



# **USAID-supported NGO child survival projects consistently demonstrate high impact at low cost with community-based approaches**

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# Acknowledgements



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Karen Fogg

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Nazo Kureshy



# Learning Objectives

At the end of this presentation, participants will be able to:

- Describe the estimated mortality impact of 32 recent USAID centrally-supported CSHGP child survival projects
- Describe the relative mortality impact of community-based versus facility-based programming approaches
- Discuss the implications of this analysis for child survival policy and funding priorities



# Background



## ■ USAID's CSHGP program

- Supports US-based PVOs for community-based health programming
- Has funded over 400 projects during 22 years of existence

## ■ Projects are quite standardized

- Type & size of projects is similar
  - Community-centered MCH projects
  - 10,000 – 100,000 U5 covered
  - One or several districts
  - \$1+ million over 3-5 years
- Project planning - Detailed Implementation Plans
- Interventions - Technical Reference Materials (evidence-based interv.)
- M&E - KPC surveys at baseline & final (has many DHS indicators)
- Reporting - Online data system (beneficiaries, coverage changes, etc.)

## ■ Standardization allows standardized analysis & comparisons

# Methods (1)

**The Child Health Epidemiology Reference Group (CHERG) represents various leading technical agencies in global health. CHERG did the analyses for the 2003 Child Survival and 2005 Neonatal Survival articles published in the Lancet.**

**For these analyses, the CHERG did the following:**

- **Estimated the percentage of deaths attributable to the six most common causes of child mortality in each of 42 high mortality countries**
- **Reviewed the literature for those interventions supported by the evidence as effective against these six main causes of child death**
- **Estimated the effect size of these interventions from the literature**
- **Developed a model for estimating the cumulative impact on child mortality of scaling up all these evidence-based interventions**

# Methods (2)

**THE CHERG MODEL FOR ESTIMATING CHILD MORTALITY IMPACT FROM COVERAGE CHANGES HAS THE FOLLOWING CHARACTERISTICS:**

- **Estimates the number of deaths attributable to six main causes**
  - Diarrhea
  - Pneumonia
  - Measles
  - Malaria
  - HIV/AIDS
  - Neonatal causes
  
- **Accounts for effect of malnutrition on mortality**
  
- **Accounts for effect of an intervention on multiple diseases**  
(e.g. vitamin A reduces measles, diarrhea and malaria deaths)
  
- **Avoids double counts of deaths averted**

**The number of lives saved for any intervention in the model:**

Lives Saved = (baseline number of deaths for that cause) x (intervention effectiveness) x (coverage change)



# CSHGP Life Saving Interventions

Any one CSHGP project uses a  $\frac{1}{4}$  -  $\frac{1}{2}$  of these interventions (which are  $\sim\frac{1}{2}$  of those identified by CHERG)

1. Antenatal care
2. Maternal tetanus toxoid x 2, last pregnancy
3. Skilled birth attendance
4. Home delivery by trained personnel
5. Exclusive breastfeeding, 0-5 months
6. Continued breastfeeding, 6-11 months
7. Measles immunization coverage before 12 months
8. Vitamin A supplement in last 6 months
9. Hand washing by caretaker at appropriate times
10. Point of use water treatment in household
11. Sanitation (safe disposal of feces)
12. Zinc treatment for diarrhea
13. Oral rehydration salts or Recommended home fluids for last diarrheal episode
14. Antibiotics for last episode of pneumonia (community or facility)
15. Insecticide treated net use (by U5 last night)
16. Intermittent Presumptive Treatment for malaria, at least one dose in last pregnancy
17. Malaria treatment within 24 hours of onset of fever (facility or community)
18. Nutritional intervention (effectiveness measured by underweight prevalence)

# Example of Application of Model

Project in Cameroon with 40,600 U5's raises ITN coverage from 0.4% - 33.6%...

