



Intermittent preventive treatment of malaria among children (IPTc) in The Gambia and Ghana: how different delivery strategies may lead to different coverage, costs and equity conclusions

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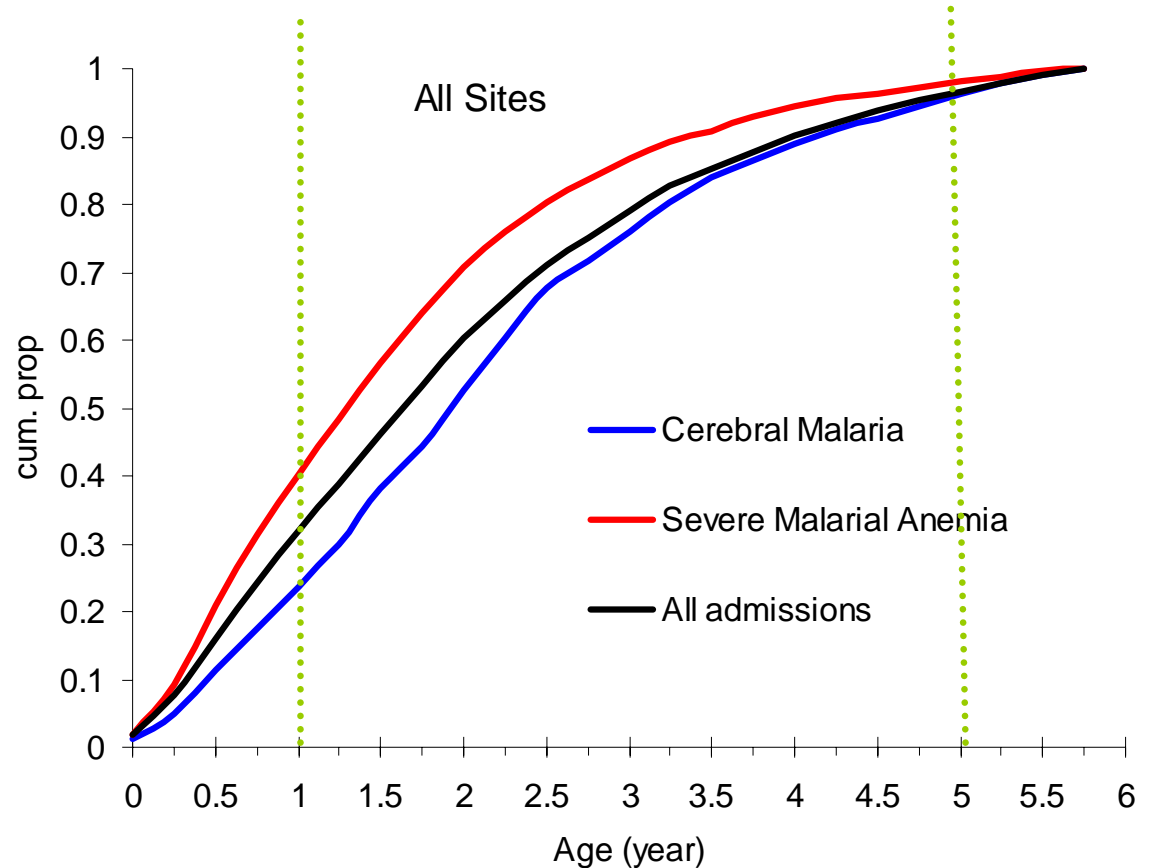
What is IPTc?

Intermittent preventive treatment involves administration of a full therapeutic course of an anti-malarial drug to the whole of a population at risk – under fives - whether or not they are known to be infected, at specified times with the aim of preventing mortality or morbidity.

Why the interest in Older Children?

