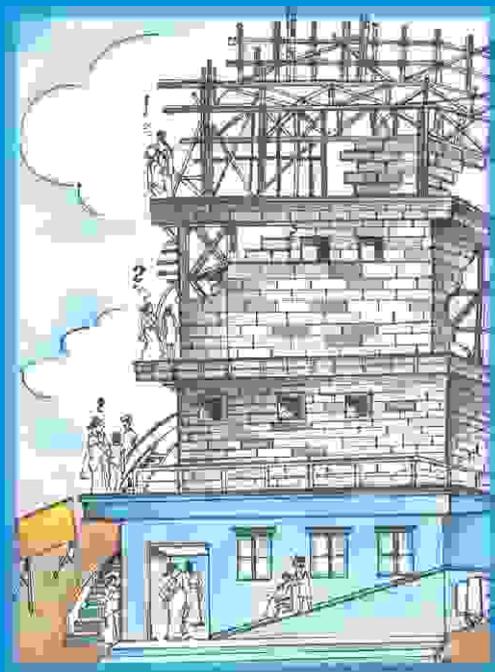
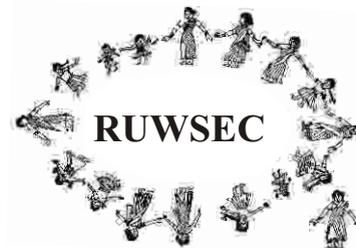


**Health system reform initiatives
in Tamil Nadu :
Contribution to improvements in sexual
and reproductive health services**



TK Sundari Ravindran

**Health system reform initiatives
in Tamil Nadu :
Contribution to improvements in sexual
and reproductive health services**



RURAL WOMEN'S SOCIAL EDUCATION CENTRE (RUWSEC)

CHENGALPATTU, TAMIL NADU 603 002

Printed on : October 2009

RURAL WOMEN'S SOCIAL EDUCATION CENTRE (RUWSEC)

191A, Nehru Nagar, Vallam Post, Chengalpattu, Tamil Nadu - 603 002.

Phone No.: 91-044-27420682, Fax : 27420216

E-mail: kcm_rural08@dataone.in; ruwsec@vsnl.com; Website : www.ruwsec.org

ACKNOWLEDGEMENTS

I am grateful to Dr. Subburaj, Health Secretary and Dr. Padmanabhan, Director of Public Health and Preventive Medicine, Government of Tamil Nadu, for granting me permission to meet with district health officials and staff in selected health centres in two districts of Tamil Nadu, for preparing this case study.

I sincerely thank Dr. Rajasekharan, Deputy Director of Health Services, Vellore district, and Dr. Deva Parthasarathy, Deputy Director of Health Services, Kanchipuram, for their valuable inputs and time. I owe gratitude to the medical doctors, nurses, health superintendents and staff of various primary health centres and district hospital who generously contributed time and information to aid in the preparation of this case study.

I gratefully acknowledge K. Bhavani, M. Lalitha and S. Jamuna Bai from partner organisations of Rural Women's Social Education Centre (RUWSEC) who helped with data collection, and P. Balasubramanian, Executive Director of RUWSEC and his able team for their help with the publication of this report.

School of Public Health, University of Witwatersrand, Johannesburg, South Africa provided funding support for the preparation of this case study as part of the “Rights and Reforms” project. Achutha Menon Centre for Health Science Studies, Sree Chitra Tirunal Institute for Medical Sciences and Technology provided institutional support for carrying out this work. I sincerely thank them for this support.

Special thanks to all the women and men who shared their frank opinions and experiences about the functioning of the health centres.

TK Sundari Ravindran

TABLE OF CONTENTS

S.No.	Title	Page No.
1.	The Backdrop	
	1.1 Introduction	1
	1.2 Health status and health services in TN	2
2.	Health Reforms in Tamil Nadu	
	2.1 Major health reforms prior to 2004	5
	2.2 Health reforms since 2004	11
	2.3 Improvements and innovation in the provisions of SRH services	18
3.	Reforms and improvements in access to delivery care; case study of a high performing district	
	3.1 Health infrastructure in Vellore district	26
	3.2 Recent achievements in improving women's access to delivery services at the primary care	27
	3.3 Factors responsible	28
	3.4 Users' perspectives	34
	3.5 Status of other SRH services	34
4.	Reforms and status of maternal and other SRH services in a adjoining comparison district	
	4.1 Health profile of Kanchipuram health district	35
	4.2 The CEmONC Centre at Kanchipuram District headquarters hospital	36
	4.3 Profile of BEmONC centre in Kanchipuram health district	39
	4.4 Users experiences and perspectives	40
5.	Summary and Conclusions	
	5.1 Improvements in maternal health care	45
	5.2 Improvements in other SRH services	47
	References	48
	Annexure	50

