

# Design and conduct of vector control field trials

**Anne Wilson**

**Intervention Delivery, Integration and Capacity**

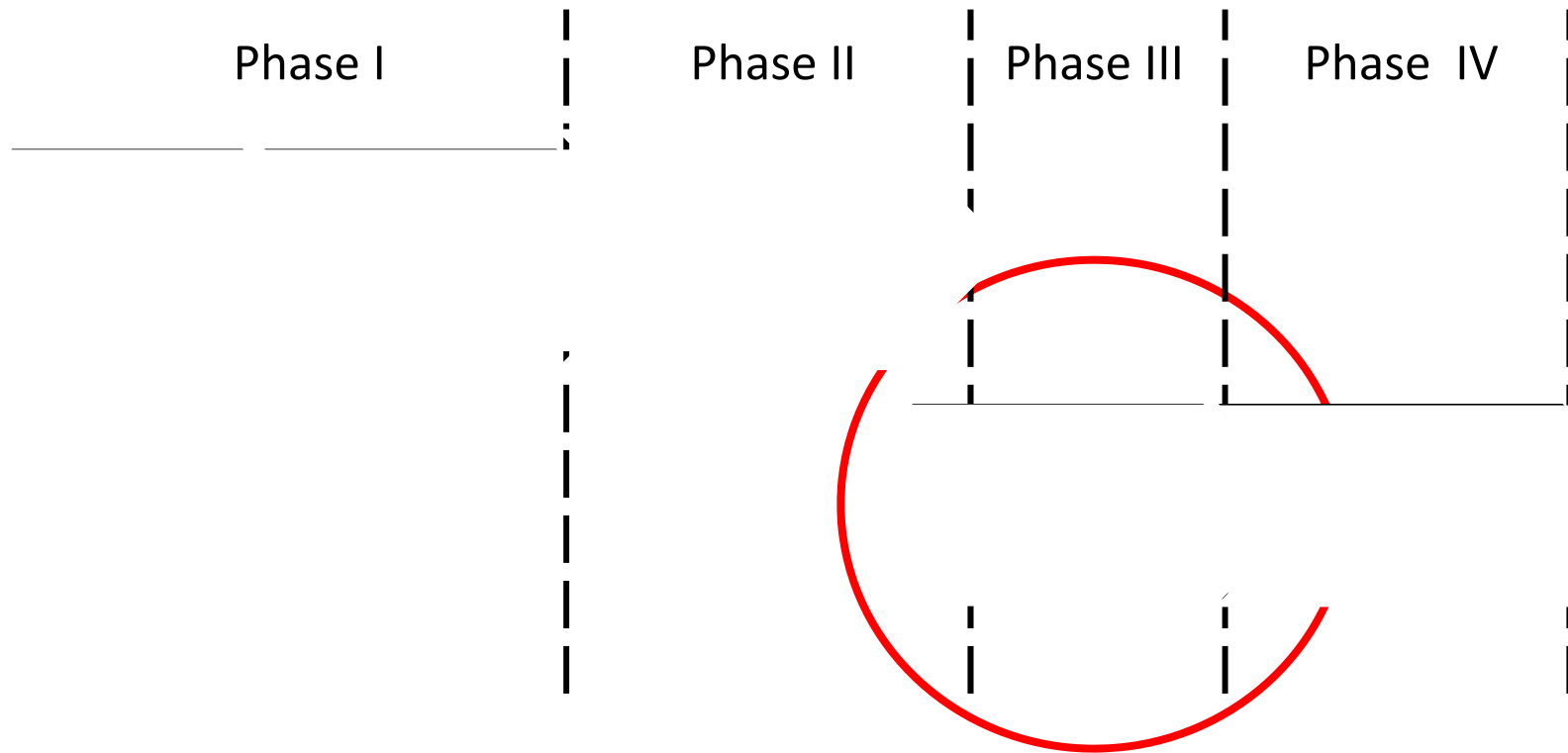
**Strengthening Work Stream Meeting, RBM VCWG**

**3 February 2016**

# Presentation overview

1. Common problems with design and conduct of vector control trials
2. Minimum considerations for trial design

# Vector control tool development

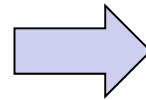


# Common problems with design and conduct of VC trials

- Non-randomised studies
- No (contemporaneous) control group or poor choice of control group
- Non-blinded performance and outcome assessment
- Contamination / spill-over effects
- Two village comparisons