Cases of severe malaria

- Malawi
- Kenya
- Ghana
- The Gambia

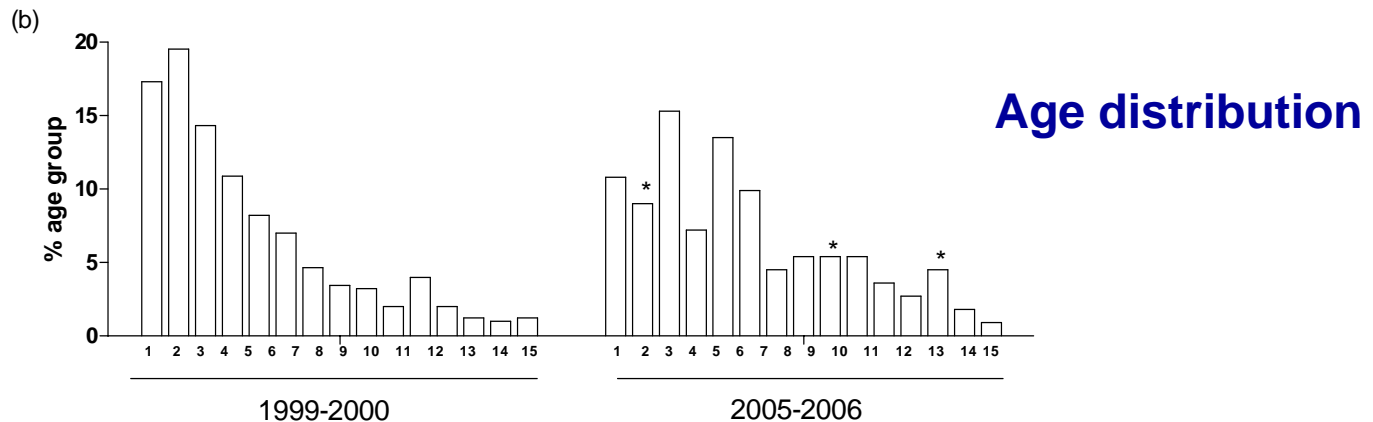
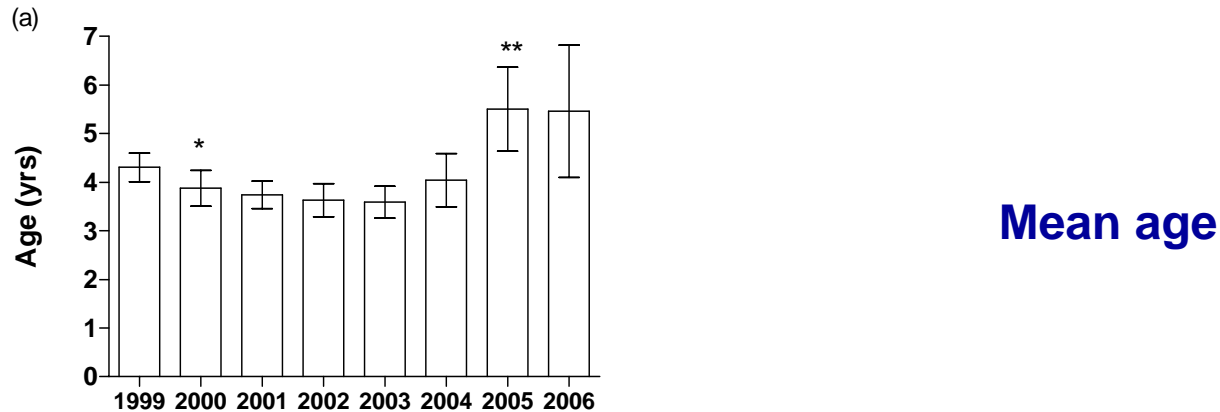


Unpublished SMAC Data

Slide courtesy of Professor Greenwood, LSHTM

Presented at ASTMH, Philadelphia, November 7th 2007

Age patterns of hospital admissions with malaria in the Gambia



(Ceesay et al unpublished)

Slide courtesy of Professor Greenwood, LSHTM

Presented at ASTMH, Philadelphia, November 7th 2007

What is the role of health economics in assessing this intervention?

