

Improving Maternal and Child Health in India: Evaluating Demand and Supply Side Strategies (IMATCHINE)

Presentation by
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Outline of Today's Presentation

- COHESIVE: a collaborative model for rigorous, policy-relevant IE
- Motivation
- Origin of idea
- Context
- Summary of design
- Policy relevance
- Where the project currently stands
- Dissemination
- Sustainability
- Financing

A word about COHESIVE-India

- **COHESIVE-India**: *Collaboration for Health Systems Impact Evaluation in India.*
 - Jerry La Forgia (World Bank)
 - Grant Miller (Stanford U. & NBER)
 - Manoj Mohanan (Duke U.)
 - Marcos Vera-Hernandez (U. College London & IFS)
- Focus on evaluation in health sector using a combination of quasi-experimental and experimental methods
- Provide critical input into the design of policies and interventions, to provide rigorous evidence on how to improve performance as part of evaluation.
- Collaborating with SAMBODHI and DFID-India on IMACHINE project

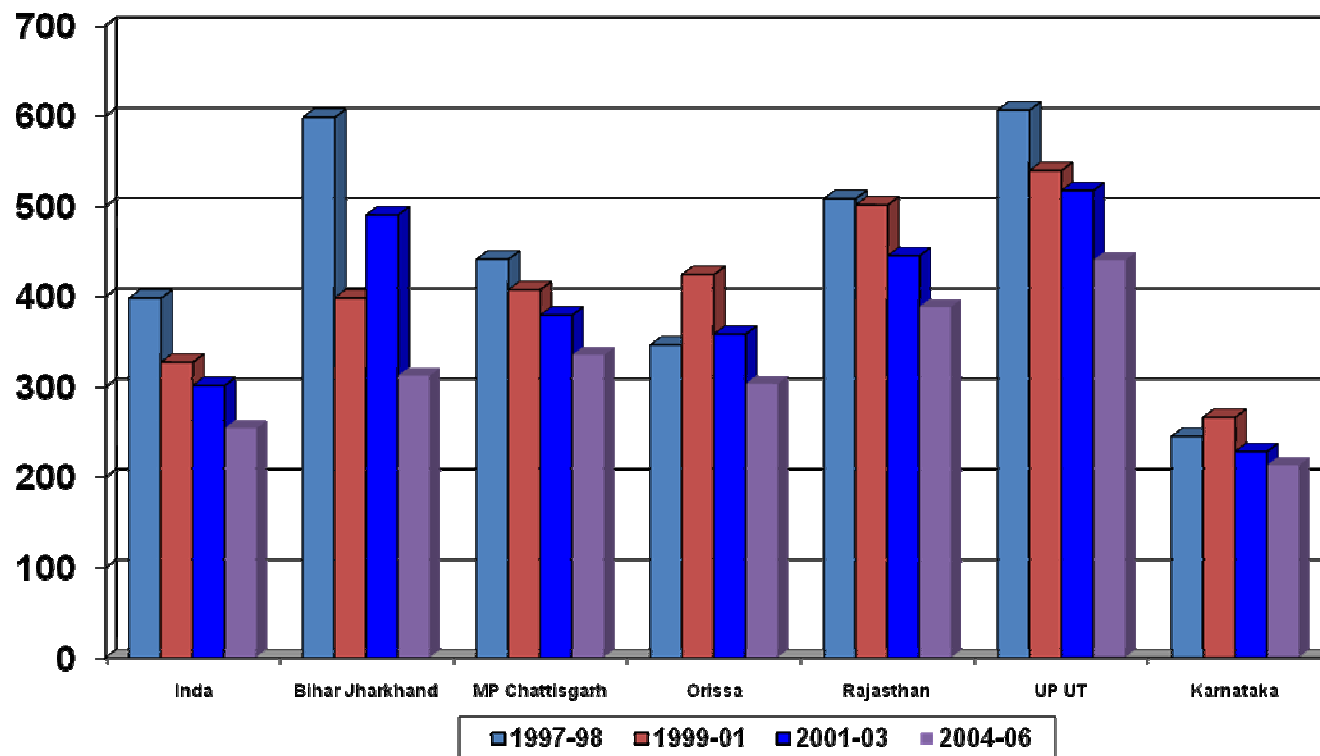
Maternal and Child Health in India

- Everyday 1500 women die due to pregnancy-related complications around the world
- In spite of its economic performance in the last two decades, MMR in India continues to be high (over 250 per 100,000), lagging behind most countries in Asia.
- Most maternal deaths can be prevented by timely intervention and supervision.
- Post partum hemorrhage alone accounts for 25% of MMR
 - Can be greatly by: (i) reduced by treating anemia in pregnancy; and (ii) active management of third stage of labor by skilled attendant
- Other leading causes of MMR:
 - Sepsis; Eclampsia; Unsafe Abortion; Obstructed Labor