ABBREVIATIONS

AIDS	- Acquired Immune Deficiency Syndrome
ANMs	- Auxiliary Nurse Midwives
ASHAs	- Accredited Social Health Activists
BCC	- Behavioural Change Communication
BEmOC	- Basic Emergency and Obstetric Care
BEmONC	- Basic Emergency Obstetric and Neonatal Care
CEmOC	- Comprehensive Emergency and Obstetric Care
CEmONC	- Comprehensive Emergency and Obstetric and Neonatal Care
CHC	- Community Health Centre
CHNs	- Community Health Nurses
CMC	- Christian Medical College
DDHS	- Deputy Director of Health Services
DOTS	- Direct Observation Treatments Scheme
DPH	- Director of Public Health
EAG	- Empowered Action Group
ECG	- Electro Cardio Gram
EmOC	- Emergency Maternal and Obstetric Care
FHC	- Family Health Clinic
FRUs	- First Referral Units
GIS	- Geographic Information System
GO	- Government Order
HIV	- Human Immune-Deficiency Virus.
HMI	- Health Management Information
HSC	- Health Sub-Centre
HSDP	- Health System Development Project
HUD	- Health Unit District
IAS	- Indian Administrative Service
ICPD	- International Conference on Population and Development
IEC	- Information Education and Communication
ISMR	- Institutional Service Monitoring Report
JSY	- Janani Suraksha Yojana
ICTC	- Integrated Community Testing and Counselling
LFA	- Lay First Aiders
MHC	- Mini Health Centre
MLA	- Member of the Legislative Assembly
MP	- Member of the Parliament
MRI	- Magnetic Resonance Index
MTP	- Medical Termination of Pregnancy
NGO's	- Non Governmental Organisation

NRHM	- National Rural Health Mission
OPD	- Out Patient Department
ORS	- Oral Rehydration Solution
OT	- Operation Theatre
PHC	- Primary Health Centre
PRI	- Panjayat Raj Institution Representative
RCH	- Reproductive and Child Health
RTI's	- Reproductive Tract Infections
RNTCP	- Revised National Tuberculosis Control Programme
SHN	- Sector Health Nurse
SRH	- Sexual and Reproductive Health
SRS	- Sample Registration System
STI's	- Sexually Transmitted Infections
TB	- Tuberculosis
TFR	- Total Fertility Rate
TNAHCP	- Tamil Nadu Area Health Care Project
TN-HSDP	- Tamil Nadu Health System Development Project
TNMSC	- Tamil Nadu Medical Service Corporation
UPA	- United Progressive Alliance
VHNs	- Village Health Nurses
VHS	- Voluntary Health Services
VIA	- Visual Inspection with Acetic acid
VILI	- Visual Inspection with Lugol's Iodine
VKT	- Varumun Kappom Thittam
WHO	- World Health Organisation

Health system reform initiatives in Tamil Nadu : Contribution to improvements in sexual and reproductive health services

1. The Backdrop

1.1. Introduction

Tamil Nadu has had a long track record of innovations in the health sector. Many different players have been involved, including non-governmental organisations led by socially committed physicians such as Voluntary Health Services (VHS), bilateral donors such as DANIDA and USAID; and the World Bank. But it would be fair to say that it is the state's health administration that shaped many of these reforms and innovations and ensured their successful implementation.

As in many other Indian states, two major reform initiatives are underway currently in Tamil Nadu: the Tamil Nadu Health System Development Project (TN-HSDP) and the National Rural Health Mission (NRHM). Both address reproductive and child health as one of their priorities. This paper seeks to examine aspects of these recent reforms which aim to improve components of sexual and reproductive health (SRH) services.

The objectives of this paper are to

- Map the various reform initiatives within the health sector in Tamil Nadu, with a focus on current reforms;
- Examine aspects of the HSDP and NRHM which aim to improve some dimensions of sexual and reproductive health services in Tamil Nadu;
- Compare the intention of the above reforms initiatives with actual performance based on case studies;
- Analyse, based on the above, the emerging scenario in terms of universal access to SRH services;

The paper is based mainly on a review of: published and unpublished studies available from the web, policy documents and government orders pertaining to various reform initiatives, and relevant documents of multilateral and bilateral donor agencies. These have been complemented with information obtained from interviews with select policy makers and researchers, review of district performance records, non-participant observation in two health facilities in one district and interviews with 25 women living in communities served by the two health facilities visited. In addition, we have also included information based on visits to health facilities located in another high-performing district in terms of improvements in

provision of primary health care facilities, to illustrate the best-case scenario when political will combines with commitment on the part of health managers and providers.

This paper is divided into five sections. The first section describes the health scenario in Tamil Nadu. Section two presents a detailed account of past health reforms. The second part of this section describes the HSDP and NRHM and their stated objectives, and highlights specific reform components aimed at improving select SRH services. In section three, we present case studies describing availability, utilisation, affordability and quality of SRH services. Section four presents the case study of a district in Tamil Nadu which has dramatically improved institutional deliveries through strengthening primary health centres innovatively using the provisions of the NRHM. The fifth and final section reflects on the emerging scenario in Tamil Nadu in terms of achievement of universal access to sexual and reproductive health services.

1.2. Health status and health services in Tamil Nadu

Tamil Nadu ranks among high performing states in India in human development, with high levels of literacy, low fertility and mortality rates and good coverage by health care services. According to the 2001 Census, the state had a population of 62.1 million. The literacy rate for the population aged 7 and above was 73.5 per cent ; 82.3 for males and 64.6 for females. Sex ratio of the population was 1014 males per 1000 females, and sex ratio in the 0-6 age group was even more skewed in favour of the male child, with 1065 boys per 1000 girls (1).

The population has completed the process of demographic transition from high birth and death rates to low birth and death rates. According to the Sample Registration System (SRS) data for 2005, the crude birth rate was 16.5 per 1000 population, crude death rate 7.4 per 1000 population and natural growth rate 0.91 per cent (2). During 2005-06, more than 60 per cent of the women (or their partners) were current users of contraception. Fertility had reached below replacement level with a TFR of 1.8, and infant mortality was only 31 per 1000 during the same year (3). During 2002-05, almost all pregnant women (96.5%) were covered by antenatal services and 90 per cent of women delivered in a health facility and received postnatal care within two days following delivery. Eighty one per cent of all children aged 12-23 months were fully immunised (3).