- **Economic Evaluation of IPTc**
 - The cost effectiveness of IPTc
- **Policy Implications**
 - Understanding the cost implications of scaling up IPTc
 - Research to policy process
 - Understanding the market for community health workers
 - Equity of IPTc access (geographical, SES, utilisation)
- **Behaviour Change / Treatment Seeking Behaviour**
 - Measuring SES
 - Provider choice
 - Impact of intervention vis a vis other malaria prevention (and treatment?) - complements or substitutes

Study Settings

Study Area in Basse, Gambia



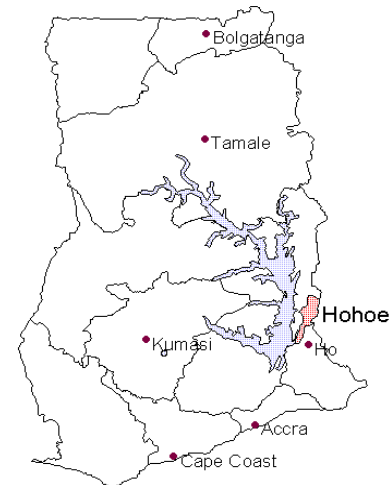
- Transmission highly seasonal, occurring almost exclusively during the rainy season (Jul - Nov)
- 1 hospital and 2 health centres
- First line treatment Coartem.
- ITN coverage 65%



Study Area in Jasikan, Ghana



- Transmission throughout the year but with seasonal peaks (May - Jul, Sept - Oct)
- 2 hospitals and 9 health centres.
- First line treatment AS+AQ.
- ITN coverage 15%-20%



Study Designs

Study Area in Basse, Gambia

- A cluster randomised trial - unit of randomisation: EPI trekking clinic catchment population stratified by distance to health facility
- 28 EPI trekking clinics in the study area
- 12,329 children enrolled
- Delivery of IPTc served by each trekking clinic were randomised to receive IPTc by village health workers
or
from the Outreach Services (EPI clinic)
- Three courses of SP + AQ (3 doses) during September, October and November 2006

Study Area in Jasikan, Ghana

- A cluster randomised trial - unit of randomisation community
- 2 arms - 6 villages in each arm
- 1,039 Children enrolled
- Delivery of IPTc by community-based volunteers
or
Delivery of IPTc by government health workers in the routine health system: Out Patient Department (OPD) & Reproductive & Child Health (RCH);
- Four courses of SP + AQ (3 doses) in May, June, September & October 2006