LS = (baseline number of deaths for that cause) x (intervention effectiveness) x (change in coverage)

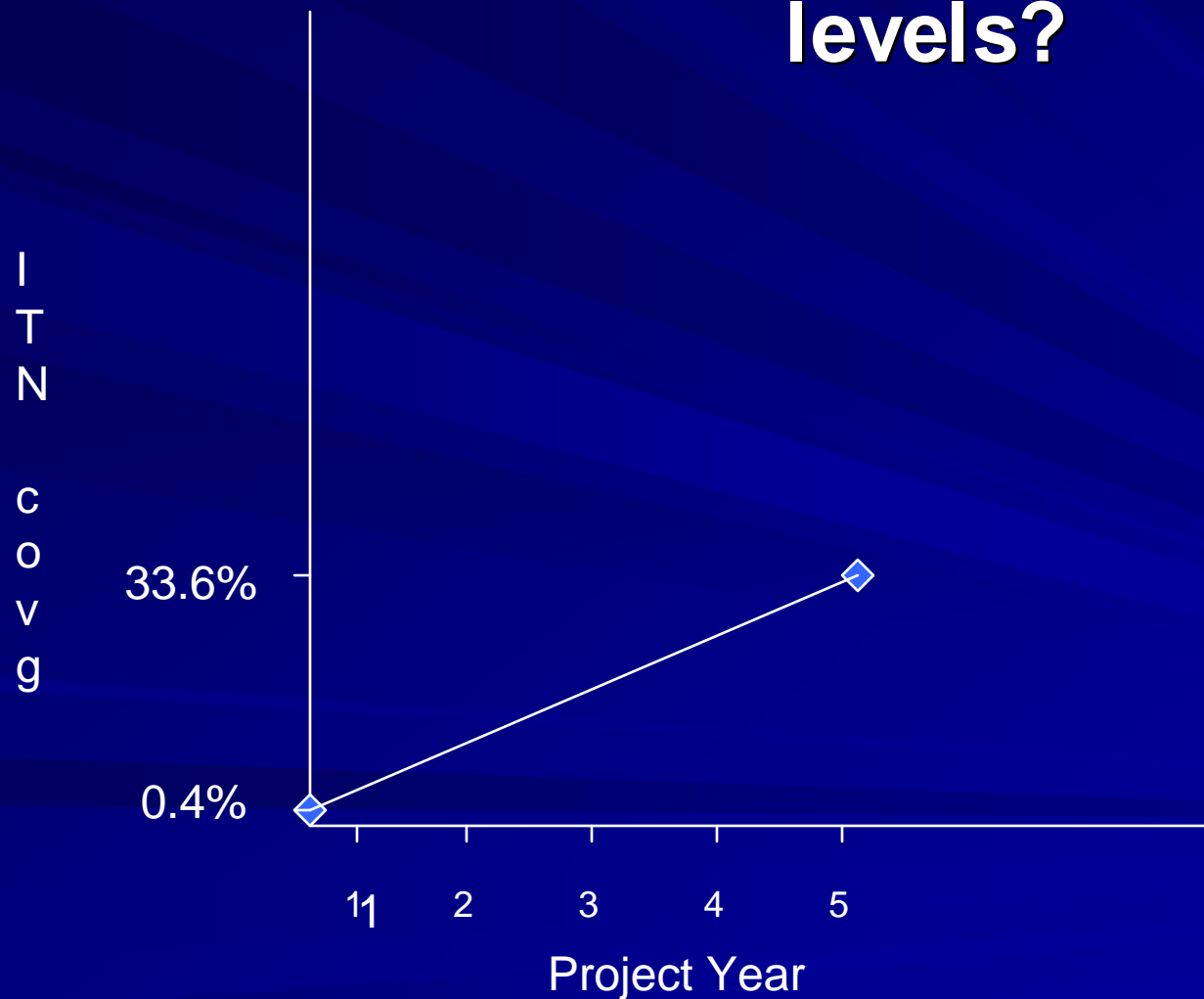
- Annual **baseline deaths** in project area attributable to malaria
  - U5MR = 143.6 /1,000 births; births = 8,446 → 1,213 total U5 deaths
  - 29.4% (357) of these U5 deaths are attributable to malaria
- ITN **effectiveness** against malaria in CHERG model = 75%  
(reference = Cochrane Library, Issue 3)
- ITN **coverage change** from KPC surveys at baseline&final =  
33.6% (final) - 0.4% (baseline) = 33.2%

(baseline number of deaths for that cause) x (intervention effectiveness) x (change in coverage) = LS

$$357 \quad \times \quad 0.75 \quad \times \quad 0.332 \quad = \quad 89$$



# How do we extrapolate between baseline and final coverage levels?



# Current Study

CSTS previously studied 13 CSHGP projects (APHA 2006).  
The current analysis significantly expanded the data set.

