



The University of California, San Francisco

Malaria Elimination Initiative (MEI)

Project BITE overview and results to date

RBM VCWG Expanding the Vector Control Toolbox session

May 4, 2022



Australian Government

Department of Foreign Affairs and Trade

Malaria Elimination Initiative



Institute for Global Health Sciences



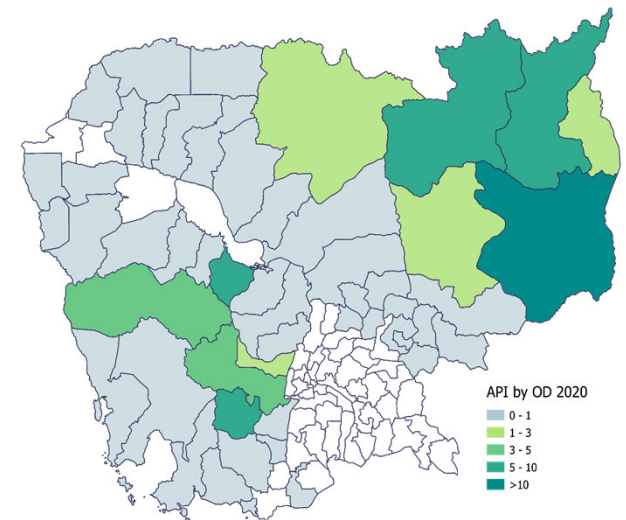
Swiss TPH



Swiss Tropical and Public Health Institute

Project BITE (Bite Interruption Toward Elimination)

- Cambodia is targeting elimination of all species of malaria by 2025
- National malaria program is pursuing an accelerated last mile strategy and more focalized approaches
- Living and/or working in the forest are risk factors for malaria
- “Forest packs” with LLINs, LLIHNs, and topical repellents, among other practical items for forest-goers, are part of the acceleration strategy



Gaps in protection remain, especially outdoors

Project BITE target groups:

- Individuals who live in the forest
- Individuals who travel to and from the forest frequently from nearby villages
- Forest rangers who patrol the forest for weeks at a time