Tamil Nadu has an extensive public health infrastructure covering the rural and urban areas of the state. Health infrastructure consists of five types of health care units viz. Health Sub-Centres (HSC), Primary Health Centres (PHC), Community Health Centres (CHC), Dispensaries and Hospitals. These institutions provide preventive, promotive, curative and rehabilitative health services. The details of health infrastructure in public sector in Tamil Nadu are as follows:

Table 1.
Health facilities available in Tamil Nadu - 2007

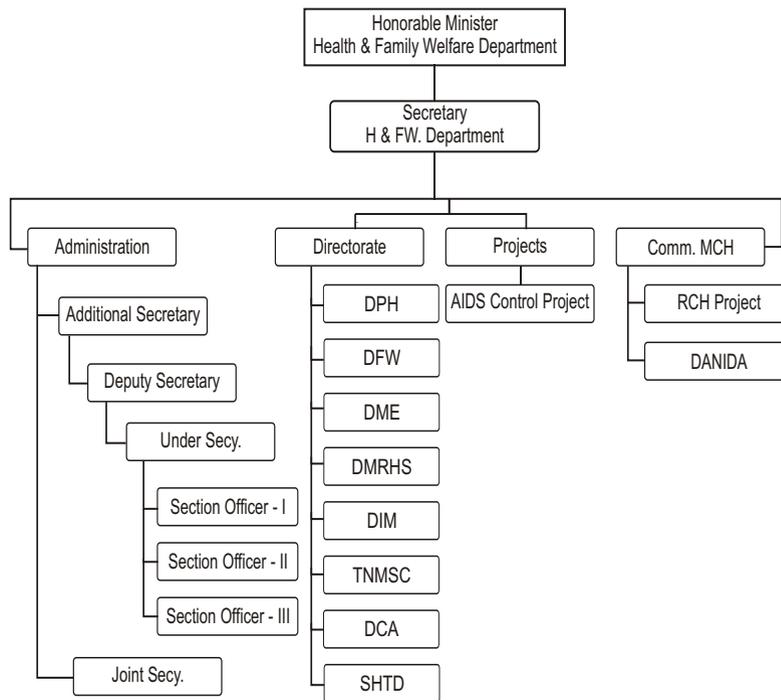
Teaching Hospitals	12
District Headquarters Hospitals	26
Taluk Hospitals	162
Non-Taluk Hospitals	77
Dispensaries	12
T.B. Hospitals	5
Other Hospitals	25
Women and Children Hospitals	6
Mobile Medical Units	11
Employees' Social Insurance (ESI) Hospitals	7
Employees' Social Insurance Dispensaries	160
Rural Family Welfare Centres	382
Primary Health Centres	1413
Health Sub-Centres	8682
Post Partum Centres	118
Urban Family Welfare Centres	65
Urban Health Posts	245

Source: (4):www.tnhealth.org/information.htm (20/12/2007)

These facilities are organised under various directorates (see figure 1. for organisational structure).

- E ● Teaching hospitals are under the control of the Director of Medical education.
- District, taluk and all other hospitals including the TB and leprosy hospitals, and mobile medical units fall under the Directorate of Medical and Rural Health Services. Twenty nine (29) of 30 revenue districts in the state with the exception of Chennai are administered by Joint Director/Deputy Director of Medical and Rural Health Services and Family Welfare. There is also a deputy director for TB and another for leprosy programme in every district.
- H ● The Director of Public Health and Preventive Medicine is responsible for providing primary health care services through its network of PHCs and SCs.

Figure 1.
Health and Family Welfare Department, Government of Tamil Nadu
Organisation Structure



Source: (4)

Public spending on health in Tamil Nadu has been fairly high in the past. In 1985-86, the per capita government health spending in the state was the highest in India, at Rs.85. The state remained the highest spender on health until the late 1990s, with a real per capita spending of Rs. 124. However, the share of allocation to health in total state budget declined from 7.5% in 1985-86 to 5.4% during 1999-2000 (5).

2. Health reforms in Tamil Nadu

Tamil Nadu is known for its political commitment to high performance in its health and family welfare sector. Successive governments under the state's two major political parties have paid sustained political attention to improving the public health infrastructure and promoting maternal and child health care and family planning for almost three decades (6).

Health reforms in Tamil Nadu have been described below in two parts: reforms prior to 2004 and those from 2004 onwards. The year 2003 may be seen as a watershed in the history of health reforms in the state. Despite its excellent track-record in health, the Government of Tamil Nadu was concerned by the stagnation of some reproductive and child health indicators such as under-five mortality rates and maternal mortality and morbidity, the considerable rural-urban differentials in health outcomes and the increasing burden of non-communicable diseases even while communicable diseases have not declined substantially. This led to a detailed analysis of health system constraints and barriers and the adoption of a strategy in 2004 to specifically focus on low-income populations and families. Post 2004 two major health reform initiatives in the state: The Tamil Nadu Health System Development Project (TNHSDP) with World Bank assistance and the National Rural Health Mission with Central government funding were implemented.

2.1. Major health reforms prior to 2004

In the two decades spanning 1980-2000, significant contribution was made to improvements in the health sector by the DANIDA-assisted Tamil Nadu Area Health Care Project, (TNAHCP) in addition to the state government's own initiatives.

Major areas of reform in this period have included

- Expanding access to health care services through both supply-side interventions such as improvement and expansion of infrastructure and demand-side interventions such as promoting health education and awareness
- Managerial reforms such as streamlining purchasing and procurement of drugs and supplies and putting in place effective monitoring and evaluation mechanisms; and
- Capacity building of staff
- Involvement of the private sector
- Introduction of cost-sharing mechanisms

2.1.1. Expanding access to care

Supply-side interventions

Improving availability of health services is fundamental to expanding access to health care.

