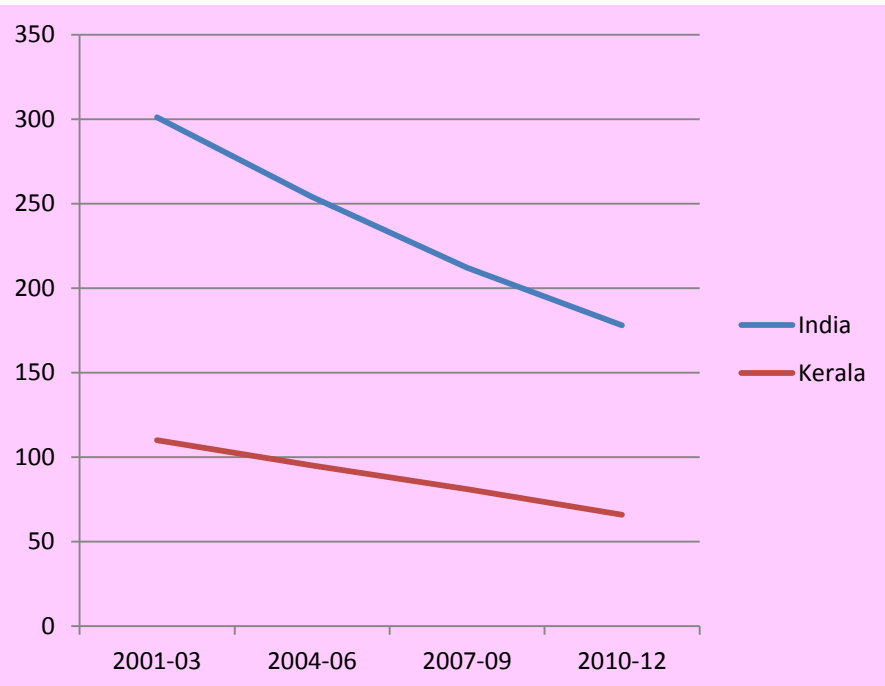


# **Measures to Reduce MMR in Kerala**

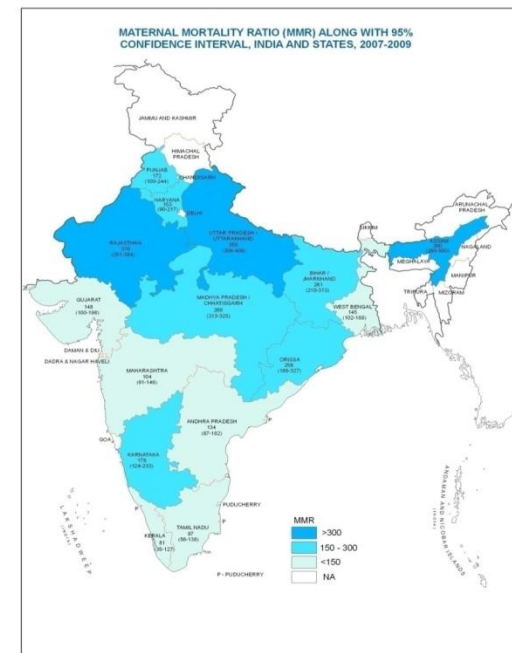
**Dr K Sandeep**

## Confidential Maternal Death Auditing

Confidential Maternal Death Auditing started in 1990's and format and methodology revised in 2010  
All maternal death in Govt and Private sector are audited  
Kerala Federation of Obstetrics and Gynecologist published study report on maternal Death