India: Trends in Maternal Mortality

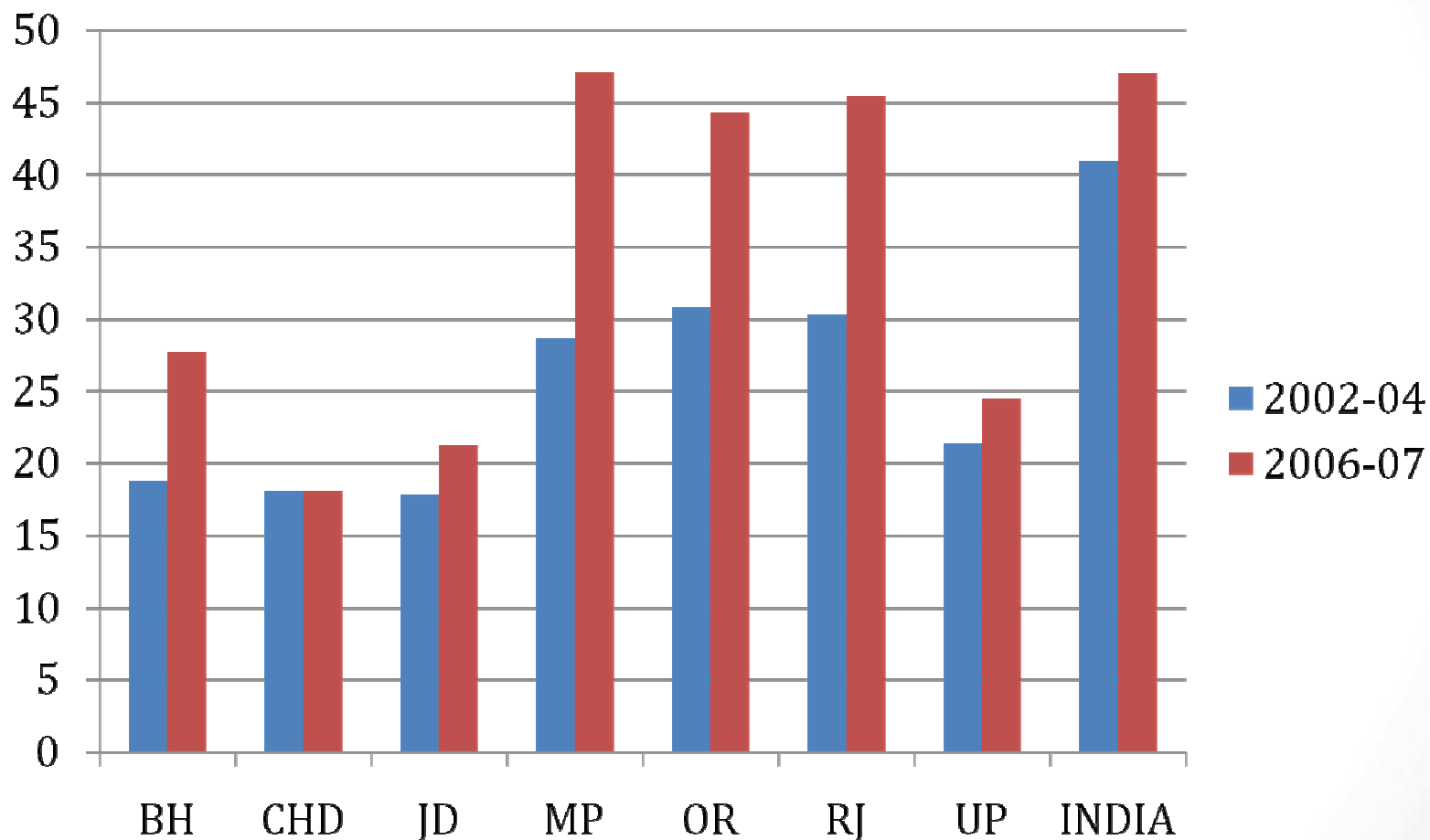
(national and selected states)

(1997/98, 1999/01, 2001/03, 2004/06)



- High levels of MMR persist despite substantial investments in reproductive Health.
- Very high MMR found in certain states.
- Not on track to achieve MDG (<100 MMR)

% Institutional Births: 2002-04 and 2006-07



Source: DLHS 2 and 3

Motivation of IE

- Reducing MMR through increasing institutional births is a major GOI policy objective
 - Central Government's Janani Suraksha Yojana (JSY) employs a conditional cash transfer to encourage BPL women to deliver in public facilities.
 - Significant investment in public infrastructure, especially in PHC and CHC levels
- Indian states have been developing innovative programs to encourage institutional delivery of newborns among to BPL women (as opposed to home delivery)
 - The Chiranjeevi Program (CY) introduced by the Gujarat Government in 2005 offers free obstetric care in the private sector.
 - TBY in Karnataka is CCT to motivate poor women to have institutional births in private sector

Motivation of IE . . . contd . . .

