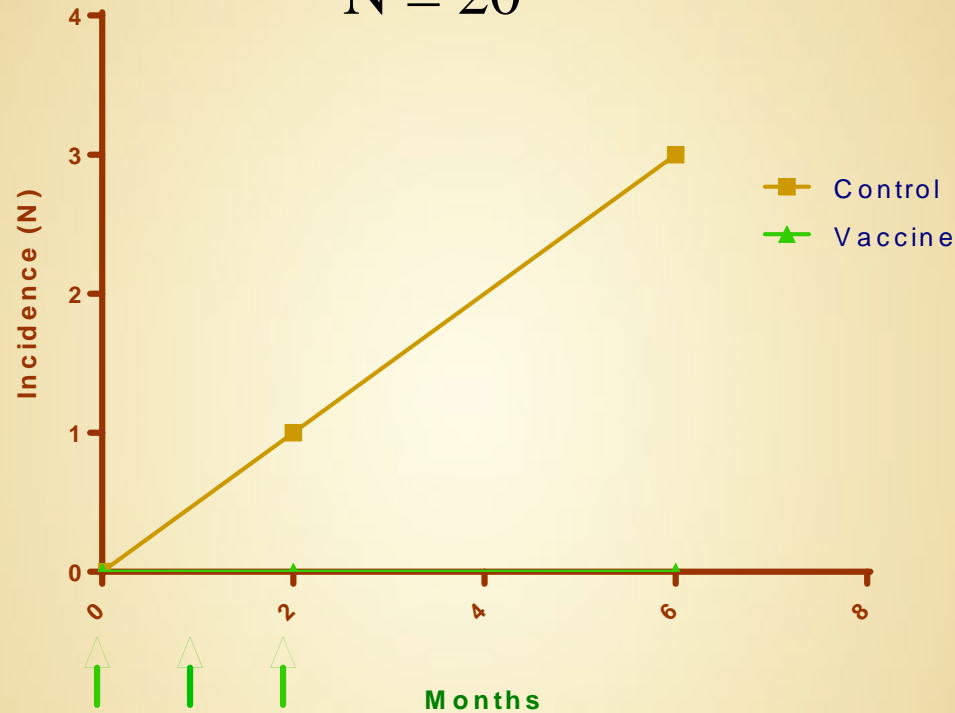
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# Effects on Disease Levels

Incidence of new disease

$N = 20$



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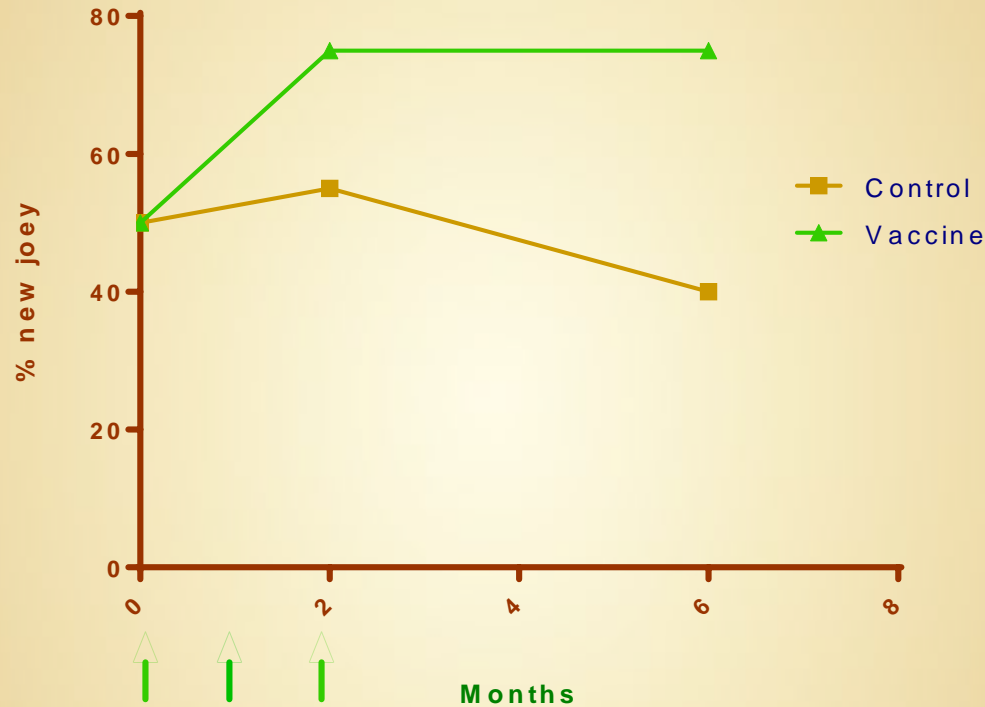
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# Effects on Disease Levels

