

# Economic modelling for evaluation of complex interventions to improve maternal & newborn health

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## Economic evaluation of complex interventions

To what extent can the results from economic evaluations be used to inform policy and programme decisions beyond the study setting?

Economic evaluations measure the cost-effectiveness of interventions implemented in a given setting, using locally-defined costs and effects.

Making generalizable conclusions can be difficult, especially when interventions are complex and target behaviour change, service delivery or health system strengthening.

The **cost-effectiveness of complex interventions** to improve the utilization and provision of maternal and newborn health care depends on:

- **Implementation strength**

*dose, duration, specificity and intensity*

- **Scale**

*infrastructure requirements, human resource capacity, transportation and communications*

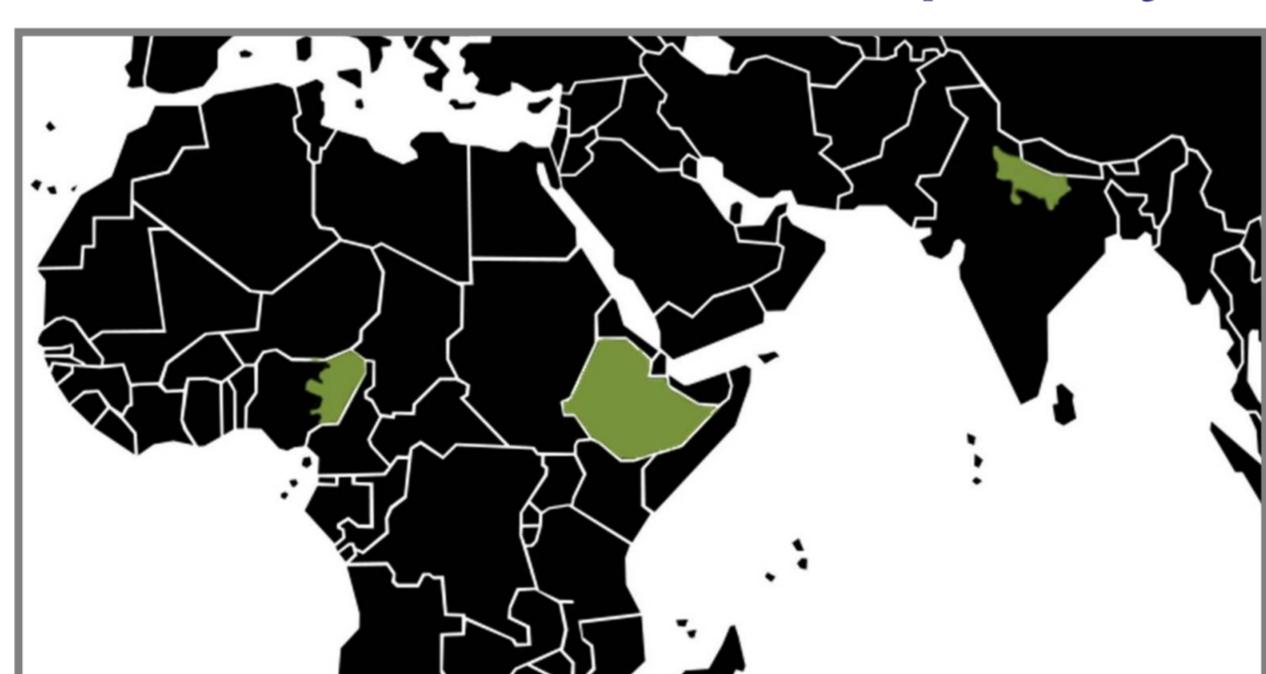
- **Context**

*epidemiological, demographic, social and cultural factors*

## IDEAS: Evidence to improve maternal & newborn health

IDEAS aims to improve the health and survival of mothers and babies through generating evidence to inform policy and practice

IDEAS works with project partners in Ethiopia, North-Eastern Nigeria and Uttar Pradesh in India.



Our project partners are working to enhance the existing health system by implementing complex interventions called innovations.

What can we learn about the cost-effectiveness of innovations implemented by project partners to improve the utilization and provision of maternal and newborn health care?

- Different types of innovations
- Implemented in different contexts
- Variation in scale and implementation strength

### Box 1 – Defining Innovations

**Innovations are complex behaviour change and service delivery interventions that aim to improve the utilization or provision of care**

