Impact of Community Based Primary Health Care Program in Ethiopia

John Snow, R&T Inc. Ethiopia - L10K The Last Ten Kilometers

Research & Training Institute, Inc.

Ali Karim, Wuleta Betemariam, Samuel Yalew, and Yared Mekonnen

Introduction

- Ethiopia has one of the highest maternal and child mortality rates in sub-Saharan Africa
- The initial health sector development program failed to reach the rural population—before 2003, 50 percent of the population lived more than 10 kilometers away from a health facility
- Health extension program (HEP) was launched in 2003 to ensure universal access to promotive, preventive and select curative health services
- Till date, over 11,000 health posts are constructed
- Over 30,000 female health extension workers (HEWs) trained—one for every 500 households
- HEP provides communicable disease prevention and control, family planning, maternal and child health, immunization, nutrition, adolescent reproductive health, first-aid and emergency measures, hygiene and environmental sanitation, and health education and communication
- Families are trained to adopt healthy practices and serve as 'models' in their neighborhood
- New and existing vertical health programs are imposing extra tasks to the HEWs
- Voluntary community health workers (vCHWs)—who are 'model family' members—assist the HEWs to provide the HEP package of services in their neighborhood; i.e., shifting 'doable' tasks from the HEWs to the vCHWs
- HEWs supports and mentors the vCHWs
- The Bill & Melinda Gates-funded Last Ten Kilometers (L10K) Project supplements and complements the HEP in 115 districts (18% of the total population) in four regions of the country—Amhara, Oromia, SNNP and Tigray
- The L10K baseline survey conducted in December 2008–January 2009 gives the opportunity to assess the impact of HEP on selected primary health care program outcome indicators

Study Design

- Comparison of RMCH services utilization and behaviors between 2005 and 2008/09
- The variability in the scope and intensity of the HEP in communities is correlated with the variability in program outcome indicators— the effect of the HEP is measured by the magnitude of "dose-response" relationships between measures of exposure to HEP and the outcomes of interest

Data

The L10K baseline survey: 2-stage cluster survey
- 243 primary sampling units/community/kebele
- 7,490 total respondents that included
  - 4,860 women in reproductive age
  - 2,916 women with children 0 to 11 months
  - 2,530 women with children 12 to 23 months

Ethiopian demographic and health survey 2005
- 2,845 of the 14,070 women in reproductive age in L10K survey areas (Tigray and L10K areas in Amhara, Oromia and SNNP regions)

Measurements

HEP exposure indicators (contextual variables)
- % of women in the community visited by a HEW in last 6 months
- % of women in the community visited by a vCHW in last 6 months
- % of women in the community who are a model family or a graduating model family member

Primary health care program outcome indicators
- Latrine use; clean source for drinking water; contraceptive prevalence rate; receipt of at least two antenatal care; neonatal tetanus protected childbirth; delivery attended by skilled health professional; postnatal care within 48 hours; breastfeeding; and immunization

Results

Table 1: Community level prevalence of 1) household (HH) visits by a HEW, 2) HH visits by a vCHW, and 3) model families, according to program intensity quintiles, L10K survey areas, 2008/09

HEP Intensity (in quintiles)	Community-level average prevalence of		
	HH visits by HEWs	HH visits by CHWs	Model families
Lowest	5.2	0.3	0.0
Fourth	20.7	6.6	3.1
Medium	32.9	13.8	6.0
Second	46.1	25.4	12.8
Highest	67.1	51.4	30.1

Figure 1: Trend in selected environmental sanitation, reproductive, maternal and child health care services utilization and behaviors in L10K survey areas, 2005–2009

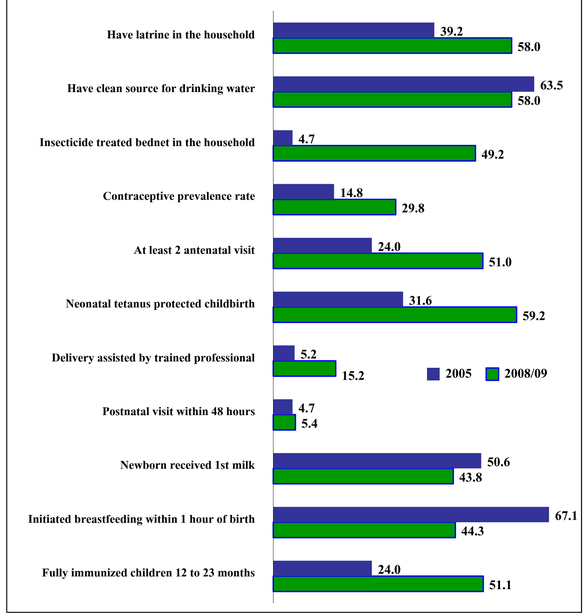

Table 2: The impacts of HEP exposure measures (in percentage-points) on selected primary health care program outcome indicators are simulated from logit models (controlled for survey design effect, age, education, marital status, number of children, religion, listens to radio, years at current residence, distance to water source and health facility, wealth quintile, urban settings, and survey domains), L10K survey 2008/09

RMCH outcomes	Community-level prevalence of		
	HH visits by HEWs	HH visits by CHWs	Model families
Have latrine	+9.7	+5.2	+3.9
Clean water source	No impact	No impact	No impact
Possession of ITN	No impact	No impact	No impact
Contraceptive prevalence rate	No impact	No impact	+2.1
At least 2 antenatal visit	No impact	+3.5	+2.3
Neonatal tetanus protection	+3.3	+3.3	+3.5
Delivery by trained professional	No impact	No impact	No impact
Postnatal care within 48 hours	+1.5	+2.0	+1.0
Newborn received 1st milk	No impact	No impact	No impact
Breastfeeding within 1 hour	No impact	No impact	No impact
Fully immunized	+6.2	+3.2	+3.3

Conclusions

- The expansion of the HEP is associated with increase in latrine and bed net possessions; contraceptive use; antenatal and tetanus toxoid coverage; delivery assisted by trained professional; and childhood immunization coverage; however, access to clean drinking water and early breastfeeding practices declined
- Household visits by HEWs and vCHWs, and establishing model families in the community are effective HEP strategies, the latter being the most effective
- Deliveries assisted by trained professional and postnatal care remains low

Implications

- Continue and expand the model family program and engage vCHWs to further improve household and community health practices
- Promote peri-natal, postnatal & neonatal care services
- Take initiatives to improve access to clean water