Year	India	Kerala
2001-03	301	110
2004-06	254	95
2007-09	212	81
2010-12	178	66



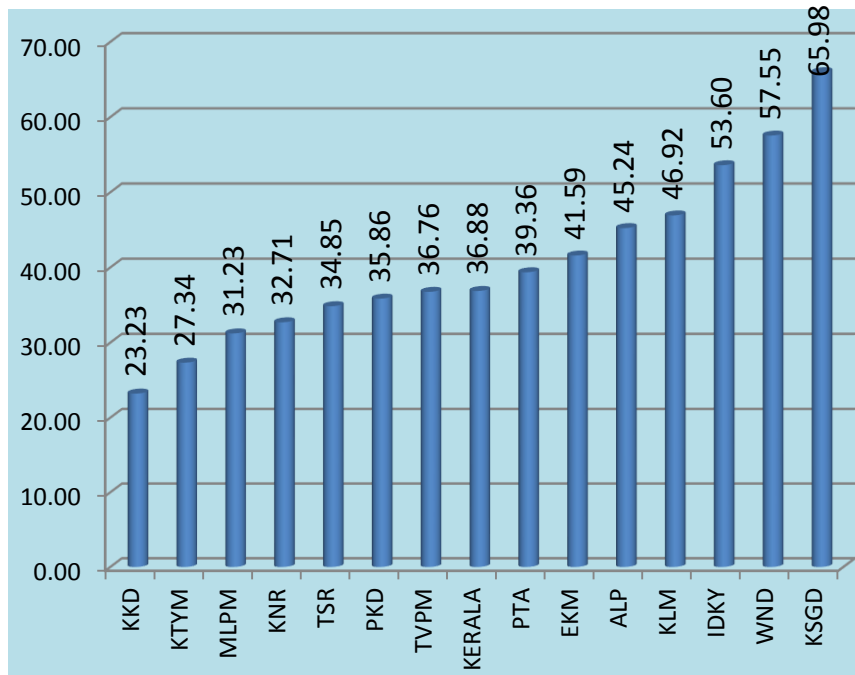
# MMR

## Cause of Maternal Death

Date from the Confidential Maternal Death analyzed at the state level.

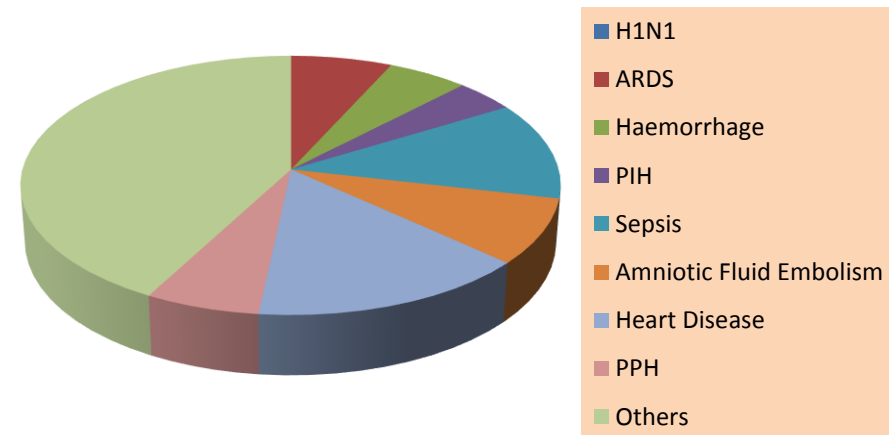
All death from the Private and Government hospitals is reported by the institution.

The MMR in Kerala is high when compared with other health indices



MMR

KERALA	H1N1	ARDS	Haemorrhage	PIH	Sepsis	Amniotic Fluid Embolism	Heart Disease	PPH	Others
2013-14	0	10	8	6	18	12	22	9	62



