Key Lessons from Community-Based Approaches to Newborn Health – Implication for Future Programs

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Community-based program: Interventions and Delivery Strategies

Intervention components

- Family/community education to promote pregnancy, delivery, postpartum, and essential newborn care
- Education on danger signs and care seeking
- Identification of danger signs and referral
- Special care for LBW/preterm babies
- Community case management

Delivery Strategies

- Routine systematic home visits by CHW
- Participatory women's groups
- Health service provision at outreach sites
- Linkages with health facilities for clinical/emergency care

What are the Key Lessons?

- Community based approaches, especially home visit by trained CHWs can improve newborn survival
- However, evidence largely limited to controlled settings – large scale programs encounter many challenges
- There are questions about the feasibility of implementation of intensive home visit program at scale

Key lessons from Community-Based Approaches

- Simpler and alternative strategies developed and tested: risk stratification and focus on high risk newborn, m-health strategies, and out-patient treatment of newborn infections.
- There is a need for continuing community strategies tailored to local health systems context
- The optimal approach is to combine feasible neonatal interventions into community-based intervention packages and integrate into the local health care system in conjunction with strengthening facility-based care.

Projahnmo Program in Bangladesh

2001-Present

Partners:

- MOHFW/Govt. of Bangladesh
- Bangabandhu Sheikh Mujib Medical University (BSMMU)
- Sylhet Osmani Medical College
- International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b)
- Projahnmo Research Foundation (PRF)
- Shimantik (a local NGO)
- Child Health Research Foundation/ Dhaka *Shishu* Hospital
- Johns Hopkins University

Donors (listed alphabetically):

- Bill and Melinda Gates Foundation (BMGF)
- GlaxoSmithKline (GSK)
- National Institutes of Health (NIH)
- Saving Lives at Birth
- Saving New-born Lives/SNL, Save the Children
- Thrasher Research Fund
- United Nations Population Fund (UNFPA)
- United States Agency for International Development (USAID)
- World Health Organization

Community-Based Approach to Reduce Neonatal Mortality

Study period: 2001-2006

Funding Source: BMGF through SNL/SAVE and USAID

Sample Size: ~47,000 pregnant women and newborns

Interventions:

- A community-based package of MNH interventions; CHWs were the backbone
- Two antenatal home visits and three postnatal home visits on day 1, 3 and 7 postpartum to promote and provide care
- Home treatment of newborn infection if referral is not possible

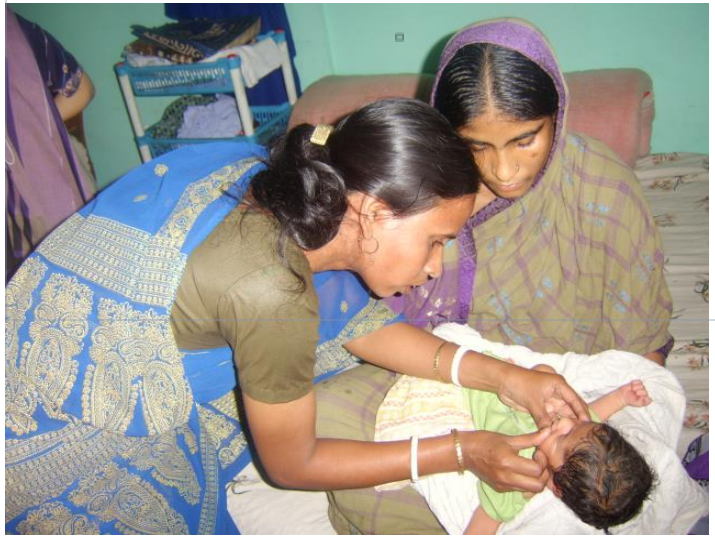
Results:

- NMR reduced by 34% in the intervention areas *(Baqui et al., Lancet 2008)*
- Postnatal home visits within 48 hours was associated with 2/3rd lower NMR *(Baqui et al., BMJ 2009)*
- Early identification and management of new-born infection, either at first level health facility or at home were associated with lower case fatality *(Baqui et al, PIDJ, 2009)*