- Uninformed policy debate: lack of evidence on different approaches:
 - CCT-private supply
 - CCT-public supply,
 - voucher-PPP
 - pure public supply
 - pay-for-performance

Origin of Idea of IE and State Selection

- 2008 RCH review in Gujarat
 - Request from principal secretary and his team
- World Bank Project in Karnataka
 - M&E Component
 - Request from Government of Karnataka to evaluate new CCT scheme to encourage BPL women to demand institutional births w/ private providers
- Several states planning or implementing schemes similar to those in Gujarat and Karnataka
- MOHFW: critical of PPP schemes
- Planning Commission: supportive of PPP schemes

More Context (and motivation)

- Limited Evidence on the impact and effectiveness of CY-type programs however several states across the country are in the process of developing their own versions.
- In Gujarat, almost 50% of eligible population do not utilize services under CY – Govt of Gujarat is keen to learn why, and how to improve the program
- Nationally, policy focus on increasing access to improve MCH outcomes . . . But
 - quality of care is very low (Das and Hammer papers); low quality is one of possible reasons why health outcomes remain stubbornly difficult to improve
- Very little evidence on strategies to improve quality and on effect of incentives to improve health outcomes , especially in developing countries.

Background 1: Relevant State Indicators

(2007-2008, unless noted)

Indicator	Karnataka		Gujarat		India	
	State	Rural	State	Rural	National	Rural
IMR (2007)	47		52		55	
MMR (2004-06)	213		160		254	
% Institutional Deliveries	65	60	57	48	47	37
% Safe Deliveries	72	67	62	54	53	43
% Public CHCs w/GYNOB	34		14		25	
% Public CHCs w/ C-section	19		18		19	

Source: DHLS-3, SRS estimates

Components of the Evaluation

- Gujarat:
 - Retrospective evaluation of 'voucher' Chiranjeevi Yojana (CY) program since 2005
- Karnataka:
 - Prospective evaluation of new CCT component of Thayi Bhagya Yojana (TBY)
 - Experimental evaluation of provider incentives to improve quality or health outcomes
- Both states
 - Qualitative research
 - Cost effectiveness analysis

Research Questions

- What are the impacts of the CY and TBY schemes on institutional deliveries, quality of care and MCH outcomes? Why, why not?
- Do supply-side incentives impact MCH outcomes and quality processes? Is so, how? (Karnataka)
- What are the comparative effects of CY vis-à-vis TBY?
- What are the comparative effects by CY vis-à-vis JSY? (Gujarat)
- What are the barriers to people's demand for institutional deliveries? Why do some woman continue to deliver at home?
- What is the comparative cost effectiveness of CY and TBY?

Gujarat: Regression Discontinuity Evaluation Design

- The CY program uses the BPL line as the eligibility criteria, which allows a quasi-experimental regression discontinuity design
 - Basic idea behind this part of evaluation is to compare poor households that are **just below** the BPL line to poor households that are **just above** BPL line.
 - In addition, we compare differences between districts where the program was first introduced to areas where the program was introduced later (called a “Difference-in-Difference” approach).

Karnataka: Thayi Bhagya Yojana (TBY)

- New Conditional Cash Transfer program of Rs. 1000 for women who prefer to give birth in the private sector
- Two components
 - (1) Prospective evaluation
 - Since the program uses a BPL eligibility like the CY program, we will use a RD based method, combined with a difference-in-difference
 - We are working with the Govt. of KN to implement a baseline survey starting next month

Karnataka: Experimental Evaluation of Provider Incentives

- Cluster randomized trial of incentives for providers to estimate effect of incentives for improvements in process measures v/s outcome measures
 - Arm 1: Provider incentives evaluated based on performance on quality of care indicators
 - Arm 2: Provider incentives evaluated based on improvement of MCH outcomes in catchment area population
 - Arm 3: Control group, with no incentives

How MCH outcome and quality measures are being decided?