## Measures to Reduce MMR

### The joint project by

Health Services Department

National Rural Health Mission

NICE international UK

Medical Education Department

Kerala Federation of Obstetrics and Gynaecology

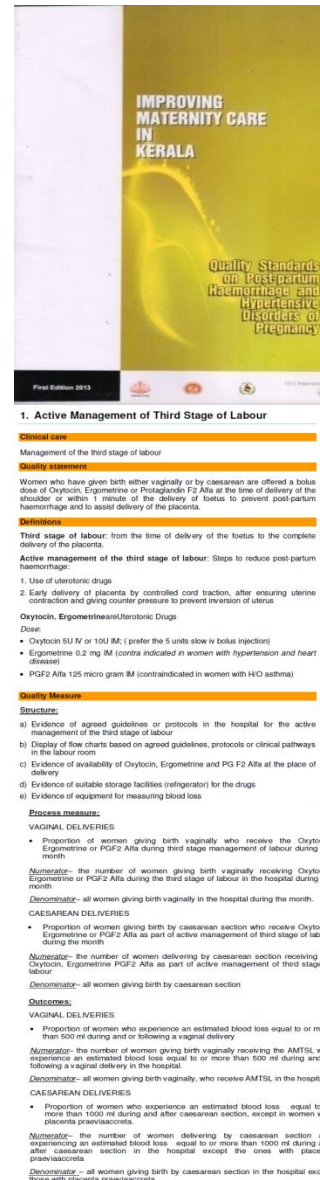
<b>2012</b>	Preliminary phase started	Sept	Quality Standards for maternal healthcare finalised
May	Meeting on causes of M M		
June	workshop on Measures to Reduce Maternal Death	<b>2013</b>	Quality Standards published
July	Preparatory meeting with members. Visit of NICE team Preliminary meeting with officials and Gynecologists	Jan	
		Mar	Training at Trivandrum & Ernakulam
		Apr	Implementation of pilot phase
Aug	Workshop for the development of Quality Standards Working Group on Measures to Reduce Maternal Death Draft Quality Standards developed	<b>2014</b>	Monitoring, data collection and review meeting
		<b>2015</b>	Upscaling to 27 more institutions
		Apr	
		June	Base line data collection by IFMR
		Aug	Second phase training started

# Measures to Reduce MMR

## Quality Standards

### 10 Chapters

	Quality Statement
1	Active Management of Third Stage of Labour
2	PPH Prevention – 4th Stage Management
3	Management of Post-Partum Haemorrhage with Blood and Blood Products
4	Obstetric Intensive Care
5	Placenta Praevia Accreta
6	Pre eclampsia
7	Anti-hypertensive Treatment
8	Severe Hypertension in Pregnancy and in Immediate Postpartum Period
9	HELLP
10	Eclampsia



### Each chapter contains:

- Quality statement
- Definitions
- Quality Measure – Structure, Process and Outcomes measures.
- What the quality Statement means for each audience
- Data sources
- Source guidance

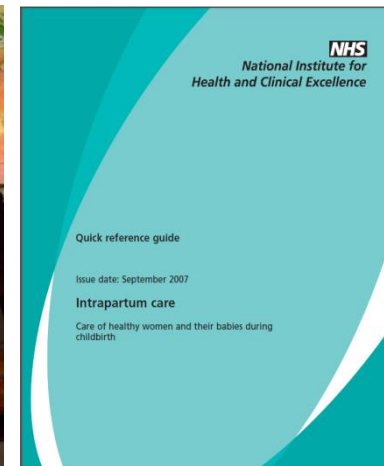
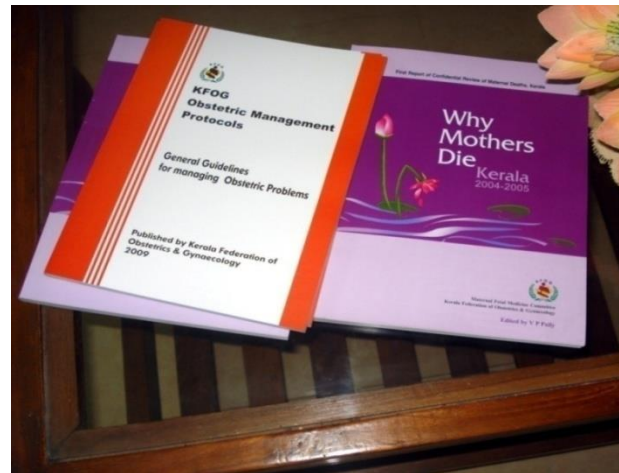
## Measures to Reduce MMR