## Current study:

- All CSHGP projects ending since 2005 **N=44**
- Projects with a set of standard outcome indicators (Rapid CATCH) that was at least 50% complete **N=40**
- Sub-set of projects was compared against serial DHS data (“control”), collected within two years of the project’s start and end dates **N=32**

## 32 separate projects in 20 countries, implemented by 18 different NGOs...

Project	Beneficiaries: WRA + U5	Total Cost per beneficiary per year	Urban vs. Rural	Project	Beneficiaries: WRA + U5	Total Cost per beneficiary per year	Urban vs. Rural
Mali	98,973	\$ 3.50	Rural	Bangladesh	73,613	\$ 4.52	Urban
<u>Cambodia1</u>	<u>173,424</u>	<u>\$ 1.43</u>	Rural	Malaw i2	97,542	\$ 5.63	Rural
Cameroon	86,475	\$ 3.95	Rural	<u>Cambodia4</u>	<u>41,505</u>	<u>\$ 8.67</u>	Rural
Guinea1	190,294	\$ 2.39	Rural	Mozambique1	105,086	\$ 3.89	Rural
Madagascar	145,335	\$ 2.91	Rural	Haiti1	31,517	\$ 16.50	Urban
Senegal	71,771	\$ 5.94	Rural	Nepal	189,288	\$ 1.60	Rural
Rw anda1	61,039	\$ 6.34	Rural	Guinea2	31,158	\$ 9.28	Rural
Malaw i1	68,917	\$ 4.84	Rural	Haiti2	37,676	\$ 24.65	Urban
Rw anda2	60,093	\$ 6.17	Rural	Nicaragua	13,388	\$ 27.04	Urban
India	86,179	\$ 5.28	Urban	<u>Guatemala</u>	<u>334,263</u>	<u>\$ 1.87</u>	Rural
Bolivia	31,725	\$ 15.76	Rural	Philippines	36,568	\$ 8.78	Rural
Peru1	79,626	\$ 3.91	Rural	Haiti3	69,936	\$ 6.77	Urban
<u>Cambodia2</u>	<u>73,804</u>	<u>\$ 5.48</u>	Rural	Peru2	67,116	\$ 3.97	Rural
<u>Cambodia3</u>	<u>38,867</u>	<u>\$ 9.73</u>	Rural	Ethiopia1	57,500	\$ 5.80	Rural
Rw anda3	283,470	\$ 1.77	Rural	Ethiopia2	58,063	\$ 5.90	Rural
Ghana	73,652	\$ 6.64	Rural	Mozambique2	225,436	\$ 1.38	Rural

# Summary of Projects

(N=32)

Characteristic	Range	Median
Duration	3 – 5 years	4 years
# beneficiaries (U5 + WRA)	13,000 – 334,000	72,700
Cost per beneficiary per year	\$1.38 - \$27.04	\$5.55
Rural project location	75%	



# Summary Results

Result	Range	Weighted Avg.
Estimated % reduction U5MR	2% - 51%	25%
Estimated # U5 lives saved	23 – 5,439	883
USAID cost per life saved	\$217 - \$30,000	\$1,293
USAID cost per DALY saved	\$7 - \$1,066	\$43

## Just how good are these results?

Using the CHERG calculator to estimate the effect of raising ITN coverage *nationwide* in Kenya from a year 2000 baseline of 3% to a theoretical level of 23%....

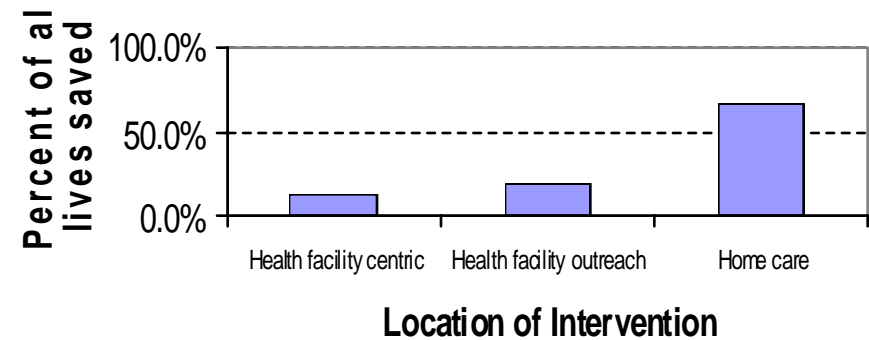
...the estimated mortality effect over a five year period would be to save **3,800** U5 lives.



