In2Care® EaveTubes
Killing insecticide-resistant mosquitoes & protecting communities against malaria

15th annual VCWG meeting
Geneva, 3 Feb 2020
In2Care® EaveTubes for malaria vector control

6 - 10 Tubes per house  14 cm diameter

Ventilation tubes + insecticide-treated static netting discs
How In2Care® Eave Tubes attract malaria mosquitoes
Static coated In2Care® EaveTube netting
Static netting $\rightarrow$ high dose transfer of biocides

Insecticide binds on top of netting fibers $\rightarrow$ many particles transferred within seconds

**Two novel options for insecticide delivery:**

1. Resistance-breaking: effective use of PQ-listed insecticides
2. Apply new actives & combinations
Safety benefits In2Care® EaveTubes

- **Bednet**
  - ~ 10 m² surface to treat

- **House walls (IRS)**
  - ~ 150 m² surface to treat

- **10 Eave Tube discs per house**
  - ~ 0.15 m² surface to treat

- **100 x less insecticide per house than IRS**

- Applied at roof level with minimal exposure risks
Resistance management via insecticide Mosaics
Resistance management via insecticide Rotations

Year 1
Biocide A

Year 2
Biocide B

Year 3
Biocide C
Scientific validations


→ In2Care® Eave Tubes attract & kill 50-70% anophelines per night

Cluster Randomized Control Trial Ivory Coast (2017-2019)
- 3069 houses received Eave Tubes + window screening
- Results will be presented tomorrow by Prof. Matt Thomas @ VBD & Built environment workstream 15.00 hrs

Experimental hut studies in Ivory Coast:
→ In2Care Eave Tubes also effective without window screening:
- Attract 93% more malaria mosquitoes than open windows
- Reduce mosquito entry with 60% when windows remain open
- Induce “exit mortality” for indoor resting mosquitoes

(Barreaux et al 2018)
How can NMCPs implement In2Care Eave Tubes?

1. **One-off Installation** = placing Eave Tubes & closing off open eaves

2. **Eave Tube maintenance** = replacing the insecticide-treated netting discs
House eligibility In2Care Eave Tubes

In rural Ivory Coast & Tanzania >85% of houses suitable
Installation: inserting tubes

- Simple tools
- Local materials
- Trained local teams
Installation: closing off open eave spaces
Scalable installation options

- Flat netting discs
- Eave brick
- 2-component Tube

Mounting on existing ventilation openings

Pre-fab bricks
In2Care® EaveTubes as alternative to IRS

1. EaveTubes give **year-round** protection at **60% intervention coverage**

2. One-off EaveTube installation costs similar to IRS costs
   
   Subsequent maintenance = much **easier & less costly** than IRS

3. EaveTube costs **not driven by insecticide costs**
   
   3% of total costs EaveTubes vs 40% of total costs IRS
Protecting more households each year

Low EaveTube maintenance costs → NMCPs can save budget and treat more houses each year

→ In2Care Eave Tubes can protect 5-times more households within 5 years compared to IRS

Assumptions for graph
Comparing year-round protection:
- 2 x IRS / year needed
- 1 EaveTube retreatment/year

Costs per house:
IRS: $37 (2 x costs PMI AIRS report Tanzania)
Eave Tubes: $39 install, $5 retreat

Protection coverage:
IRS: +20% of houses treated
Eave Tubes: +40% of houses treated
Next steps towards malaria control impact

1. **Product registrations /approvals:**
   - Country registrations ➔ started Tanzania & Ivory Coast
   - WHO recommendation & PQ listing:
     2nd RCT required ➔ fundraising in progress

2. **Preparing scalable implementation**
   - Mass scale manufacturing
   - Finetuning product & installation tools for different house types / settings
     ➔ *Collaborate & get feedback from malaria control implementers*
     ➔ Find solutions for specific NMCP needs

Please contact us!

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