Costs of continuous LLIN distribution strategies in sub-Saharan Africa

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Introduction

2015 MAP Estimates of ITN Coverage and Continental-level time series of estimated ITN coverage indicators for the years 2000–2013. (A) % HH one ITN; (B) % HH 1 per 2; (C) % pop. access; (D) % pop. slept; (E) 'ownership gap'. Source: MAP and Bhatt et al 2015.

- Successful scale up in coverage since 2000
- Heterogeneity
- Imperfect coverage
- Sustainability of coverage

- Sawtooth coverage over time
- What are the implications of gaps
- What will it cost to fill them
Study design

1. Case series of costing for CD strategies
   - Schools
     1. Tanzania
     2. Ghana
   - ANC/EPI
     1. Ghana
     2. Tanzania
     3. Mali
   - Community
     1. Zanzibar

2. Review and meta-analysis of existing data (plus new data)

3. Simulation of effects using OpenMalaria

4. Cost-effectiveness comparisons
Costing methods

1. Perspective - provider - All costs 2015 USD
2. Time frame - Varies by program - intent to capture as many years of CD as possible (minimum one full year)
3. Discount rate - 3%
4. Data Collection
   1. Financial record reviews (reports, invoices, etc...)
   2. Key informant interviews
   3. Resource use surveys in public sector
Cost results

Total and Distribution Costs

- International Donor Distribution Costs varied - some CD systems higher and some lower than campaigns
- Annual Economic Cost per TNY - CD systems more expensive
Cost results

**Distribution of Costs and Country Contributions**

- **LLINs** still largest line item ($\sim 40 – 60\%$)
- **Country contributions** much higher in CD systems ($\sim 15 – 40\%$)
What we already know

- Data from Eisele et al 2012 ($N = 10$)
- CD - 2.60 USD (95% CI 1.85-3.35)
- Cam. - 1.31 (95% CI 0.99-1.63)
- CD ~ 30% higher ($p = 0.01$)

- Data from White et al 2011 ($N = 35$)
- CD - 3.44 (USD) (95% CI 2.19-4.69)
- Cam. - 2.42 (95% CI 1.56-3.29)
- $p = 0.171$ for difference
Conclusions

- Current information indicates that CD strategies can be effective at delivering nets
- Cost of CD is likely to be higher than campaigns, but the margin is poorly quantified
- CD involves vastly more country resources than Campaigns (buy in?)
- Value of extra spending needs to be weighed against cost
- Distribution of costs within programs has not changed drastically over time
Next Steps

1. Finalize costing of Ghana and TZ ANC–EPI program
2. Collect and meta-analyze all ITN distribution cost data (including those here) to estimate differences between CD and Campaign system
3. Determine relative value (cost-effectiveness) of these approaches in varied epidemiological settings by combining with modeled effect estimates
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Intro

Costing methods

Results

Conc.

Acknowledgments

- ZAMEP
- Tanzania NMCP
- Ghana NMCP
- PSI/Mali
- Swiss TPH
- VectorWorks
- USAID/PMI TZ

- JSI/DELIVER
- USAID/PMI Mali
- Mali PNLP
- Communicate for Health Ghana
- Peace Corps Ghana
- PSI/Tanzania
- USAID/PMI Ghana