Coverage Levels

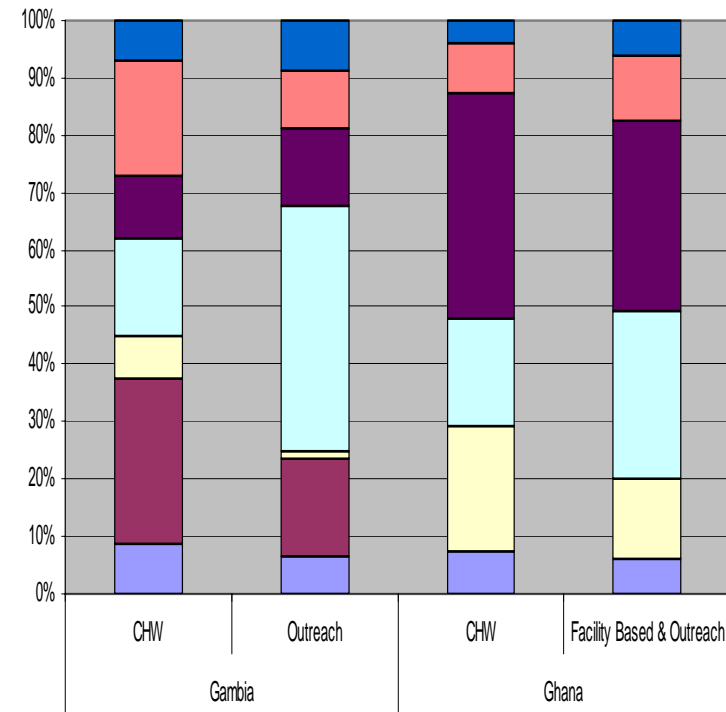
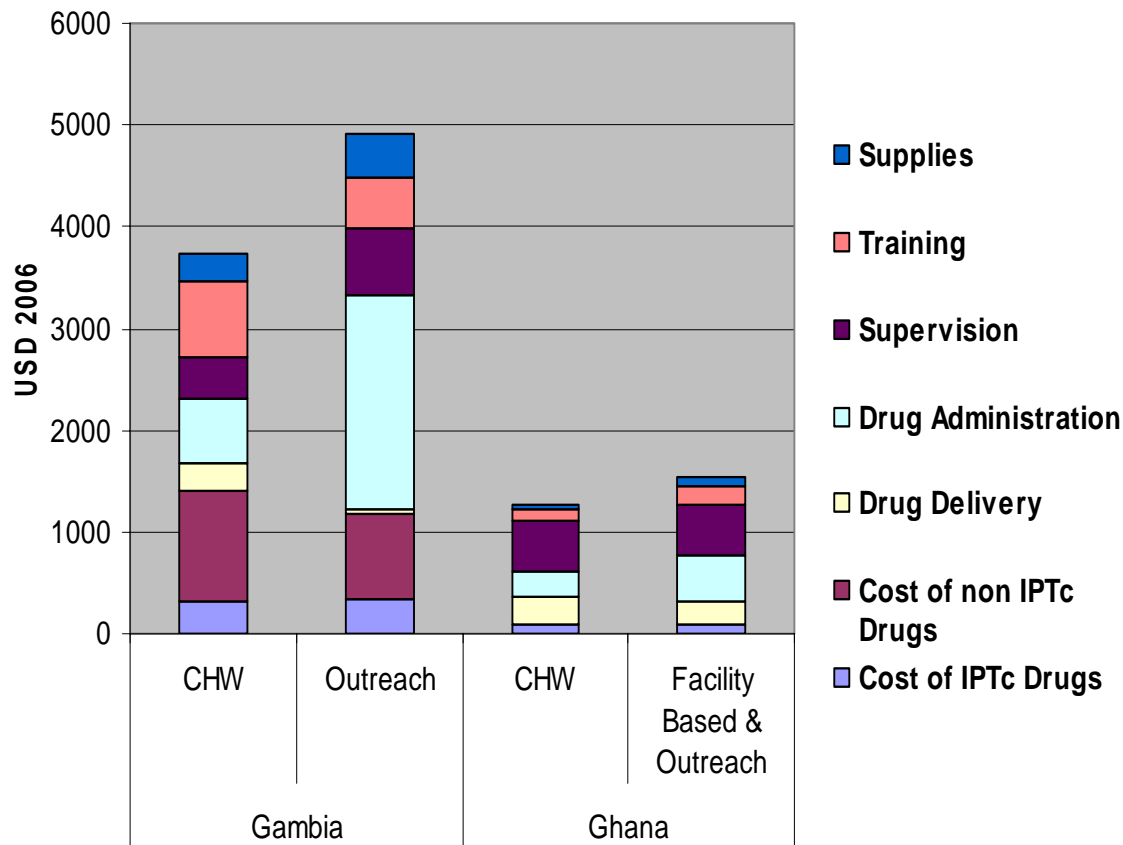
Basse, The Gambia			Jasikan, Ghana		
Coverage	CHW	Outreach	Coverage	CHW	Health Facility & outreach
All 3 doses	74%	47%	All 4 doses	64%	60%
At least 2 doses	90%	70%	3 doses	23%	22%
At least 1 dose	93%	86%	2 doses or less	13%	18%
0 doses	3%	8%			

K. Bojang et. al. (In preparation) Comparison of two strategies for the delivery of IPTc in an area of seasonal malaria transmission