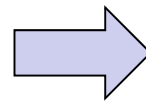
 **biased** effect estimates

- Short follow-up duration



**misleading** effect estimate

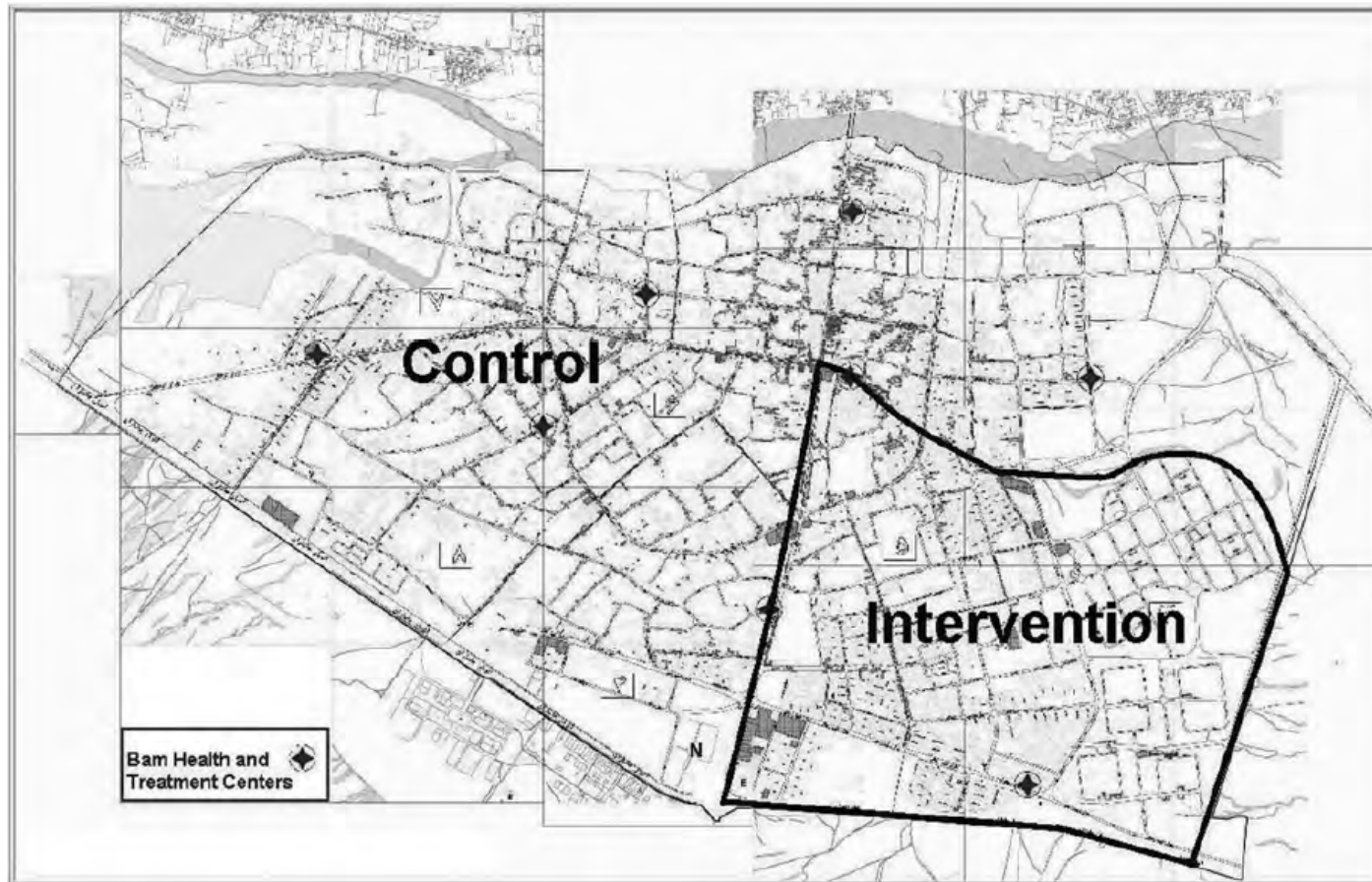
- No sample size calculation



**unable to show an effect**

3 examples of common problems

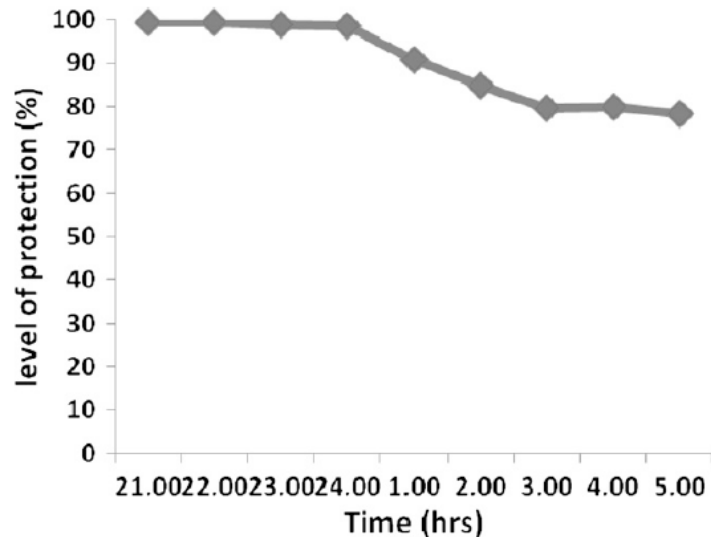
# 1: Two village/area comparison



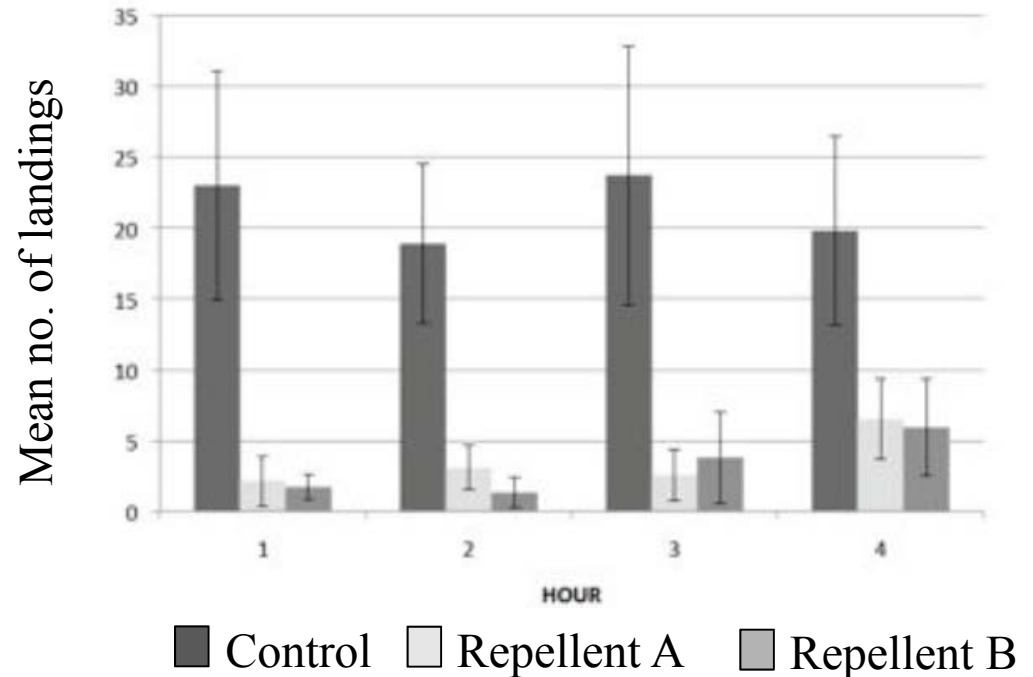
Insecticide impregnated screens and curtains against cutaneous leishmaniasis (Noazin *et al*, TRSTMH, 2013)

## 2: Ento versus epi outcomes

Dadzie *et al*, 2013 - Percentage protection of NOMAS repellent compared to control



Sangoro/Moore *et al*, 2014 - *An. arabiensis* landings in four hours in semi-field system



Topical repellents provide individual protection against bites...

# ...but are not effective against clinical malaria...

Non significant 18% (95% CI: -8%, 38%) protective efficacy against *P. falciparum* malaria and 20% (95% CI: -37%, 53%) protective efficacy against *P. vivax* malaria



Wilson *et al*, 2014, Malar J



# 3: Contamination & spill-over effects

Trial of insecticide-treated curtains and water jar covers against dengue (Kroeger *et al*, 2006, BMJ)

# Choice of study design

Analytic studies

# Things to consider in study design

# Applying these principles to M&E?

- Is there a control group? Area where you're not intervening (e.g. staged roll-out) or are you measuring changes over time?
- Other factors which might be affecting results? e.g., environment (rainfall, temp), other programmes etc.
- Quality control of intervention (quality / coverage / compliance)
- Separate team doing the evaluation

# Summary

- Evidence based decision making requires that field trials are done to a high standard.
- Importance of epidemiological outcomes.
- Simple measures can improve study quality.
- Also applicable to M&E.