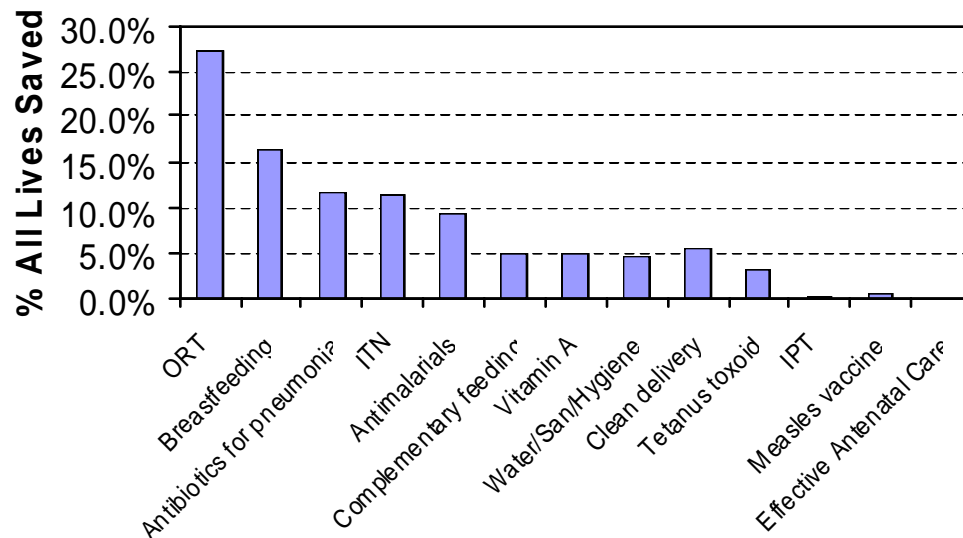
# Where & how are lives saved?

ORT use, breastfeeding, and antibiotics for pneumonia (often given in community settings) are the 3 most highly effective interventions....accounting for over 1/2 the estimated impact.

**% Lives Saved by Location of Interventions**



**% Lives Saved by Specific Activity**  
(denominator = all lives saved)



**About 2/3 of estimated impact is through community-level interventions....**

# Comparative Analysis

Characteristic	Median cost / DALY saved	
<b>RURAL</b> vs. Urban Setting	\$37 RURAL	\$95 Urban
<b>MODERATE</b> vs. Small Scale	\$29 MODERATE	\$73 Small
<b>HIGH</b> vs. Moderate Baseline Mortality	\$29 HIGH	\$81 Moderate

# Conclusions

- Spending an average of \$5 - \$6 per beneficiary per year, these community-based CSHGP projects are
  - Highly effective: ½ the projects were estimated to reduce U5MR 25-51%
  - Highly cost effective: Average = \$43 / DALY saved (U5 mortality only)
- The majority of impact comes from **community-based interventions** which are the strength of NGOs. This conclusion is consistent with the analysis of the 2003 Lancet child survival articles and an interim evaluation of UNICEF's Accelerated Child Survival and Development (ACSD) initiative.
- These projects are most cost effective at moderate scale, in high mortality environments, and in rural settings. However, they remain highly cost effective (<\$100 / DALY saved) across all settings examined.



# Recommendations



More concerted effort is needed to reach MDG4:

1. More priority needs to be given to community-level interventions for child survival, which are highly effective and cost effective but have been relatively neglected by funding agencies.
2. NGOs should play a stronger role in achieving scale-up of community-level interventions. NGOs clearly have a comparative advantage in community-based programming. Experience with the Global Fund mechanism has shown that in conjunction with other actors, NGOs have the capacity to absorb much additional funding and perform at a high level in achieving MDG6. In fact, the Global Fund estimates that ½ its funds across 134 countries have gone to NGOs. NGOs should be given the same level of priority in the needed fight to accelerate achievement of MDG4.





# THANKS!

For more information:  
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## Progress Toward Results:

A Report for the Child Survival and Health Grants Program

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