- Panel of distinguished Indian GYOBs and pediatricians
- Review of national and international literature
- Interviews with GYOBs in GT and KT
- Observations of maternal homes in GT and KT
- Validation through field tests

Qualitative Research

Component

- Gujarat: Understand better why eligible (BPL) women have been slow to take up participation in CY program. What factors tend to limit (or enhance) different peoples' demand for institutional deliveries?
- Karnataka
 - Identify the nature of barriers that limit peoples' demands for formal health care and in particular demand for institutional deliveries.
 - Understand how norms and patterns of seeking health care, in particularly, trends in accessing formal system have changed over past 5-10 years? Influence of national JSY scheme? Generational shift?
 - Mapping channels of gaining access to formal health care: use of intermediaries, informal payments, etc.
 - Identifying how practices of private OBGYN have changed after introduction of supply-side incentives.

Potential Policy Impact

- CY and TBY programs in both states are very high profile programs that are being expanded / modified to improve program
- These programs are also being closely watched by other states for modeling their own programs
- Innovative financing models and PPPs are becoming more popular across the country.
- Pay-for-performance has entered policy discussions
- One of the first attempts to tie incentive payments directly to health improvements

Where the Project Currently Stands...

- Gujarat:
 - Questionnaires and protocols being finalized
 - Field work, including qualitative research, starting in August 2010
- Karnataka:
 - Validation of quality and health measures in progress
 - Baseline survey to be implemented by Government of Karnataka in August 2010
 - Incentive contracts will be rolled out in early 2011 and follow up field work starts in mid 2011

Dissemination

- State policy workshops
- National policy workshop
- Policy notes
- Inputs into TA, grant-based projects, and loan-based projects
- Academic conferences
- Published papers

Ensuring Sustainability of the Project

- Strategy for Sustainability
 - Partnership with Government
 - Karnataka is conducting the baseline for this evaluation with funding from state govt
 - Frequent discussions with Govt of Gujarat to ensure 100% buy-in from State Government
 - Both states plan to use findings to modify their programs.

Financing

- 3ie
- DFID
- Government of Gujarat (logistic/technical support)
- Government of Karnataka (baseline survey)
- World Bank

- For further details contact:
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Background 2: Objectives

- TWO key evaluation objectives:
 - Evaluation of subsidy programs in obstetric care aimed at increasing rates of institutional deliveries and improving maternal and child health
 - Gujarat: Chiranjeevi Yojana is a virtual ‘voucher’ program where payment is made directly to provider
 - Karnataka: Newly announced program – Thayi Bhagya Yojana - a conditional cash transfer program, where payment is made to households
 - Experimental evaluation of supply-side incentives for maternity-care providers using randomized interventions of provider incentives to improve quality and health outcomes

Gujarat: Chiranjeevi Yojana (CY)

- Introduced in 2005
- Response to acute shortage of OBGYNs in public sector
- Leveraging presence of private providers in rural areas
- Pays approx \$ 45 to accredited provider per delivery
- Eligibility: BPL card holder or BPL eligible (~23% of population; total pop 55 million)

More on CY

- First introduced in 5 backward districts 2005-2007 and then rolled out across the state Jan 2007 onwards
- B/w 2005 – Feb 2008, CY had covered over 165,000 deliveries provided by 852 providers
- Claims:
 - Has increased institutional births from a national average of 55% to over 80%
 - Highly successful & has reduced MMR & IMR
 - Won WSJ Innovations Award & is now widely looked upon as the “model”

Previous 'Evaluations' of CY

Table 5

Expected and reported maternal and newborn deaths and estimated lives saved by the Chiranjeevi Scheme, January 2006 to December 2008.

Total deliveries	Expected maternal deaths in absence of the scheme ^a	Maternal deaths reported ^b	Maternal lives likely to be saved	Estimated newborn deaths in absence of the scheme ^a	Estimated newborn deaths based on reported deaths ^c	Newborn lives likely to be saved
269 942	588	52	536	10798	3183	7615

^a Assumptions for expected maternal deaths: MMR for poor before intervention = 218 per 100000 live births; NNMR for poor before intervention: 40 per 1000 live births.

^b As reported by the private practitioners and government MIS.

^c Estimate is calculated by multiplying the reported deaths by 3—the factor of under-registration of newborn deaths.

Source: Mavalankar, D. et al. 2009. Saving mothers and newborns through an innovative partnership with private sector obstetricians: Chiranjeevi scheme of Gujarat, India. *International Journal of Gynecology and Obstetrics* 107: 271–276.

- Have typically used data from CY facilities to extrapolate estimated utilization and health benefits in the population