LLINs and IRS

Co-deployment and long-term control

RBM Vector Control Working Group Meeting
9 February 2010

Michael Macdonald
USAID Global Health Bureau
LLINs and IRS

- Issues
- Evidence
- Framework

- Data gaps and the VCWG
LLINs and IRS

Impact of co-deployment

Transition for long-term control
Specific questions

- In areas with perennial malaria transmission, can high LLIN coverage and use reduce the need for two or more rounds of IRS per year? *(Rwanda, Ghana)*

- In areas where malaria transmission has been reduced, can LLINs sustain gains made by IRS following the withdrawal of IRS? *(Zanzibar, Lusaka, highland Kenya)*

- In areas where IRS is currently being conducted, how much transmission reduction can be expected with the addition of LLINs? *(India)*

- In an area with high LLIN ownership but only moderate (40-50%) usage of those nets, how much transmission reduction can be expected with the addition of IRS? *(Multiple)*
Evidence for impact

- **Eritrea** (Nyarongo, 2006; Graves 2008)
- **Burundi** (Protopopoff, 2007)
- **Afganistan** (Rowland 1997)
- **India** (Yadev, 1998)
- **Bioko and Zambezia** (Kleinschmidt, 2009)
- **Malawi** (Mzilahowa, personal communication)
- **Kenya** (Hammel, personal communication)
Programmatic
- Settings where combined intervention may be considered...
- Insecticide Resistance
- Human and vector behaviour

Study design
- Randomized control
- Experimental huts
- Programmatic indicators
IRS limitations

Targeting

Quality
LLIN limitations

Difficulty hanging nets in Ethiopian dwellings

But good fishing in Cambodia
Program opportunities
Data gaps and role of VCWG

- Study design (cluster randomization)
- Clinical Outcomes
  - Parasite Prevalence
  - Parasite Incidence
  - Anemia
- Entomological Outcomes
- Systems and Costing analysis
VCWG: Clearing house for protocols and best practices?

- Malaria Transmission Consortium
- MRC program in The Gambia
- BMGF in Sudan
- PMI supported project in 2010
- Others?