In an attempt to bring specialist care to the door steps of the rural poor, in 1999 the DMK government in Tamil Nadu introduced the “Varumun Kappom Thittam” (VKT)- health camps at the HSC level providing a range of specialist services including pediatrics, ophthalmology, dentistry, ENT, cardiology, dermatology and Indian systems of medicine. Diagnostic services including blood test, ECG, ultrasound, sputum test etc. were also provided. An estimated 8500 VKT camps were held in the state during 1999-2001 (7). This scheme was replaced by Medical Specialty Camps in 2001, when the party in power changed. During 2001-05, 385 Specialty Camps were annually held in the state. VKT camps have been revived once again since 2007.

There has also been considerable investment in enhancing availability of both infrastructural facilities and human resources.

Infrastructural development in health has been a stated priority for the government of Tamil Nadu over many years. For example, construction, repairs and renovation of Health Sub-Centres and Primary Health Centres was an important component of the DANIDA-assisted Tamil Nadu Area Health Care Project (TNAHCP) implemented in three phases, from 1981 to 2003. Accordingly, infrastructural improvement happened in ten of the less developed districts of the state (8).

The government has been able to limit the number of vacant posts for medical officers in PHCs through a number of supportive personnel policies. For example, medical officers can carry out private practice outside working hours, provided they do not run nursing homes or carry out private practice from within government facilities. Also, 50% of the post graduate seats in all branches of medicine have been reserved for those who have completed at least three years of service in PHCs. Moreover, doctors are recruited to work within the geographical area (zone) where their residence is located, for a minimum of 10 years (9). All these policies have helped to attract medical graduates in the state to work as PHC medical officers.

Demand-side interventions

There have also been a number of initiatives to create demand for health services among members of the community. Under the TNAHCP project, several activities were implemented in select districts to build demand for services from below.

“*Kalaipayanam*” or street plays were performed in more than 3000 venues in Dharmapuri and Krishnagiri districts in the late 1990s, to raise community awareness on health issues and on service availability.

A training manual was developed for members of PRIs which included information on health issues, availability of services and role of PRI members in health promotion. More than 10,000 PRI members from Dharmapuri district were given orientation training on health issues (10).

In the TNACHP project districts of Dharmapuri, Thanjavur, Nagapattinam and Thiruvapur, wall paintings, hoardings, stickers and bill boards were used extensively for IEC campaigns on various health topics. A radio serial in Tamil on adolescent health was broadcast through the All India Radio for 78 weeks. There were also other initiatives to cover young people, through school health competitions and health exhibitions (10).

2.1.2. Improving management of services

Improvements in the management of services have been an ongoing feature of the state's Health and Family Welfare Department. However, two innovations stand out as successes that have vastly improved the efficiency and quality of health care services. These are,

- The setting up of Tamil Nadu Medical Services Corporation (TNMSC) and,
- The implementation of an Institutional Service Monitoring Report (ISMR) in HSCs, PHCs and First Referral Units (FRUs)

The Tamil Nadu Medical Services Corporation Ltd

Tamil Nadu Medical Services Corporation Ltd., (TNMSC) established in 1994, has succeeded in making significant cost-savings and ensured regular supply of drugs to all government medical institutions including PHCs and HSCs and FRUs in the state (11).

TNMSC is the sole purchaser and distributor of drugs to all government institutions. Items available from TNMSC are based on an Essential Drugs List fashioned after WHO's model, and follow WHO's recommendation for the use of generic name for each drug (11). A booklet listing all these items is distributed to all doctors, nurses, pharmacists and post graduate institutions. There is a warehouse in every district which stores these items. Every government health facility is given a pass book which mentions the amount it is allowed to spend in a given year on medicines and surgical items. This is based on the inpatient, outpatient and surgical load of the institution. On a fixed date each month, the institution can draw drugs

from the warehouse. This is entered in the passbook. The health facility also has emergency funds to purchase drugs not in the TNMSC list (8).

The warehouses have a computerised system for entering transactions which are linked to the TNMSC headquarters. The drug stock position in every institution and warehouse is thus kept track of, and a steady supply ensured (11).

Drugs are procured by TNMSC through an open tender process from manufacturers and importers of drugs, cutting out middlemen. Strict quality control is maintained. All tablets and capsules are procured with strip packing to avoid wastage and pilferage and to prevent manual handling (11).

The system has proven to be cost-effective and operationally viable. Purchase prices for drugs are significantly lower than the minimum retail prices at which drugs are sold in the open market. There is close monitoring and auditing to avoid pilferage and tampering from warehouses. The organisation has a lean structure and makes use of outsourcing wherever feasible (8). The Corporation has received support from DANIDA for buying computers and other equipment for its 23 district warehouses.

TNMSC is using the savings it has generated to diversify into providing diagnostic and medical services. For example, it has set up CT scanning facilities and MRI centres in teaching hospitals and district hospitals (12). TNMSC has also set up a master health check-up scheme at the Government General Hospital, a 24-hour gastro-intestinal bleed centre in Stanley Hospital and special class maternity ward in Institute of Obstetrics and Gynaecology in Chennai (13).

TNMSC has also been entrusted with procurement and supply of medical equipments to government hospitals from time to time, and been involved in construction of urban health posts, HSCs and PHCs, regional diagnostic centres and accident and emergency wards (13).