Effect on female reproduction rate (new joeys)



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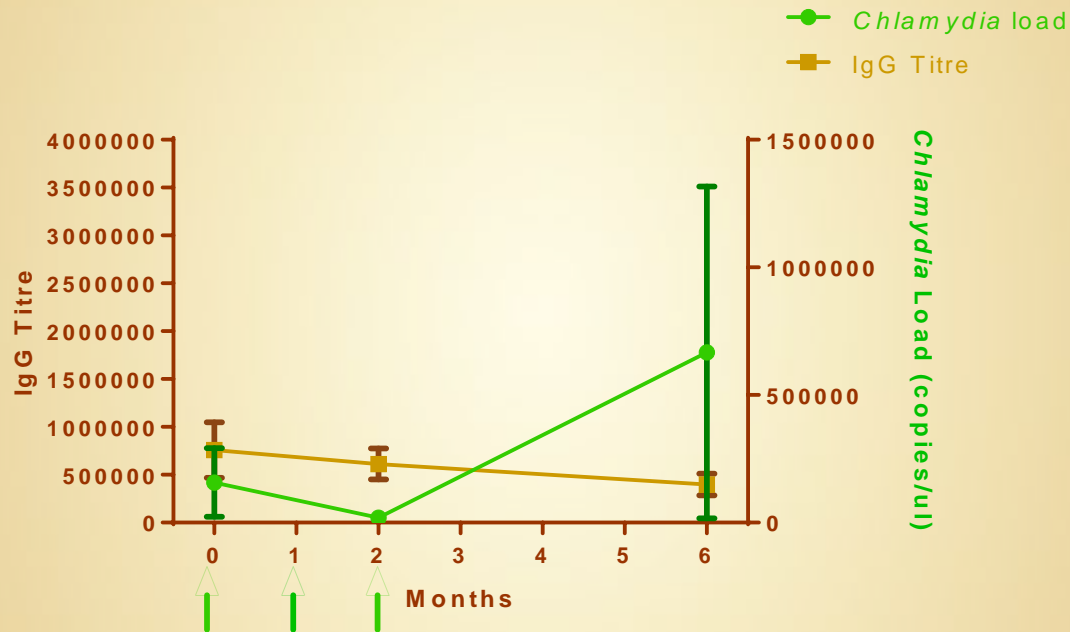
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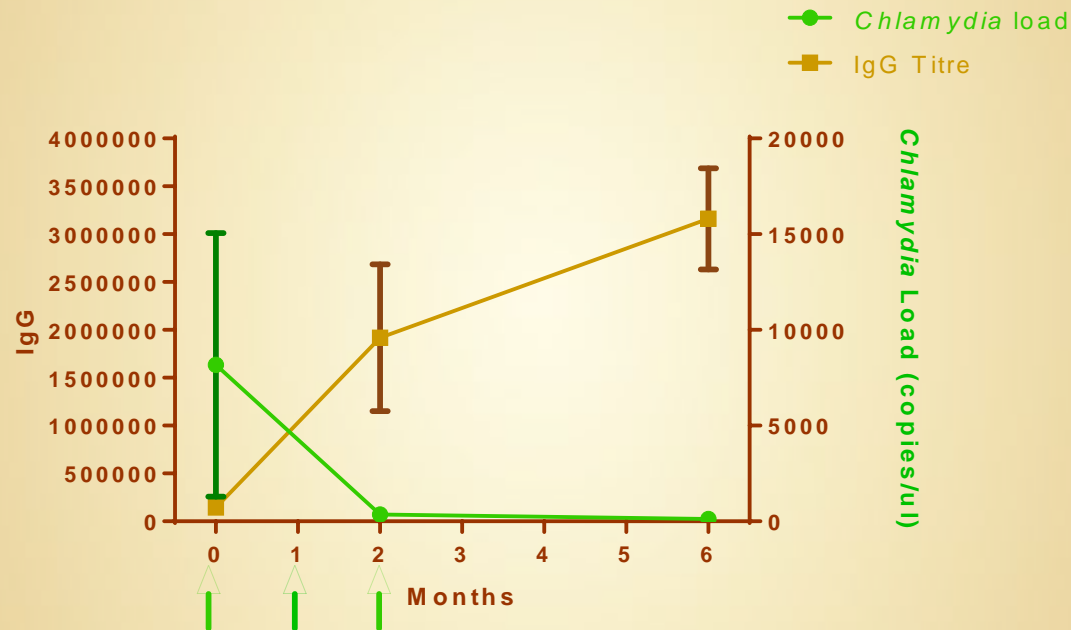
# Immune response & *Chlamydia* load