## Quality Standards Implementation

A new register for the labor room was developed and implemented

Disposable delivery kits introduced in all hospitals

New equipments were purchased and distributed





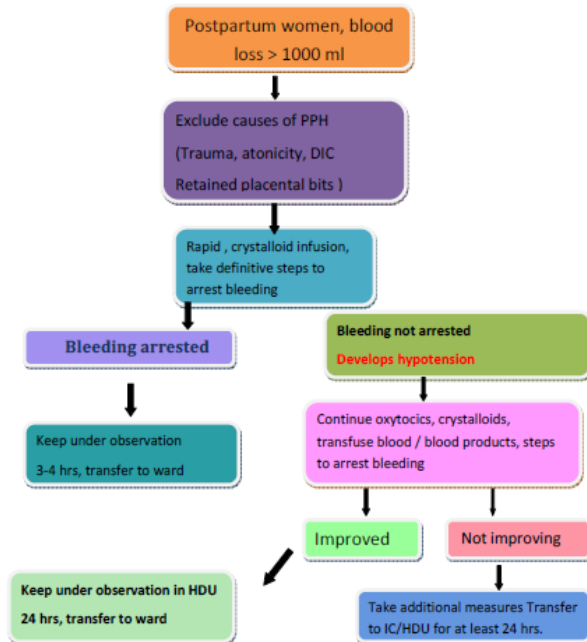
# Measures to Reduce MMR Pilot project

## Flow Charts

Flow charts for Quality standards developed.  
Displayed in the labor room and antenatal care areas