Institutional Service Monitoring Report (8)

The Institutional Service Monitoring Report (ISMR) project was initiated to ensure consistent reporting of institutional activity within HSCs, PHCs and FRUs in Tamil Nadu. A computer-readable form containing information on outpatient and inpatient attendance; deliveries; sterilisations; minor surgery; laboratory investigations, vaccines administered etc. is filled out every month by staff from PHCs, HSCs and FRUs.

These forms are sent to the statistical department of the state's Public Health Directorate. An "Optimum Mark Reader" is used to scan each form and to tabulate and analyse data by means of a computer link. Data for each month is received, consolidated and analysed and made available to the Chief Minister, Health Minister

and senior officials by the 15th of the following month, and feedback sent to the district within the next week.

The ISMR has put in place an effective monitoring mechanism. It has helped create greater awareness among officials of performance in different regions and areas where improvement is needed. These are discussed in review meetings and plans made for improvements.

The ISMR was implemented with DANIDA funding during 1998-2003. Since 2002, the Directorate of Public Health and Preventive Medicine has taken on this activity and the ISMR has become a part of the system's regular reporting process.

2.1.3. Capacity-building of staff

The DANIDA-assisted TNAHCP helped the state government invest in capacity building of staff at all levels. Under the third phase of TNAHCP (1996-2003), one State training centre and 10 district training centres were set up. District training teams were created in the ten districts, and periodic in-service training and continuing medical education programmes became a regular feature in the state. For example, health workers in the category of Village Health Nurses (VHNs) and Community Health Nurses (CHNs) were provided training in basic treatment procedures in allopathic and Indian systems of medicine under this project, which aimed to cover 10,000 health workers with such training (10).

Training in Gender and Health was also a component of the TNAHCP. A three- week training of trainers was conducted for senior staff, who in turn trained VHNs, CHNs and medical officers (14).

Training was also imparted to enhance specific skills. For example, in order to ensure the effective implementation of ISMR, about 2500 staff at the state and district levels were trained in computer skills, and staff at the HSC and PHC levels were given in-depth training on health management information systems. Medical Officers of PHCs were given management training (10).

2.1.4. Involvement of the private sector

Government collaboration with the private sector to expand availability of services dates back to 1969. The Government of Tamil Nadu provided partial financial support for setting up Mini Health Centre (MHCs) by the Voluntary Health Services (VHS), a non-profit organisation. The MHC project was a model of outreach services for the rural underprivileged. The community provided a building for housing the MHC, and was also enrolled into a community health insurance scheme called the Medical Aid Plan. The MHC covered a population of 5000, and was staffed by a part-time medical officer, a male and a female multipurpose worker. Community health workers known as “Lay First Aiders” (LFAs) were appointed to cover a population of

1000 persons, to provide first aid, impart health education and located within the community. A wide range of preventive and curative services were available through the MHC. The Government of Tamil Nadu adopted this model in 1977 as a prototype for government collaboration with NGOs for delivery of health care services. In 1978, it also issued GOs to integrate MHCs within the referral chain by issuing clear directions to directors of medical education and medical services to give special attention to patients referred from MHCs and to maintain their records. There are 261 MHCs running in Tamil Nadu under various NGOs. The MHCs have improved access to curative and preventive health care services in rural areas (8).

In 1997, the government of Tamil Nadu sought to tap resources from industrialists to improve availability of services. The then Chief Minister M. Karunanidhi held meetings with industrialists to propose that they adopt health facilities. Three models of adoption were available to the industrialists. One was total adoption involving meeting the full cost of running a PHC or a taluk/district hospital, including recurring costs such as staff salaries. The second model was partial adoption where all costs except staff salaries were met by industrial houses. The third was a limited adoption model wherein only provision of civil work, equipment, maintenance and repairs were paid for by the industrial houses (9). More than 65 PHCs and government hospitals were adopted by 20 industrialists in the state. During the same period, MPs and MLAs were also encouraged to invest in building and maintenance of health facilities in their constituencies (7).

In the early 2000's GOs were issued for privatising the areas of security, catering and sanitation in government hospitals (15). The implementation of this order met with several difficulties in practice, and its current status is not known.

2.1.5. Introduction of cost-sharing mechanism

A fee of Rs.5 on out-patients at super speciality wards, as also on every visitor during non-visiting hours was introduced in government hospitals starting 2001. More recently, the patient welfare associations in secondary and tertiary hospitals set up under the NRHM (see section 2.2.2) have also been charging for diagnostic services. In 2003, an order was issued to set up a paying maternity ward in the Institute of Obstetrics and Gynaecology and Government hospital for women and children in Chennai. The infrastructure for the paying ward was to be put up by the TNMSC. The paying labour ward was to have 40 beds and a senior civil surgeon was to be given exclusive charge of this ward. TNMSC was also entrusted with outsourcing laboratory services, nursing services, paramedical services and sanitary services for the paying ward. The anaesthetist on call duty to the paying ward was to be paid an additional fee of Rs.500 for transport and incidental expenses (16). Subsequent government orders revised the fees chargeable for hospital facilities and treatment and for diagnostic services, and also introduced a few additional services such as diagnostic laparoscopic investigation and laparoscopic sterilisation (17,18).

2.2. Health reforms since 2004

2.2.1. The Tamil Nadu Health Systems Development Project

The Tamil Nadu HSDP funded by the World Bank had a long gestation period of about four years before it was formally approved in 2004 and implemented since early 2005.

