

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™



Helping Babies Breathe™
THE GOLDEN MINUTE™

Field Implementation in Belgaum, Karnataka, INDIA

Global Health Council - Washington DC, June 15, 2010

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Outline of the presentation

- Country background
- HBB Initiative
 - Setting
 - Field Implementation
 - Results
 - Feedback from Trainers
 - Successes and Challenges
- Moving forward

Background - India

- 1.05 million neonatal deaths per year
 - ~30% of the global burden
- 120,000 maternal deaths per year
 - ~25% of the global burden

Under-5 Mortality Rate (per 1000 live births)	74
Infant Mortality Rate (per 1000 live births)	53
Neonatal Mortality Rate (per 1000 live births)	35

National Rural Health Mission: India

■ Maternal Health

- Promoting institutional births
- Ensuring Skilled Birth Attendance
- Strengthening 24 / 7 Primary Health Centers and First Referral Units

■ Child Health

- Training for Integrated Management of Newborn and Childhood Illnesses & Facility based MNCI
- *Navajit Shishu Suraksha Karyakram:*
Basic Newborn Care and Resuscitation Program

Background:

Belgaum, India Site

- Resuscitation Training & Research Experience
 - NICHD Global Network FIRST BREATH Trial (2005-2008)
 - NICHD Global Network community based MNH Registry (2008 onwards)
 - Participation in NSSK as Master Trainers (September 15, 2009 onwards)

HBB Initiative

Field Implementation Setting

Primary Health Center areas	12
Tertiary Care Hospitals	03
Villages	168
Population	425,000

Timeline: July 2009 onwards

Months →	2	4	6	8	10	12	14
Approvals and Preparation	■	■					
Baseline Data Collection		■	■	■			
Training of Master Trainers			■				
Training of HBB Trainers & Providers			■	■			
Post-Training Data Collection					■	■	■

Approvals & Preparation

- Obtaining regulatory approvals
 - JNMC Institutional Ethics Committee
 - Ministry of Health, Govt. of Karnataka
 - Health Ministry's Screening Committee, Govt. of India
- Constitution of Advisory Board
- Survey of facilities for baseline data
- Sensitization about the program
- Development of Data Forms & Data Management System
- Establishing data collection system

HBB Initiative Advisory Board

- ***Chairman:*** Principal, J N Medical College, Belgaum
- ***Representatives of***
 - District Health Administration & District Hospital
 - Primary Health Center Medical Officers
 - Auxiliary Nurse Midwives
 - Indian Medical Association
 - Indian Academy of Pediatrics
- Principal, District Training Center
- District Nursing Officer
- Chairs of OBGYN and Pediatrics

Master Trainers' Training



Master Trainers' Training



HBB Training

	Sessions	Trainees	Doctors	Nurses	ANM	TBA	Student Nurses
Master Trainers	01	18	11	5	2	0	0
HBB Trainers	01	07	2	4	1	0	0
Providers	53	515	113	202	31	3	166
Total	55	540	126	211	34	3	166