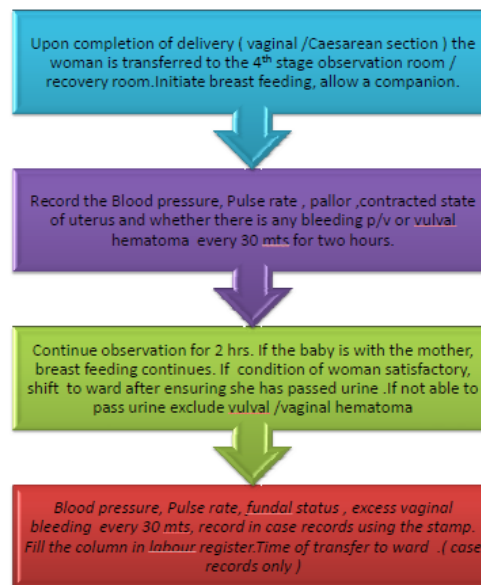
IMPROVING MATERNITY CARE IN KERALA, FIRST EDITION, JUNE 2013

### Quality Standard 3 & 4: Management of Post-Partum Haemorrhage with Blood and Blood Products Obstetric Intensive Care



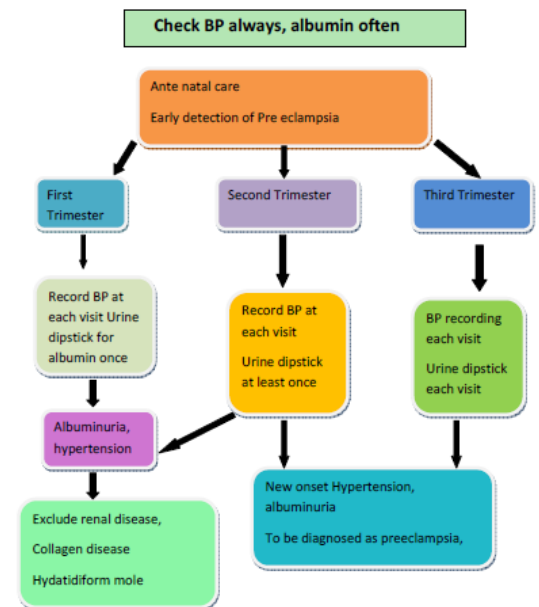
IMPROVING MATERNITY CARE IN KERALA, FIRST EDITION, JUNE 2013

### Quality Standard 2. PPH Prevention – 4th Stage Management



IMPROVING MATERNITY CARE IN KERALA, FIRST EDITION, JUNE 2013

### Quality Standard 6: Pre Eclampsia



# Measures to Reduce MMR Pilot project

## Disposable Delivery Kits

Measure the blood loss

Reduce the infection

Reduce the human resource

Less time consuming

Separate kit for Normal delivery and Cesarean section

THIRUVANANTHAPURAM  
THE HINDU • MONDAY, MAY 27, 2013

## Safe-delivery kits for public hospitals

To help reduce blood loss, prevent infection in labour rooms

C. Maya

**THIRUVANANTHAPURAM:** Every woman loses blood during delivery. But how to know how much is too much?

Heavy blood loss during and after delivery should be one of the first danger signals that labour room staff should watch out for to ensure that the mother is not bleeding to death. An accurate estimate of it is of prime importance. Most obstetricians go by a visual assessment of the blood loss. But this is often erroneous, and in a busy labour room in a government hospital, making such errors means playing with lives.

To prevent errors, the Health Department has decided to introduce sterile, disposable delivery kits in all government hospitals handling deliveries in the State.

One of the main items in the kit will be an absorbent delivery mat to be used on the labour cot so that it gives a more or less accurate esti-

• Heavy blood loss can turn fatal

• Absorbent mat helps make correct estimate

mate of the blood loss. Separate kits will have to be used for normal deliveries and caesarean sections.

The beauty of the kits is in their simplicity. The mat, made of cotton and tissue, is weighed and designed to be absorbent.

"Any blood loss above 500 ml (1,000 ml during a C-section) for a normal delivery can turn out to be life-threatening. The absorbent mat, weighed post-delivery, will give a fairly correct picture if there is excessive bleeding for the mother so that immediate resuscitative measures can be begun," V.R. Rajasekharan Nair, senior consultant obstetrician, says.

The delivery kits contain sterile gowns for the mother to be used before and after delivery, absorbent towels,

mops, baby towels and so on. The contents were decided by a technical committee of senior obstetricians and health officials.

"The biggest advantage of using these delivery kits is that the entire contents will be sterile and disposable so that there is no risk of infection. Using old clothes inside labour rooms poses a certain amount of risk of infection as different hospitals have different washing and sterilisation procedures which might not be foolproof," Dr. Nair says.

Five lakh deliveries take place in the State every year, out of which, last year's estimate show, 1.33 lakh were in government hospitals.

"We have secured the Union Health Ministry's approval for 1.33 lakh delivery

kits, which we hope we will be able to distribute to hospitals by July. The kits will be procured by the Kerala Medical Services Corporation through an open tender," a senior health official says.

The use of delivery kits was proposed as part of the Health Department's efforts to improve obstetric practices and the quality of post-natal care in labour rooms for a further reduction in maternal mortality.

The Kerala Federation of Obstetrics and Gynaecology says at least half the maternal deaths in the State are of preventable medical causes or human errors.

Kerala's maternal mortality rate is 81 (per lakh live births, Sample Registration Survey, 2007-09), which means nearly 400 mothers are dying a year. The delivery kits can make a difference as post-partum haemorrhage and sepsis are major causes of preventable maternal deaths in the State.

## A low-cost, life-saving intervention

Non-Pneumatic Anti-Shock Garment for mothers in critical stage

SAVING MOTHERS

C. Maya

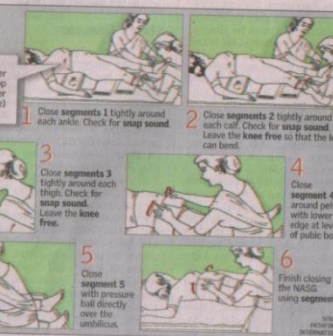
**THIRUVANANTHAPURAM:** Early this month, at the Chirayinkeezhu taluk headquarters hospital, Sarita, 28, went into labour and was delivered of a baby. The delivery was normal and the woman had no post-partum haemorrhage (PPH). Thus, it took the labour room staff by surprise when the mother's blood pressure dropped dangerously and her pulse rate went up, indicating that she was going into obstetric shock.