Control  
N = 7

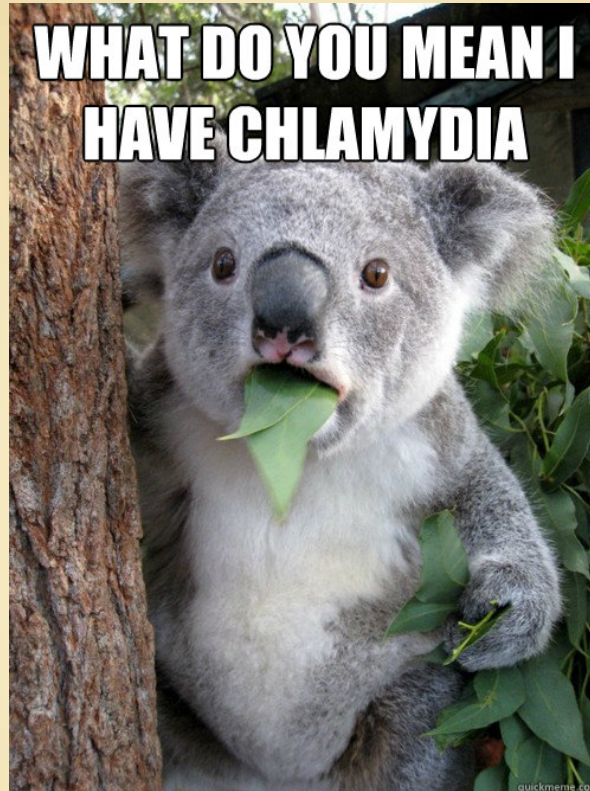


# Immune response & *Chlamydia* load

Vaccinated  
N = 6



# Conclusion



...an important conservation tool!

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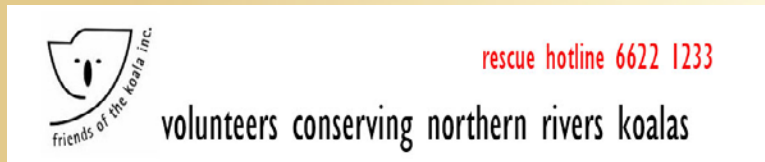


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# Acknowledgements



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