Assessing Reach of Health for the Urban Poor

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INTRODUCTION
MEASURING EQUITY

Every year, over half a million women die from pregnancy-related causes and over 10 million children die under five years of age. Most of these deaths are reported from developing countries. While public health services are safety nets for the poor, a bounty of studies clearly indicate that such services usually favour the better-off. The Lancet's Child Survival Series identifies equitable maternal and child health services as an essential factor to impact the MDGs 4 & 5.

While some evidence exists that targeting and appropriate intervention can work, how accountable is the global health community in demonstrating extent of reach and impact on the poorest of the poor? Concern Worldwide's Child Survival program has taken steps to better assess how it is doing in reaching the underserved groups masked in coverage surveys.

This study attempts to compare service coverage and health practices results among asset poorest mothers residing in two urban towns (original intervention areas 1998-2004) with seven nearby urban towns (new operation areas 2004-2009) labeled "intervention" and "new" areas respectively. The asset index used here was developed and tested in multiple countries in relation to inequities in household income, use of health services, and health outcomes (Gwatkin et al, 2000).

STUDY METHODOLOGY

Survey questions pertaining to the study were incorporated into the final evaluation (July 2004) for the original intervention areas and the baseline KPC surveys (January 2005) for the new areas .

Respondents
912 and 2962 mothers with children under-2 in the intervention and new area respectively with comparable social, economic and demographic characteristics.

Sampling Method
Simple random sampling of 38 mothers per ward using updated household registers. Mothers were then assigned to one of five quintiles using an asset

Data Analysis
Results for four indicators were compared among poorest asset quintile (Q1) mothers from the intervention and new areas.

| Area | Asset Quintile | | | | | Total |
	Q1 Poorest	Q2	Q3	Q4	Q5 Richest	
Intervention	182	177	192	174	187	912
New	592	592	594	592	592	2962

Table 2: Distribution of the sample mothers according to asset quintile

CONSTRUCTION OF THE ASSET INDEX

Since measuring economic status in developing countries is problematic, different indicators of wealth are used in different studies. In this study, respondents have been categorized into different socio-economic levels using an index of asset ownership or wealth. While there has been some controversy about the relative merits of using asset instead of consumption or income data to measure socio-economic status, recent research suggests that the asset-consumption correlation is quite close. It is an indicator of level of wealth that is consistent with expenditure and income measures (Rutstein, 1999).

Four steps in constructing the asset index:

1. Determination of indicator variables (assets)
2. Dichotomization (i.e., variables that take a value of 1 if the household owns the asset and 0 if the household does not own the asset)
3. Calculation of indicator weights and the index value
4. Calculation of distribution cut-off points

The asset index is constructed using the method of **Principal Components Analysis** following the SPSS factor analysis procedure which assigns each asset a factor score (weight). The resulting scores were standardized in relation to a normal distribution with a mean zero and standard deviation of one. Each household was assigned standard scores for each asset calculated based on the formula presented below:

$$\text{Household asset score} = \left(\frac{\text{value of asset variable - unweighted mean of asset variable}}{\text{unweighted standard deviation of asset variable}}\right) \times \text{weight (factor score)}$$

Each woman was assigned a **total** household asset score for her household based on the sum of her **standard** household asset scores. The women were then ranked according to their total scores and divided into five quintiles equally. These groups represent the poorest (Q1) up to the richest (Q5) quintiles of the population in the intervention and new areas.

THE MUNICIPAL HEALTH PARTNERSHIP PROGRAM
USAID / Concern Worldwide Child Survival & Health Program

The program aim is to reduce maternal and child mortality among urban residents in Northern Bangladesh. The intervention began in 1998 in two municipalities, and based on its success in improving family health practices and coverage of services, has recently begun to be scaled-up to seven surrounding municipalities.

The program objectives are:

(1) Sustained improvement in quality of maternal and child health systems

(2) Improved family practices

While private and government service providers and local authorities are responsible for providing essential health services in their respective area, Concern's intervention was in facilitation and capacity building to guide local political leaders to establish a sustainable health promotion system and to protect the poorest
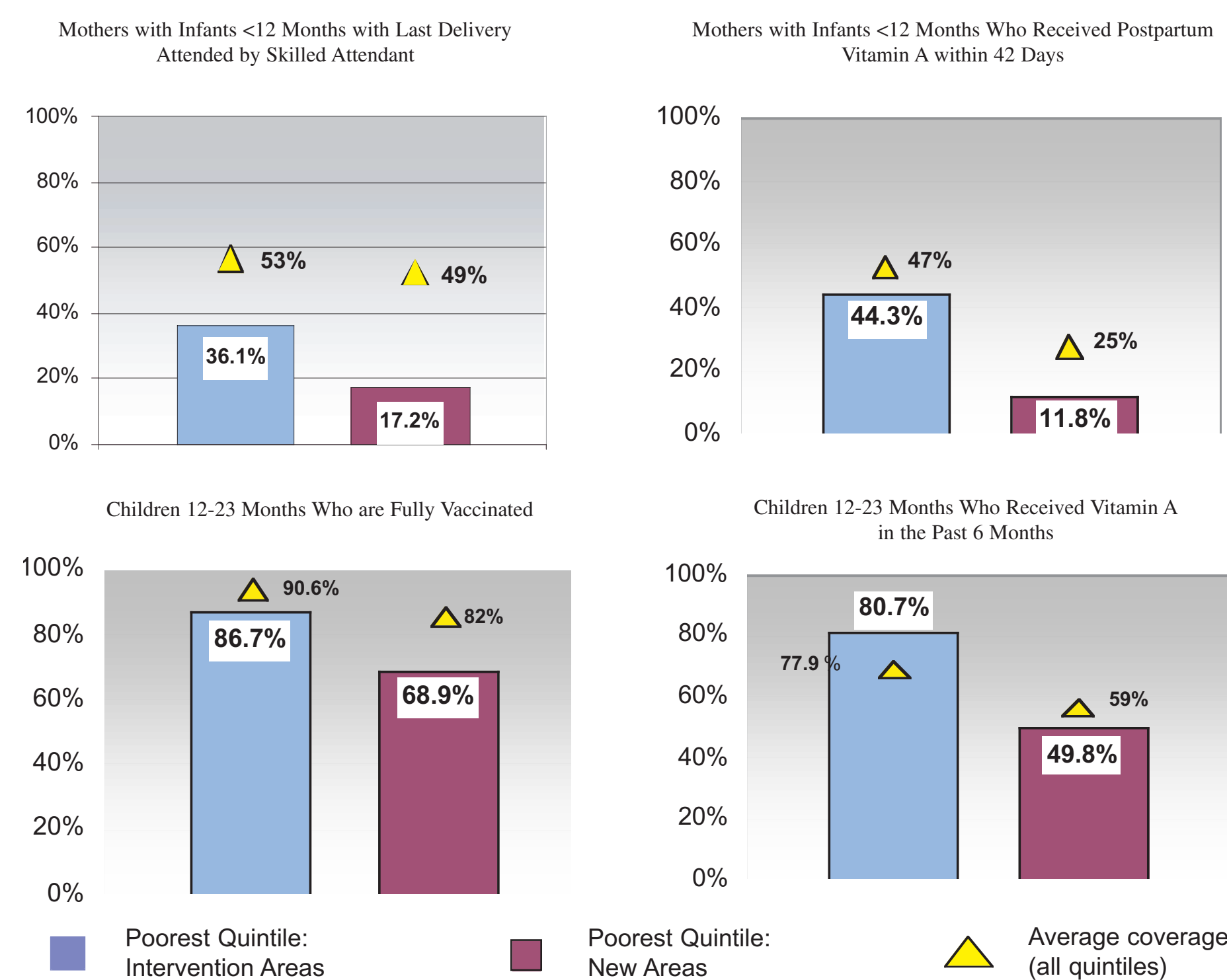
Major program strategies include:
- **Developing the management capacity of local government personnel**
- **Developing the child survival interventions technical capacity of the municipality staff**

Label	Municipality	Wards	Total Pop 2005	Children 0-59 months
Intervention	Parbatipur	9	21,565	2,351
Intervention	Saidpur	15	112,821	14,658
New	Nilphamari	9	42,297	4,610
New	Kurigram	9	62,826	6,848
New	Gaibandha	9	72,910	7,947
New	Dinajpur	12	175,917	19,175
New	Rangpur	15	283,448	30,896
New	Bogra	12	182,490	19,891
New	Jaipurhat	9	45,966	5,010

Table 1: Population of Program Area, 2005

COMPARATIVE HEALTH FINDINGS AMONG ASSET-POOREST FAMILIES

Mothers with Infants <12 Months with Last Delivery Attended by Skilled Attendant — 36.1%, 17.2%, Average 53%, 49%

Mothers with Infants <12 Months Who Received Postpartum Vitamin A within 42 Days — 44.3%, 11.8%, Average 47%, 25%

Children 12-23 Months Who are Fully Vaccinated — 86.7%, 68.9%, Average 90.6%, 82%

Children 12-23 Months Who Received Vitamin A in the Past 6 Months — 77.9%, 49.8%, Average 80.7%, 59%

Poorest Quintile: Intervention Areas / Poorest Quintile: New Areas / Average coverage (all quintiles)

Source: ACPR June 2004 and KPC Survey Report January 2005

The main assets for which information was collected in this study include:
- electric fan
- bicycle
- motor cycle
- color television
- black and white television
- electricity
- floor mat
- table or chair
- sofa set
- type of toilet
- housing materials (roof walls and floors)

CONCLUSION

IMPACT ON THE POOREST?

The data demonstrated that asset poorest families in the intervention area have considerably better health practices and coverage. However, both areas had significantly higher results for mothers in the highest asset quintile than the lowest, confirming inequalities in the health system. As Concern recently introduced the tool into its practice in 2004, the authors were unable to assess to what extent the equity gap had changed in the intervention area overtime.

It is a powerful and low cost analytical method that sheds light on equity of child survival programs. The information necessary for construction of the asset index is often collected in routine household surveys and if not can be obtainable by the inclusion of a few simple questions. Greater application of the asset index tool should be used in surveys to make this critical comparison.