Providers' Training

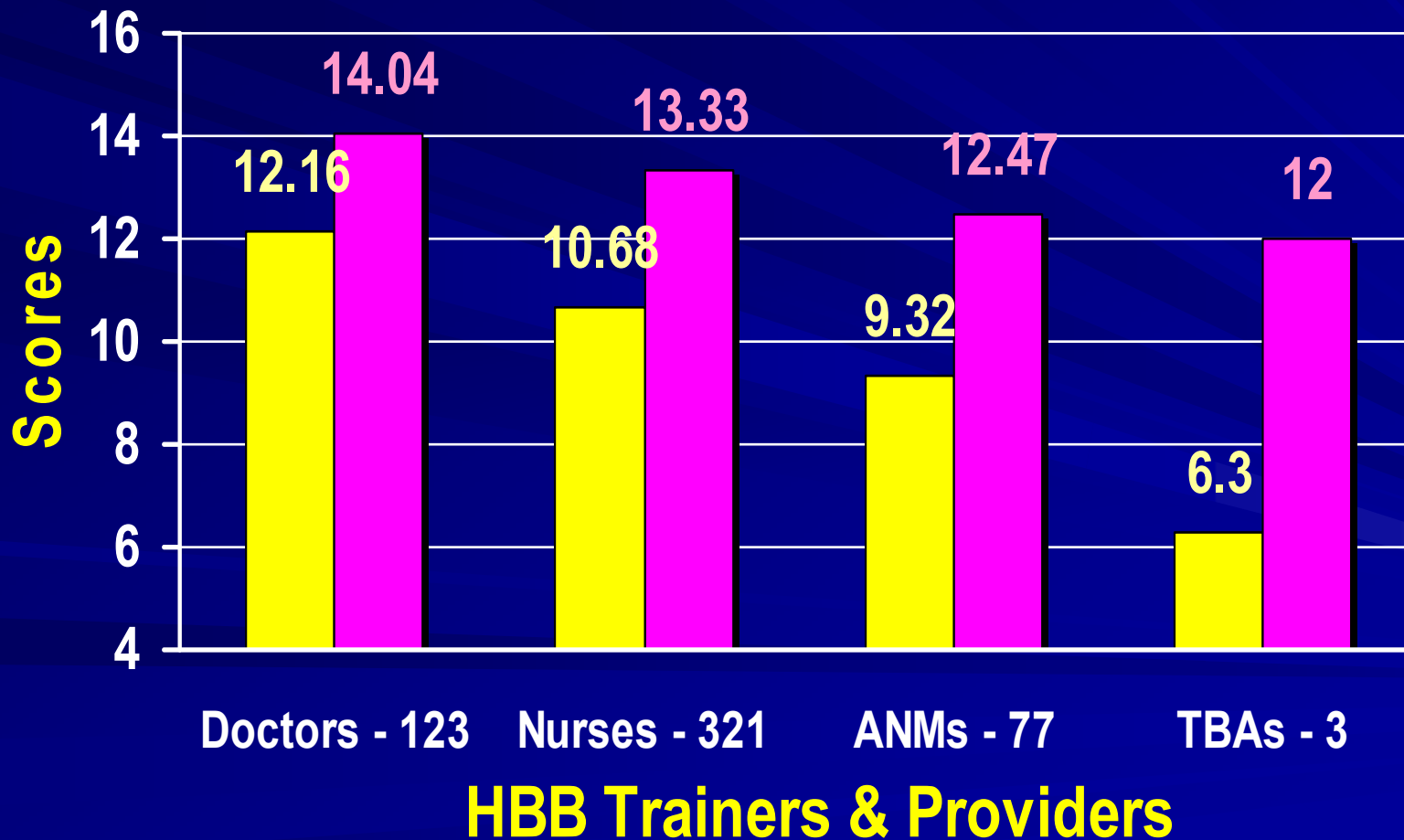


Providers' Training



Knowledge Assessment

■ Pre Test ■ Post Test



Skill Evaluation

	Post Test Pass	
	Yes	No
Bag & Mask Skill Performance	520	02
OSCE Station A	508	14
OSCE Station B	510	12

Results

	Pre-Training Oct 15, 2009 – Mar 14, 2010	Post-Training Mar 15, 2010 – May 14, 2010
Deliveries	4113	1841
Live Births	4006	1781
Neonatal Deaths	50	21
Neonatal Mortality Rate (per 1000 live births)	12.48	11.79
Stillbirths	107	60
Stillbirth Rate (per 1000 births)	26	32.6

Results: Mode of Delivery

	Pre-Training n (%)	Post-Training n (%)
Vaginal	3,085 (75.0)	1,424 (77.3)
Instrument Assisted	84 (2.1)	38 (2.1)
C-Section	944 (22.9)	487 (26.6)
Total	4113	1841

Results: Place of Delivery

	Pre-Training n (%)	Post-Training n (%)
Hospital	3722 (90.5)	1722 (93.5)
Clinic	332 (8.1)	108 (5.9)
Sub Centre	29 (0.7)	08 (0.4)
Home	22 (0.5)	02 (0.1)
Others	08 (0.2)	01(0.1)
Total	4113	1841

Results:

Birth Weight Distribution

Birth Weight	Pre-Training n (%)	Post-Training n (%)
<1499	119 (2.9)	61 (3.3)
1500 - 1999	168 (4.1)	82 (4.5)
2000 – 2499	665 (16.2)	272 (14.8)
>2500	3159 (76.8)	1426 (77.4)
Unknown	2 (0.05)	0 (0.0)
Total	4113 (100.0)	1841 (100.0)

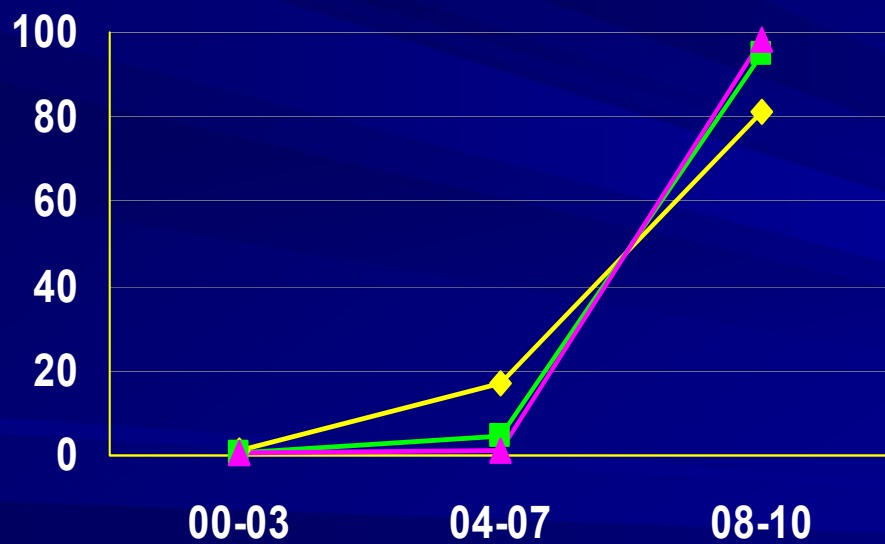
Results:

Resuscitation Practices

	Pre-Training n (%)	Post-Training n (%)	p value
Required any Resuscitation	1,197 (29.9)	169 (9.5)	< 0.0001
Stimulation	655 (54.7)	124 (73.4)	< 0.0001
Suction	1,095 (91.5)	135 (79.9)	< 0.0001
Bag & Mask Ventilation	119 (9.9)	80 (47.3)	< 0.0002
Other	27 (2.3)	1 (0.6)	< 0.0002

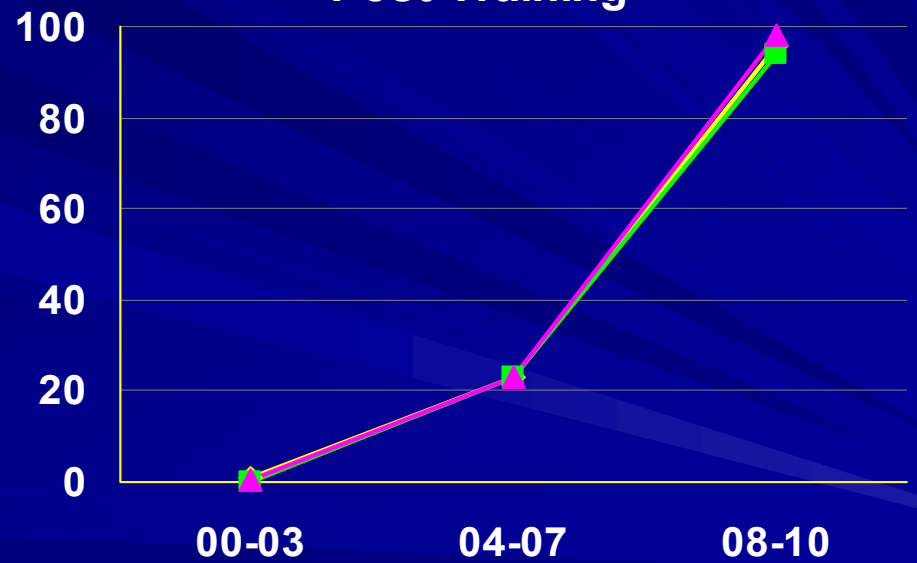
Results: Apgar Scores

Pre-Training



—◆— 1min —■— 5min —▲— 10min

Post-Training



—◆— 1min —■— 5min —▲— 10min

Feedback from Trainers

■ HBB Curriculum

- Informative, simple algorithm, easy to teach
- Participants felt it was rewarding

■ Challenging areas:

- Quick overall assessment of the baby
- Performing initial steps of resuscitation on mother's abdomen
- Bag & Mask ventilation
- Performing prolonged ventilation
- Describing helper's role in peripheral setting

Feedback from Trainers

■ **Baseline Knowledge & Skills of trainees:**

- Knowledge adequate; Skills were inadequate
- Training elderly providers challenging

■ **Training**

- | | |
|------------------------------------|-------------|
| – Time (6 hours) | Adequate |
| – Training methodology | Worked well |
| – Trainer : Trainee Ratio (1: 5-6) | Ideal |

■ **Implementation:**

- Economic, can be implemented in all settings
- Continuous supervision of Trainees' skill

Successes

- Involving Nurses, Nurse-midwives along with Physicians as Master Trainers
- Use of Pair Teaching & Skills Exchange Practice in training
- Partnership between public and private institutions and staff in training and implementation

Challenges

- Increase in institutional deliveries as per the policy of Govt. of India
 - ↑ Burden on providers
- Monitoring retention of skills of providers every six months
- Follow up refresher training & recertification

Moving Forward

■ Scaling Up

- Integration of HBB, IMNCI and AMTSL curricula

■ Partnerships between national and international agencies

Special Thanks

American Academy of Pediatrics

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A vibrant sunset scene with a large, bright sun in the center. The sky is a mix of orange, red, and yellow. Several birds are flying in the sky, and a long, curved path of birds leads from the bottom left towards the sun. The overall mood is warm and appreciative.

Thank You

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