The stated objective of the TNHSDP according to the project appraisal document, is to improve the effectiveness of the public as well private sectors in the health system through four major components:

- 1) Increased access to and utilisation of health services, particularly by poor, disadvantaged and tribal groups;
- 2) Development and pilot testing of effective interventions to address key health challenges, specifically non-communicable diseases;
- 3) Improved health outcomes, access and quality of service delivery through strengthened oversight of the public sector health systems and greater engagement of non-governmental sector; and
- 4) Increased effectiveness of public sector hospital services, primarily at district and sub-district levels (5).

Each of the four components included a number of sub components. For example,

- Component 1 included reduction of maternal and neonatal mortality, improvement of tribal health and improving access to hospital care for the poor and disadvantaged.
- Component 2 focused on health promotion, clinic-based NCD control pilots, and traffic injury prevention and treatment.
- Component 3 aimed to improve monitoring and evaluation, quality of care, strengthening health care waste management, and building staff capacity for strategy development and implementation.
- Component 4 consisted of improving secondary care facilities, equipment, human resources planning and development, and enhancing management of public facilities.

The TNHSDP began in early 2005, and is being implemented through a separate directorate headed by an IAS officer. Five Deputy Directors are responsible respectively for Human Resource Development, Training, Administration, Tribal Health and Consultancies. Six medical officers at the state level and at the district level, 29 HSDP medical officers, one in each district, are also part of the project team (19).

Activities under this project are being implemented in 270 hospitals under the Directorate of Medical Services: 27 district headquarters hospitals and the remaining, hospitals at the sub district level (19).

According to one source, during the period of the evolution of the proposal, the RCH-2 dialogue took place, in which several donors participated. Donors supporting RCH-2 acted as a consortium pooling-in all their resources into one basket to implement the programme. The consortium wanted to keep RCH-2 and TNHSDP separate and parallel. Hence, a decision was taken that the TNHSDP would focus on secondary hospitals, because RCH-2 was to be implemented through the Primary Health Centre network (20).

Major activities under HSDP

A 2007 publication of TNHSDP lists eleven major activities under the project (21)

1) Construction and improvement of inpatient facilities in government hospitals

Inpatient facilities in 270 district and taluk hospitals in 29 districts are to be improved through new construction activities and repairs and additions to existing facilities. Five districts – Dharmapuri, Krishnagiri, Pudukkottai, Theni and Kaniyakumari – have been covered in the first phase of the project. The remaining 24 districts are to be covered in the second phase. New inpatient wards, outpatient facilities, vehicle sheds, rooms for waste management, and operation theatres are being added to secondary hospitals in order to meet the needs of users.

2) Supply of new equipments, instruments and vehicles to district and taluk hospitals

Secondary hospitals are also being provided with modern technical instruments and equipments costing around Rs.108 crores. In addition to more than 42 instruments and equipments, hospitals are also being provided with beds and linen, generators and inverters, ambulances, mortuary vans and mobile vans for outreach activities. Thirty eight hospitals in five districts have already received these, and 232 hospitals in the remaining 24 districts will be receiving the same in the next phase of the project.

3) Maternal and neonatal health

The state's strategy for reduction of maternal and neonatal mortality is to ensure access to emergency obstetric and neonatal care to all mothers and newborns. Sixty six (66) Comprehensive Emergency Obstetric and Neonatal Care (CEmONC) Centres located in district or taluk hospitals, with a minimum of two centres in every district are currently operational. An additional 32 CEmONC centres are soon to be started. A more detailed discussion of the various features of this intervention is included in section 2.3.

4) 24-hour emergency ambulance services

The project plans to have one ambulance in each of 385 blocks of Tamil Nadu to provide transportation services in case of obstetric and other emergencies and accidents. In the first phase, 187 blocks in 15 districts have been covered.

The ambulance service is being run by NGOs in each block. Each ambulance is to be staffed by a trained nurse and equipped with life-saving equipments and drugs. The NGO gets Rs.10,000 a month to cover costs of driver's salary and fuel. Services are free for those below poverty line and/or belonging to Scheduled Caste or Scheduled Tribes. Others are charged a flat rate of Rs.5 per km for the one way trip to hospital. A round-the-clock control room located in the district general hospital receives calls requesting emergency transport and directs the nearest ambulance in the area to pick up the emergency patient.

5) Mortuary vans

Lack of mortuary vans to transport the deceased from health facilities to their homes has been a major problem for many low-income and disadvantaged households. This project has provided 42 new mortuary vans which are stationed in district hospitals in all districts. These are operated by NGOs selected by the DDHS, who receive Rs.5000 per month for paying the driver and also collect Rs.5 per km from users towards fuel charges.

6) Counselling centres for patients

Counselling centres for outpatients and inpatients have been set up in district and taluk hospitals in all 29 districts of the state. These centres are to be staffed by three trained counsellors/social workers. They are expected to provide information on services available in the hospital, how and where to avail of these, and explain the health providers' notes and mode of taking drugs. They are also to provide advise on pregnancy-related care, family planning, child care, prevention of non communicable diseases. In addition, they are to counsel para-suicide cases and persons with mental health problems. Counselling services are also supposed to be provided to inpatients.

7) Mobile medical services for hill tribes

Ten districts with a sizeable population of hill tribes have been provided with 12 mobile medical vans to provide medical services to those living in areas far away from health facilities. Each mobile van has a medical officer, two staff nurses and a laboratory technician and is equipped with drugs and essential medical equipments.

A sum of Rs.57 lakhs has been allocated as discretionary funds to district collectors in 14 districts, to provide financial assistance to meet costs of tertiary

health care to members of Scheduled Tribes affected by serious illnesses. Government partnership with NGO-run health facilities is proposed to provide inpatient care to members of Scheduled Tribes residing in areas that do not have access to government hospitals.