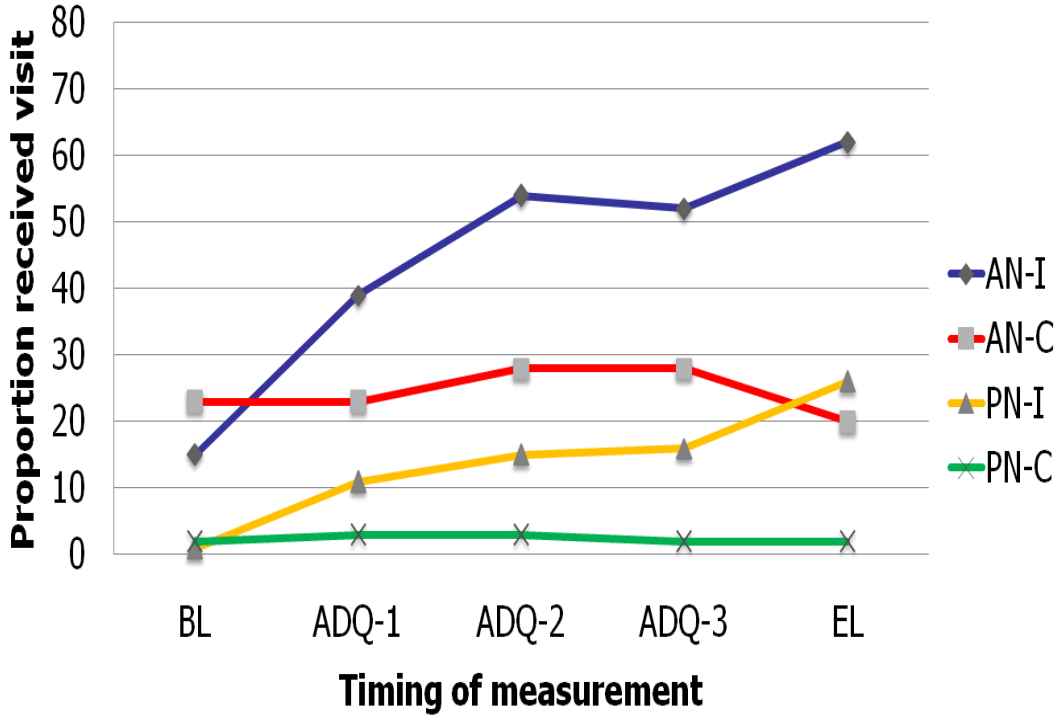
Policy and programmatic Implications

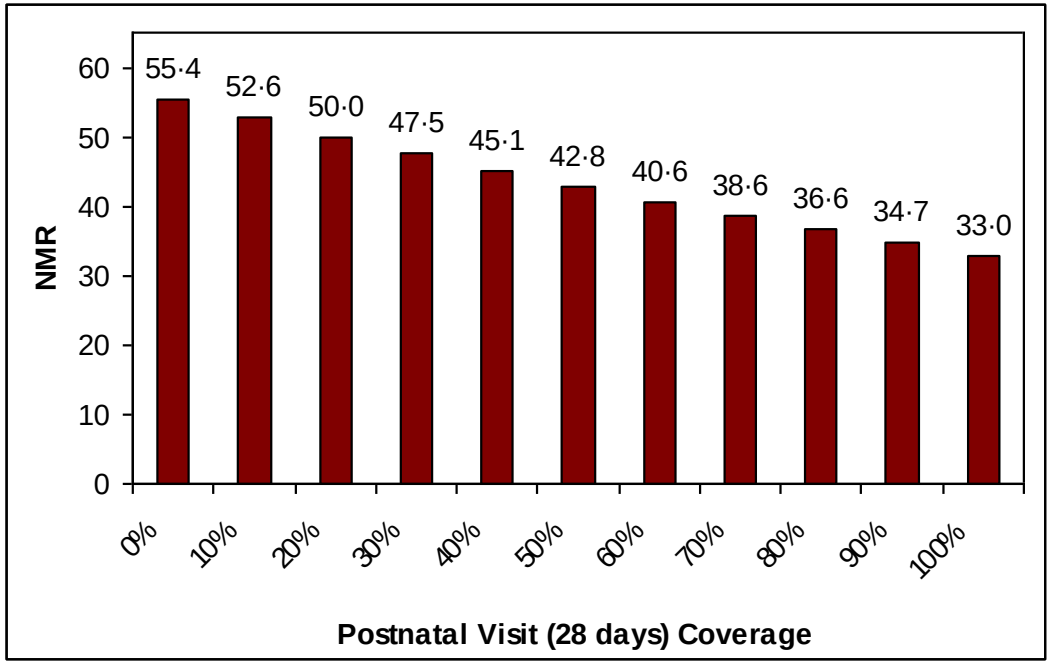
Policy Contributions

- Contributed to design of the Bangladesh national newborn health strategy *(MOHFW-Bangladesh,2009)*
- WHO-UNICEF (joint statement, *WHO,2009)* recommended early postnatal visits as a strategy to reduce neonatal mortality
- Many countries started adopting postnatal home visit as a strategy in their programs