M. Kweku et. al. (In preparation) Options for the delivery of IPTc: a community randomised trial

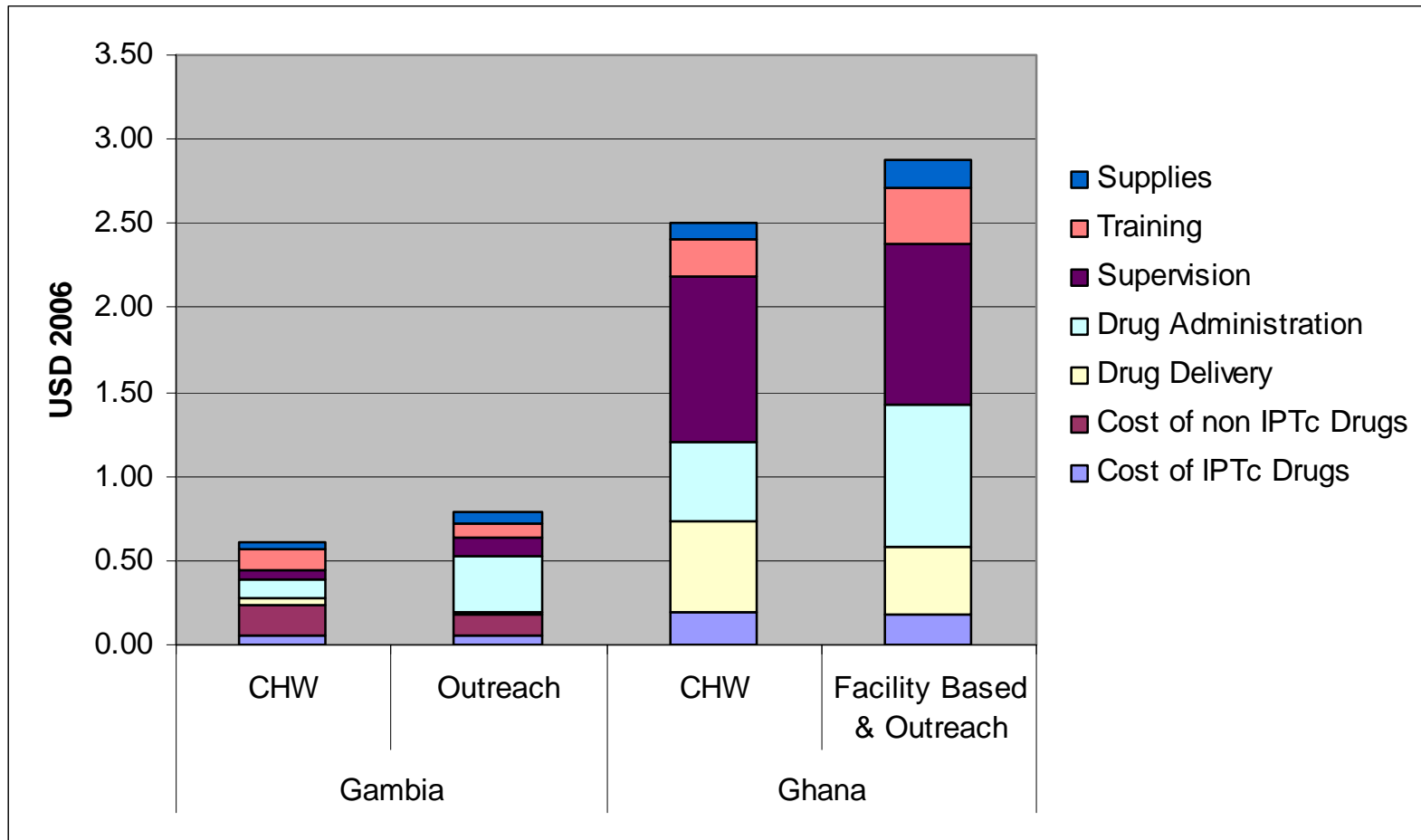
Preliminary Results

Total Costs of Delivery

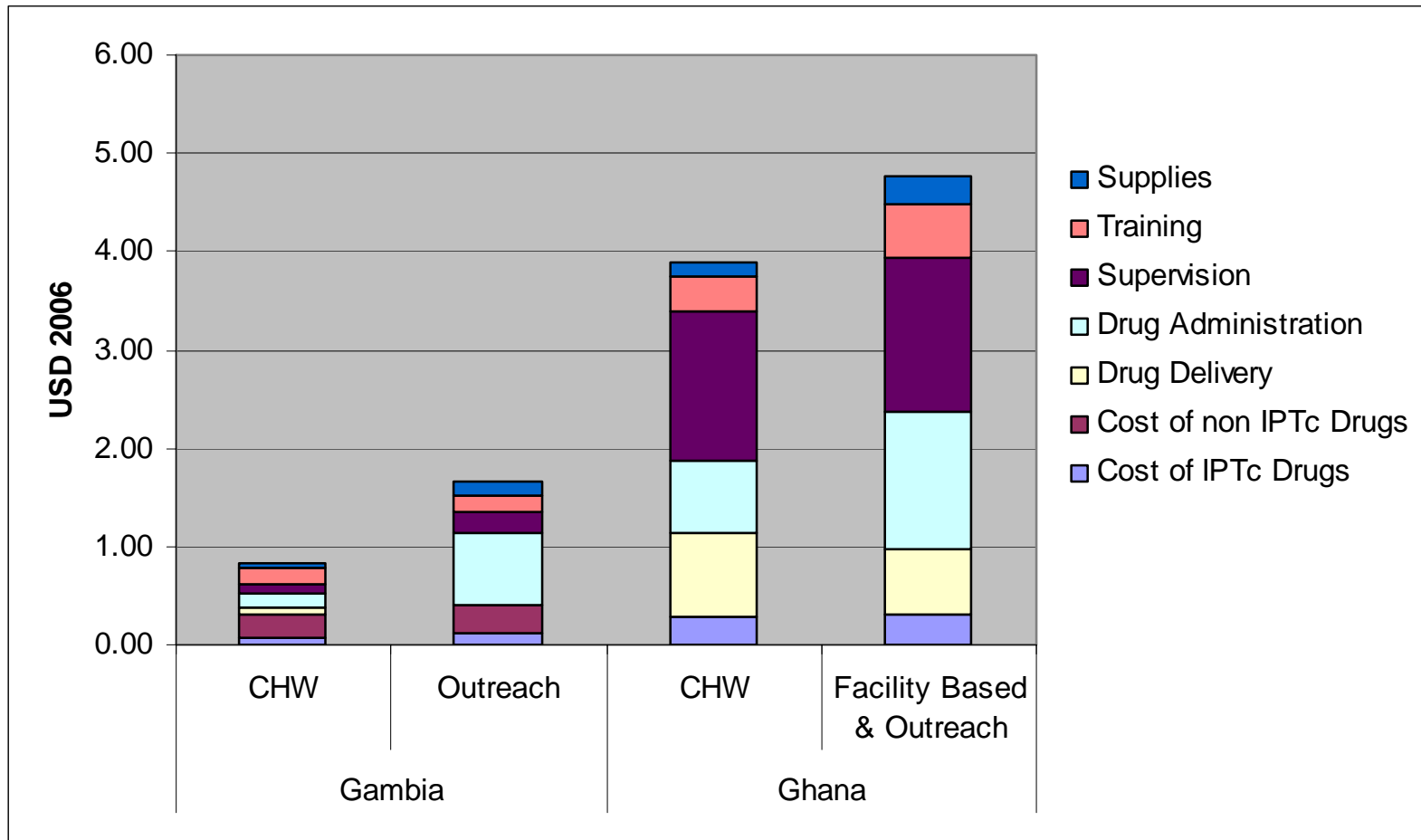


Conteh et. al. (In preparation), Patouillard et. al. (In preparation)

Cost per Child Enrolled



Cost per Child Fully Compliant



Equity of Health, Adherence, Access

Measuring Equity in Gambia

1. Asset ownership & principal component analysis (PCA)
2. Self-rating wealth scale
3. Individual and household access to cash

Challenges for IPTc

- Will IPTc reduce infant/child mortality?
- Will it lead to rebound?
- What drugs can be used to replace SP for IPTc in areas of SP resistance ?
- Safety, tolerability and efficacy of alternative drug combinations for IPTc?
- What is the optimum timing of drug administration and the requisite interval between treatments?
- IPTc plus bed nets?
- What is the most effective and sustainable delivery system?

Thank you to....



- All the children and their caretakers who participated
- Study teams in Gambia and Ghana
- Health personnel and community health workers in Gambia and Ghana
- Gates Malaria Partnership
- You for listening