8) Cervical cancer screening

A pilot project is being implemented in two districts – Thanjavur and Theni covering all women in the 30-60 year age group with cervical cancer screening (see section 2.3 for more information).

9) Prevention of Cardiovascular diseases

Hypertensive disorders and cardiovascular diseases are an important cause of morbidity and mortality in Tamil Nadu. Prevention of these diseases is an important objective of the TNHSDP. Studies have been conducted in four districts – Villupuram, Virudhunagar, Theni and Sivagangai – to assess the effectiveness of interventions that combine use of drugs, dietary modification and lifestyle changes to control the diseases in their early stages and to prevent these altogether in others. Interventions based on these studies are now being implemented as pilot projects in Virudhunagar and Sivagangai districts.

Under the pilot project, all persons above 30 years of age attending secondary care facilities will have their BP recorded. All those who are found to have BP above 90/130 will be put on a drug and monitored and also given further tests. Simultaneously, behavioural change communication (BCC) activities aimed at tobacco control are also being implemented in schools, homes and community with the collaboration of the Gandhigram institute.

10) Scientific management of biomedical waste in government hospitals

A pilot project on scientific management of biomedical waste is being implemented in secondary hospitals in Dharmapuri and Krishnagiri districts. All hospital waste is segregated into four categories, and biomedical waste is disposed-off in accordance with principles of infection-control. This system of waste management is to be introduced in all secondary hospitals in Tamil Nadu in various phases.

11) Capacity-building of personnel

A number of training programmes are underway aimed at enhancing the technical capacity of staff in government health facilities. These training programmes include personnel at various levels: medical officers, staff nurses and auxiliary nurse midwives, laboratory technicians, health managers and others. For example, all medical officers, staff nurses and other health staff have undergone training to improve their communication skills, in order to improve the quality of provider patient interaction in health facilities.

12) Other activities

In addition to the above, a number of other interventions are underway to strengthen secondary hospitals, according to information given by project staff.

Health Management Information Systems

Development of Health Management Information System (HMIS) is underway in all secondary hospitals. The entire hospital system will be computerised, from registration to discharge or completion of treatment, each patient being given a unique user id. All health providers including nurses are to be given E-mail ids. Also, Geographic Information System (GIS) mapping is being used to map all health services: public and private—available within a geographic area to allow for better planning of services (19).

Greater involvement of the private sector and Public-Private Partnerships (PPPs)

The government of Tamil Nadu issued a GO in 2004 spelling out its policy related to PPPs. The government states its strong commitment to public-private collaborations “including the use of public funds to purchase basic services from NGOs and private providers”, and recourse to the private sector for training, communications, emergency transport, and a range of professional and ancillary services to be “contracted in” to government health facilities (22).

By the same GO the government authorised engaging consultancy services to formalise a policy on PPPs for the TNHSDP and to prepare an action plan that will layout the options before the government.

It may be seen from the descriptions of reform activities that thus far, all partnerships have been with non-governmental organisations and no commercial partners have been involved. In terms of contracts with private providers, only anaesthetists were to be appointed contractually in secondary hospitals, and no other arrangement was currently envisaged, according to the project director. There was no outsourcing of clinical services under this project. Outsourcing of non-clinical services was done by Tamil Nadu Medical Services Corporation.

2.2.2. The National Rural Health Mission

The National Rural Health Mission (NRHM) was launched in 2005 by the newly elected United Progressive Alliance (UPA) government at the centre, led by the Congress party. The Mission was seen as a means to carry out “necessary architectural correction” in the basic health care delivery system. The Plan of Action of NRHM includes,

- “Increasing public expenditure in health
- Reducing regional imbalance in health infrastructure
- Pooling resources
- Integration of organisational structures
- Optimisation of health manpower
- Decentralisation and district management of health programmes
- Community participation and ownership of assets
- Induction of management and financial personnel into district health system
- Operationalising community health centres into functional hospitals meeting Indian Public Health Standards in each block of the country (23).”

The Mission covers all states in the country, but has selected 18 high focus states including the North-Eastern states and states constituting the Empowered Action Group (EAG).

In Tamil Nadu, the State Health Mission was constituted in December 2005. The mission has the Chief Minister and Health Minister as co-chairs and six other ministers as members. The Project Director of the Reproductive and Child Health (RCH) project, an IAS officer, is also Mission Director.

The main architectural correction implemented is the bringing together of all major national programmes at the state and district level under one umbrella, functioning through individual sub-committees. All existing state health societies (except the State AIDS Control Society), the RCH project, tuberculosis control project, Indian system of medicine programme were merged into a single State Health Society, registered in December 2005 (2).

District Health Mission and District Health Societies have been formed in all districts of Tamil Nadu. The Collector of the Revenue District is the Chairman of the District Mission and the Deputy Director of Health Services of the revenue district is the District Mission Director (2).

NRHM's interventions may be broadly classified as,

- Interventions to strengthen the functioning of health facilities, including through promoting community participation
- Interventions to improve maternal-neonatal and child health. (It is discussed in section 2.3).

NRHM interventions to strengthen the functioning of CPHCs and HSCs (2)

1) Infusion of funds to improve infrastructural facilities and equipment and supplies

The NRHM has made available adequate funds in facilities at the primary care level : CHCs, PHCs and HSCs. These include annual maintenance grants of Rupees one lakh to CHCs and upgraded PHCs, Rs.50,000 to all PHCs and Rs.10,000 to all HSCs. These are to be used for provision of water supply, toilets and their maintenance and other amenities needed for better functioning of these facilities.