Evaluation of RACHNA Program of CARE-India RACHNA-India Antenatal and Postnatal Home Visit by community-based health promoters* and Predicted NMR by Postnatal (28 days) Coverage Levels





* Auxiliary Nurse Midwives, Anganwadi Workers or Change Agents

RACHNA: Issues and Reflections

- The technical package is effective
- However, increasing coverage and achieving health impact in large programs is challenging
- Successful implementation requires attention to implementation processes / challenges and local adaptations based on program learning
- Attempts to adjust a prototype program is difficult when implementing at scale – efforts to adjust creates tension with large program consistency and rollout
- Although multiple data sources were available, the program found it difficult to adjust the strategies based on data

Collectively, what we have learned?

- A 2019 Cochrane review by Lassi et al found:
- 33 community educational interventions
- 16 included family members in educational counselling
- 14 intervention involved one-to-one counselling between a healthcare worker and a mother
- 12 interventions involved group counselling for mothers
- Remaining seven incorporated components of both counselling methods.
- Community health educational interventions had a 13% significant impact on reducing neonatal mortality
- Evidence largely limited to controlled settings with ~25% reduction in NMR
- Large programs usually demonstrated low coverage and no mortality impact

Question about feasibility of large-scale implementation of intensive home visit program led to development of simpler and alternative strategies

- Risk stratification and focus on high risk newborn
- M-health strategies
- Out-patient treatment

Simplified antibiotic Therapy for Management of Newborn Infection

- WHO recommendation for management of newborn infection is hospitalization and two injectable antibiotics for 7 days
- In LMICs, most newborns are not hospitalized
- We evaluated 2 days of injection gentamicin and 7 days oral amoxicillin(out-patient) against standard 7-day 2 injectable antibiotic (in-patient) and demonstrated equivalence
- WHO revised guideline recommending simpler antibiotic regimen when hospitalization is not possible
- Bangladesh MOH adopted the policy

Baqui et al, 2015, Lancet Global Health

Implementation research to support Bangladesh Ministry of Health and Family Welfare to implement its national guidelines of management of infections in young infants in two rural districts of Bangladesh

Program context:

- Treatment provided from PHC centers staffed by 2-3 providers, mostly paramedics
- Providers were trained and necessary drugs and supplies were provided

Lessons:

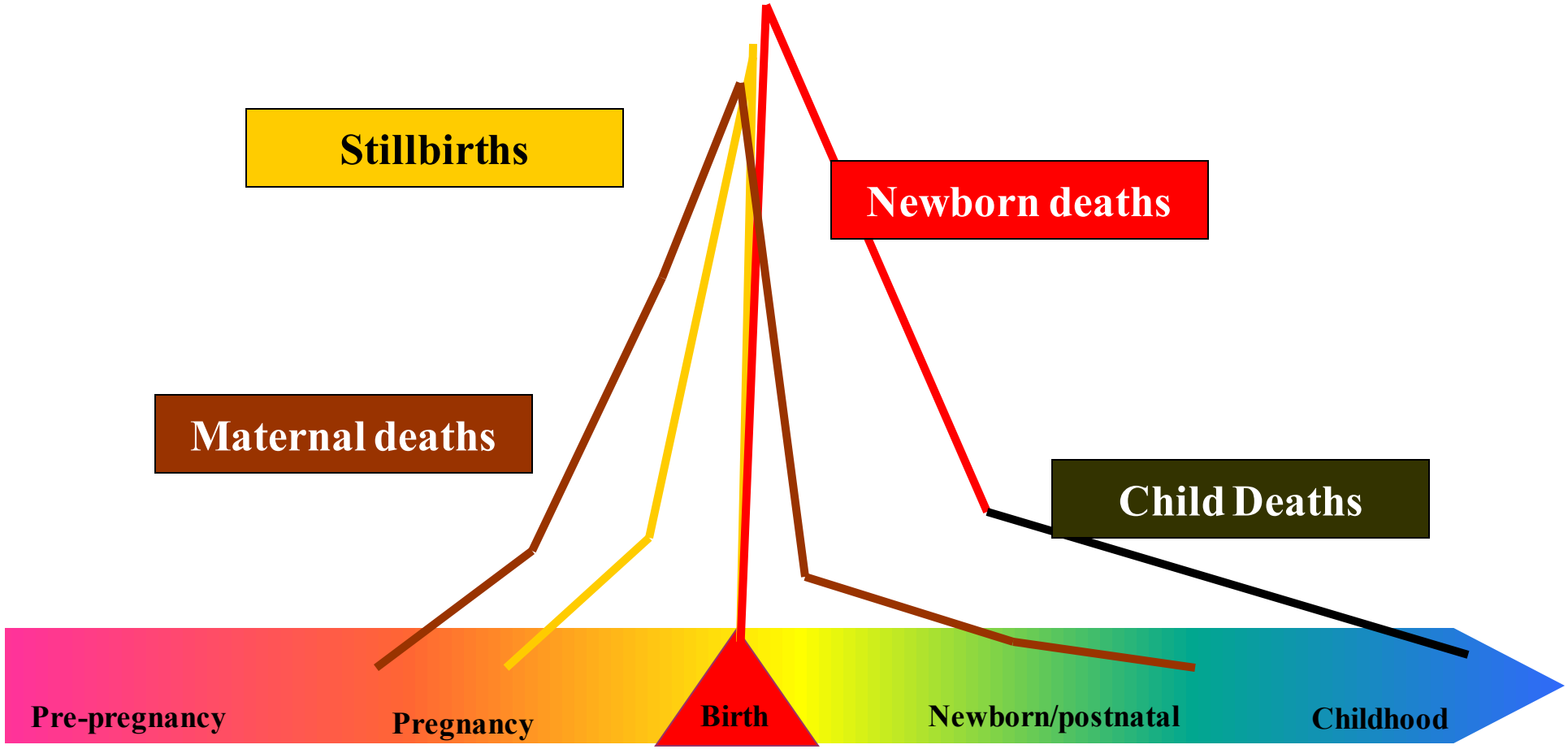
- Training providers to appropriately diagnose and treat is feasible
- Care-givers generally accept out-patient treatment
- Illness recognition and care seeking remained low
- Only about 20% of expected cases sought care from these centers.
- Need for continuing community education to facilitate illness recognition and care seeking
- Need to identify other barriers to access to facility care e.g., transport

What is the optimal approach moving forward?

- The optimal approach is to combine feasible neonatal interventions into community-based intervention packages and integrate into the local health care system in conjunction with strengthening facility-based care.

- Why I think that is the optimum approach?

Maternal, fetal and newborn health are intricately linked and Risk of mortality peaks around childbirth



What are the optimal approaches moving forward?

- Most gains can be achieved by increasing coverage of
  - Care during labor and childbirth plus immediate newborn care
  - Care of the small and sick newborns
- These care include emergency obstetric care, management of preterm labor, management of preterm /VLBW babies, and management of newborn infections
- Emergency care can be provided only in hospitals

What are the optimal approaches moving forward?

- Obviously, there is a tension between access and effectiveness
- Access to clinical/emergency care is limited in resource-poor settings with weak health systems
- Although community-based approach is a way to quickly expand access, its effectiveness is modest unless linked to clinical care
- The attributes of community-based maternal and newborn health care should include the provision of home- and/or community-level skilled care and linkages with clinical care including emergency care.

So, if I do it…

- I will develop an evidenced-based and feasible community-facility intervention package tailored to local health systems context (use formative research, stakeholders' inputs)
- Integrate with local health care system
- Implement using implementation research approaches which has the potential to develop effective strategies
  - For behavior change
  - Improve access to clinical care
  - Improve quality of facility-based care/ clinical interventions
- During initial implementation, measure implementation processes, adequacy of implementation as well as effectiveness and adjust implementation strategies as needed
- During scale up, measuring impact is needed but ensure high coverage and quality

Thank you