"Though Code Blue was called and everyone rushed in, we were losing her. But our gynaecologist stepped in and had the woman wrapped in a Non-Pneumatic Anti-Shock Garment (NASG). The hospital had been provided this garment just the previous day, after a training programme conducted by the Health Department for maternal care staff," S. Raju, Superintendent, Chirayinkeezhu hospital, said. The hospital handled about 300 deliveries a month.

"The recovery was miraculous. Within minutes, her BP shot up, pulse rate reduced, and we could stabilise her. She was rushed to SAT Hospital wearing the NASG, where she was revived properly. If not for this innovation called NASG, the picture might have been quite different," Dr. Raju said.

Applying NASG

Place the NASG under the woman with the top edge at the level of her lowest ribs (at her side)



potential of a low-cost, low-tech obstetric intervention called NASG to save the lives of mothers at critical junctures. NASG is a modified version of the inflatable suit used by the military since 1900s and it has been saving the lives of mothers in many low-resource countries for the past one decade.

**WHO recommendation**  
Last year, the WHO, in its latest recommendation on managing PPH, endorsed the

use of NASGs 'as a temporising measure till appropriate care is available' and suggested that national guidelines be reviewed to include NASGs as a low-tech first aid for PPH.

Pathfinder International, a not-for-profit global organisation in the area of reproductive health, had provided 15 NASGs free of cost to the Health Department and trained gynaecologists so that the State may have a firsthand experience of this intervention.

"Tamil Nadu was the first State to move for the introduction of NASGs, in 2008. It has 1,200 of these garments and every maternity hospital and 108 ambulance in the State has one. Its maternity care staff in all districts are trained in using NASG and have managed to save innumerable lives," N.S. Iyer, the national master-trainer for Continuum of Care for PPH, a project of Pathfinder International, told *The Hindu*.

NASG has become the latest addition to the slew of interventions, guidelines, and protocols which are being introduced by the Health Department in an intensive drive to achieve a reduction in the State's maternal mortality. The garments have been distributed to all five Government Medical College hospitals, SAT Hospital, Thiruvananthapuram; Women and Children Hospital, Thiruvananthapuram; General Hospital, Ernakulam; Community Health Centres at Kanyakulangara and Poonthura; Perottikada district hospital; and taluk hospitals at Chirayinkeezhu, Parassala, Neyyattinkara, and Nedumangad.

The department will review the experience of the hospitals where NASG has been provided and then make a recommendation to the government on its formal introduction.

ictly

Amendments to rules for



## Measures to Reduce MMR Pilot project

### Training

Pilot phase implemented in 8 selected hospitals.