Products for evaluation based on gaps in protection



Volatile passive pyrethroid



Active pyrethroid



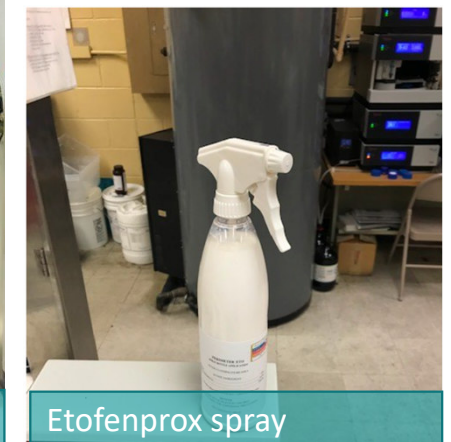
Picaridin topical repellent



Etofenprox – civilian clothing



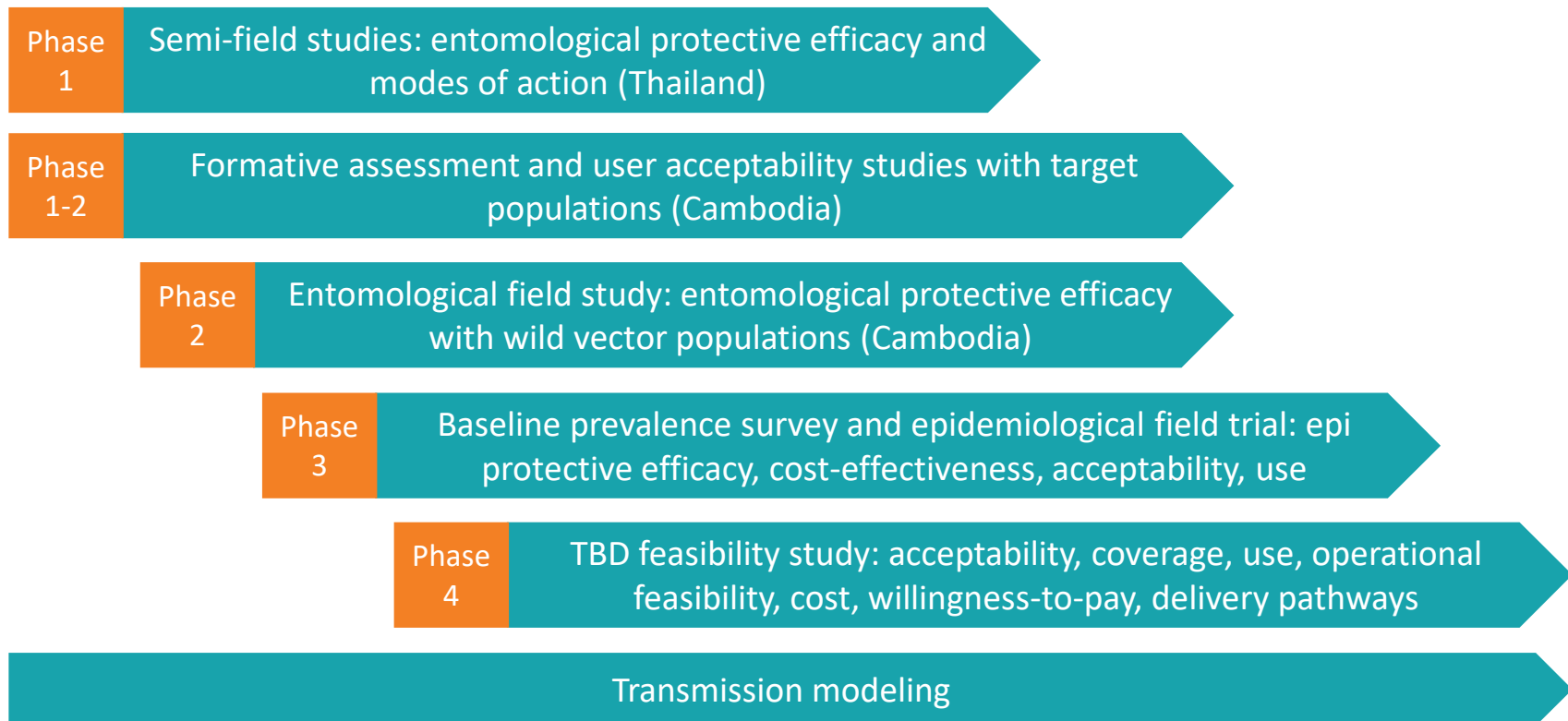
Etofenprox – ranger



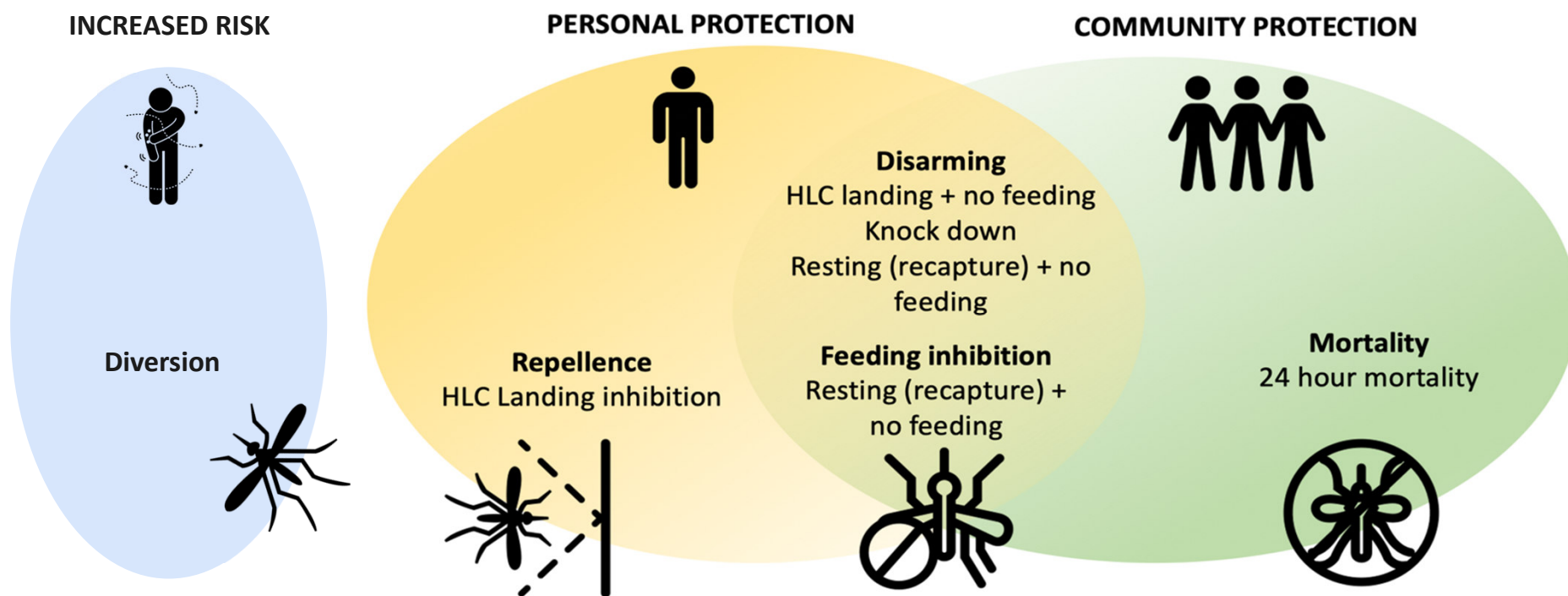
Etofenprox spray

Phased approach to evidence generation

Inspiration: Framework for rapid assessment and adoption of new vector control tools. Vontas, Moore, Kleinschmidt, et al., Trends in Parasitology, 2014.



Opportunity in the Thailand semi-field systems to look at endpoints beyond mosquito landing



Entomological field study

Mondulkiri province, Cambodia
October-November, 2021

7x7 Latin square design

1. Passive VP
2. Eto treated civilian clothing (0x wash) + picaridin
3. Eto treated ranger uniforms (0x wash) + picaridin
4. Eto treated civilian clothing (20x wash) + picaridin
5. Eto treated ranger uniforms (20x wash) + picaridin
6. Passive VP + Etofenprox treated civilian clothing (0x wash) + picaridin
7. Negative control



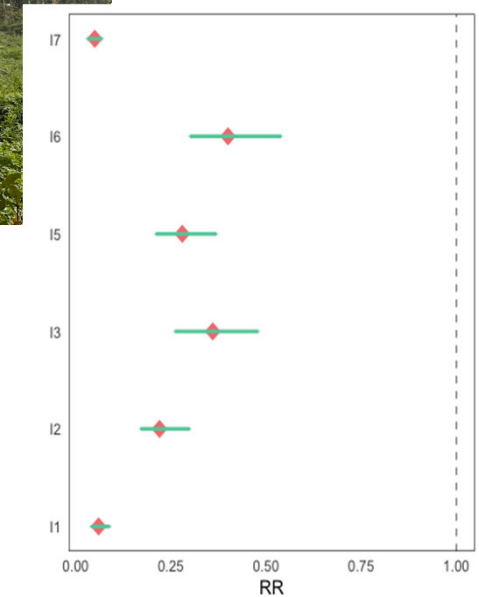
Topline results to date from semi-field and field studies



- 9 of 11 products and product combinations reduced *Anopheles* landing
- **Results of other outcomes indicate tools go beyond personal protection to impact community protection if used**



- All products and product combinations (n=6) reduced risk of mosquitoes landing by at least 50%
- The passive volatile pyrethroid (I1) and the the combination of all three products (I7) reduced risk by nearly 95%



Topline results from formative assessment and user acceptability studies

- Formative assessment with nested user acceptability study
- Separate user acceptability study with HLC collectors during field entomological study
- Preliminary results
 - High acceptability of passive VP due to ease of use and perceived protection from mosquitoes
 - Concern expressed about exposure to rain
 - High acceptability of active VP
 - Users noted fast depletion of product
 - Moderate acceptability with Etofenprox treated clothing due to mild skin irritation and smell
 - Experience with product improved after 1-2 washes to remove some smell and dermal irritation from the product



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Thank You

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