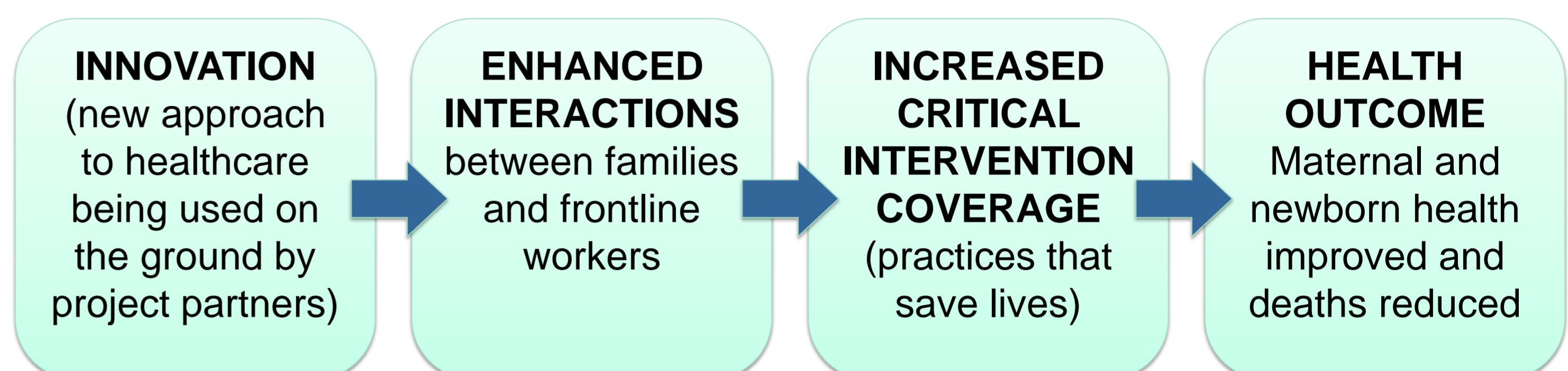
Examples include:

- An interactive mobile phone-based multimedia application used by Accredited Social Health Activists. (Manthan, Uttar Pradesh)
- Training community and family members who attend home births in clean and safe delivery practices, as well as how to identify complications that require skilled care. (MaNHEP, Ethiopia)

## Theory of change

Innovations will enhance interactions between families and frontline workers. This in turn will enable more mothers and babies to access life-saving interventions and lead to improved maternal and newborn health.

Figure 1 – Innovations improve maternal & newborn health



Based on the Bill & Melinda Gates Foundation's maternal and newborn health strategy. The theory of change underpins research undertaken in IDEAS.

## Economic model

An economic model is being developed based on the theory of change to examine the cost-effectiveness of innovations to improve maternal and newborn health.

The model will map the interactions between families and frontline workers and the live-saving interventions received by mothers and newborns during pregnancy, childbirth and the neonatal period.

- Probabilities that interactions take place and life-saving interventions are received
- Costs of interactions and life-saving interventions received
- Expected health outcomes for mothers and newborns

Estimate how innovations change the utilization, provision and cost of maternal and newborn care.

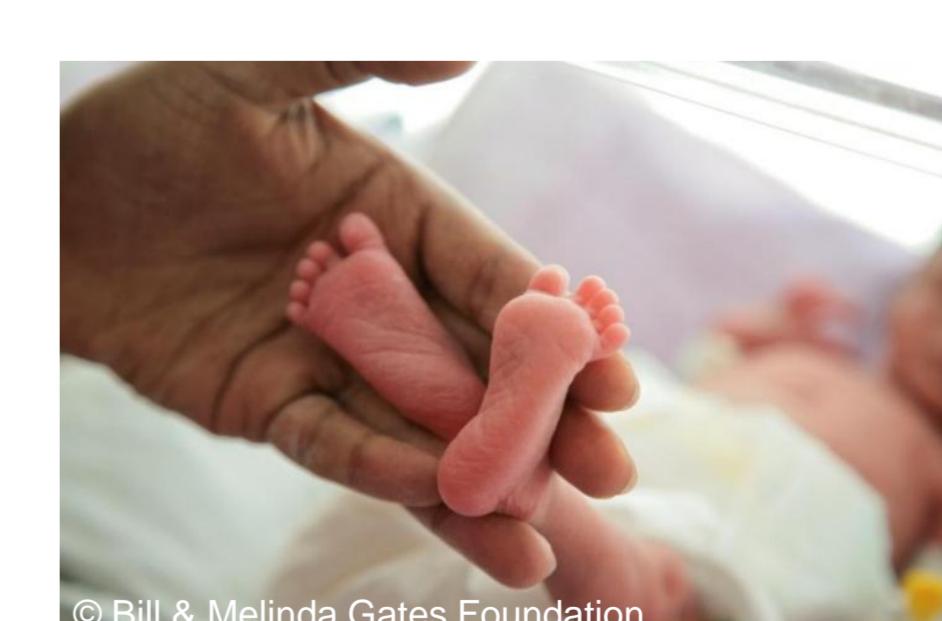
- Innovations may change if, or where, interactions take place, and whether life-saving interventions are received
- Innovations may change the cost of interactions and life-saving interventions received
- Include costs to develop and implement innovations

## Conclusions

Economic modelling will provide a framework that can be applied across the three geographies.

Using a common framework will facilitate analysis on:

- Different types of innovations
- Differences across the three geographies
- Costs and effects of scaling up implementation
- Relationship between implementation strength and cost-effectiveness of innovations



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