Up scaled to 5 more hospitals

Training provided to all staff working in the Labor room and maternity ward

Visited all hospitals to review the programme

Second phase training is being conducted at the institutions

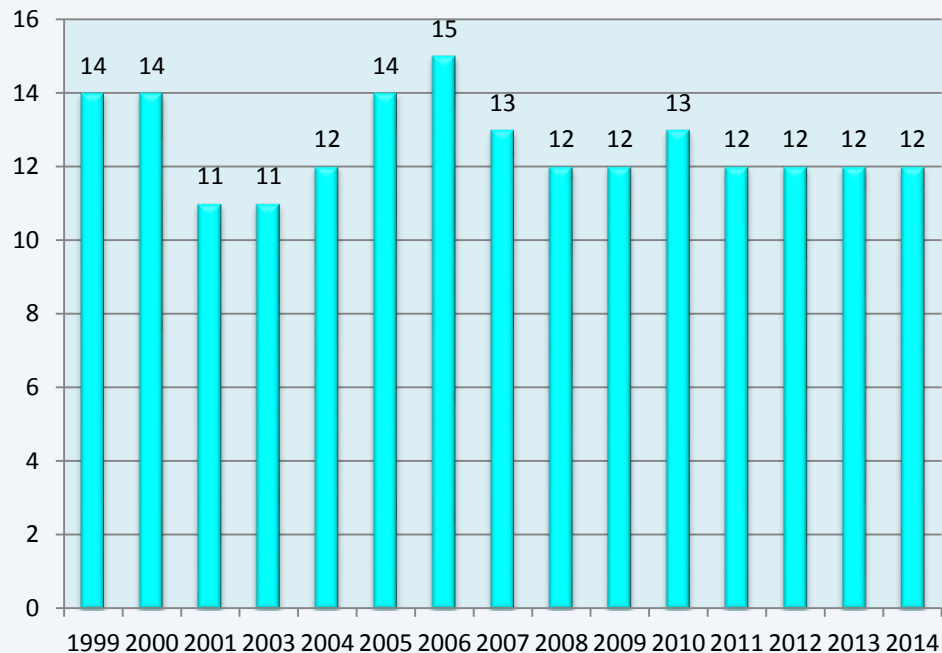


## Reduction of IMR

### Measures to reduce Infant Mortality Rate in Kerala.

Implementation of Quality Standards in selected Health Care institutions with technical support from ACCESS Health International.  
13 Quality Standards were developed  
17 hospitals are selected for the first phase  
Training will be conducted in association with IAP

IMR



## Measures to reduce Infant Mortality Rate in Kerala.

### Quality Standards

#### Quality Standards to Decrease Neonatal Mortality Rate in Kerala

- Quality Standards to Decrease Neonatal Mortality Rate in Kerala finalized
- 13 chapters
- Will be implemented from January 2016



	Quality Statement
1	<b>Antenatal Corticosteroid</b>
2	<b>Prevention of Preterm Labor by Administering 17-Alpha-Hydroxy Progesterone</b>
3	<b>Quality Statement on Antibiotic Use in Preterm Premature Rupture of Membranes (PPROM)</b>
4	<b>Antenatal USG Scan At 10 To 13 Weeks</b>
5	<b>Antenatal USG Anomaly Scan At 18 To 20 Weeks</b>
6	<b>Intrapartum Monitoring</b>
7	<b>Newborn Resuscitation</b>
8	<b>Prevention of Hypoglycemia</b>
9	<b>The Six “Cleans”</b>
10	<b>Prevention of Hypothermia</b>
11	<b>CPAP (Continuous Positive Airway Pressure) Administration</b>
12	<b>Surfactant Replacement Therapy (SRT)</b>
13	<b>Breastfeeding</b>

## Measures to reduce Infant Mortality Rate in Kerala.

### Pilot implementation

Quality Standards to Decrease Neonatal Mortality Rate in Kerala  
Hospital selected

- Base line assessment format
- Training provided to Quality Assurance Officers and Biomedical Engineers
- Baseline assessment will be done in selected hospitals in Nov 2015 by Institute for Financial Management and Research (IFMR)

No.	District	Name of Institution
1	Trivandrum	SAT Hospital
2	Kollam	Victoria Hospital
3	Pathanamthitta	Taluk Hospital, Adoor
4	Alappuzha	W&C Hospital
5	Kottayam	Medical College
6	Idukki	D H Thodupuzha
7	Ernakulam	General Hospital
8	Thrissur	District Hospital, Thrissur
9	Palakkad	W & C Hospital
10	Palakkad	Tribal Specialty Hospital, Kottathara
11	Malappuram	District Hospital, Tirur
12	Kozhikkode	Medical College Hospital
13	Wayanad	D H , Manathawady
14	Kannur	G H Thalassery
15	Kasaragod	DH Kanjangad
16	Trivandrum(Private)	SUT Hospital, Pattom
17	Thrissur (Private)	Mother Hospital







**Thank You**