In addition to these annual maintenance grants, facilities at every level are also given “untied” grants to promote “local health action” : Rs.50,000 to upgraded PHCs, Rs.25,000 to all PHCs and Rs.10,000 to all HSCs.

Another source of funds available to health facilities is through Patient Welfare Societies (see page 18).

2) Investment in additional human resources

In Tamil Nadu, additional Village Health Nurses (VHNs) are being employed in HSCs covering a population, larger than 5000 vast geographic area or located in remote places. Accredited Social Health Activists (ASHAs) are being appointed at the rate of one per 1000 population to be “link volunteers” between the health system and the community.

ASHA is expected to provide primary medical care for minor ailments, be the DOTS provider under RNTCP, depot holder for ORS, Iron and folic acid tablets, chloroquin, oral pills and condoms. She is also entrusted with increasing community awareness of existing health services and motivating use of these, and identifying and referring high risk obstetric and neonatal cases and referring them to First Referral Units (FRUs).

3) Widening the range of and coverage by primary health care services

The range of primary health care services is being expanded with the introduction of primary dental care facilities in a pilot project covering 24 PHCs in three districts. Contracted dentists visit these PHCs three days a week. These facilities are to be upscaled to 100 upgraded PHCs during 2007-08. In the upgraded PHCs, a dentist and a dental hygienist are to be appointed on a regular basis so that dental health care is available on all days.

One hundred mobile medical units have been operationalised to visit remote villages on fixed days, of which villagers will be informed well in advance. The unit consists of medical and paramedical staff and includes laboratory facilities. An additional 285 units are to be added during 2007-08.

4) Strengthening of Health Management Information System (HMIS)

All 1417 PHCs in Tamil Nadu are to be provided with computers and internet facilities. Also, data collected by VHNs on all families residing in her work area will be transmitted to the PHC through E-Moding, and from there to the district and state.

5) Formation of mechanisms for community participation and health system accountability

Village Health and Sanitation Committees have been formed in every village with a population of up to 1500. Committee members include PRI members, representatives of women's groups and other village level officials. These committees have been given untied grants of Rs.10,000 which is to be used for household surveys, health camps, sanitation drives etc.

Patient Welfare Committees have been formed in every PHC, taluk/non-taluk hospital and government headquarters hospitals. These are expected to facilitate better functioning of health facilities and achieving the objectives of the Mission. Funds are allocated to each of these societies to help them in their work: Rupees five lakhs for district headquarter hospitals, Rupees one lakh for taluk/non-taluk hospital and Rupees one lakh per PHC.

2.3. Improvements and innovations in the provision of sexual and reproductive health services

Starting from the Mini-Health Centre scheme of VHS, all innovations and reforms have strengthened the capacity of the public health system to enhance service delivery, especially at the primary care level. They have also contributed significantly to improvements in availability of and access to basic maternal and child health care. This section will however focus on reforms that have directly addressed one or more dimensions of sexual and reproductive health services.

It may not be an exaggeration to say that maternal health and family planning have been the only component of sexual and reproductive health services to have received consistent attention by health policy makers in the state. Interventions related to other components of sexual and reproductive health have been few and far between.

This section therefore focuses mainly on reforms in the area of prevention of maternal and neonatal mortality and morbidity, followed by a brief description of efforts in family planning and other components of SRH services.

2.3.1. Reduction of maternal mortality and morbidity

Interventions in this area may be broadly classified into:

- Expanding coverage of basic pregnancy-related care
- Promoting institutional deliveries
- Expanding access to and quality of Basic and Comprehensive Emergency Obstetric and Neonatal care
- Maternal death audits

1) Expanding coverage of basic pregnancy-related and neonatal care

During the late 1990s, several interventions helped to improve the availability of and access to maternal health and family welfare services. For example, the DANIDA-assisted TNAHC project enhanced access to domiciliary services in rural areas by improving mobility of Village Health Nurses. VHNs were provided with training to ride a two-wheeler – a cycle or moped. DANIDA also provided loans for purchase of moped. Eight districts were covered during 1996-2003 under the DANIDA project. Training to ride two-wheelers was subsequently made a part of regular training programmes for VHNs (8).

Starting 1997, Reproductive and Child Health outreach camps were held regularly on a fixed day of a month in each health sub-centre. Funded under the RCH-1 project, the camps provided antenatal care and child care, and covered women who did not have the time or money to travel to PHCs (8). Fixed day outreach camps for antenatal and child care provided by a team consisting of the PHC medical officer and VHNs serving the area are now a regular feature.

Efforts have also made to increase demand for maternal health services among women in the community. In 2002, a pilot project was implemented in Madurai and Theni districts to train non-school-going adolescent girls to empower them to act as link persons between the community and health service providers. The training included 6500 girls in Madurai and 4000 girls from Theni in the age group 15-18 years. They were given five-day training at the Block headquarters, followed up with one-day refresher training after six and nine months respectively. The training covered a range of reproductive health issues such as changes in adolescence, menstrual and personal hygiene. It also taught them about conception, antenatal care, danger signs during pregnancy, family planning, and information about availability of Emergency Obstetric services and abortions services. Each adolescent girl was expected to take care of 5-6 pregnant women and five postnatal women in their village, under guidance from the Village Health Nurse. They were to provide advice on diet, intake of IFA tablets and importance of institutional deliveries, among other things. This scheme was later extended to all districts under RCH-2 (8, 24).

Since 2006, the government of Tamil Nadu is providing financial support of Rs.6,000 to every pregnant woman in the Below Poverty Line (BPL) category. Known as the Dr. Muthulakshmi Reddy Scheme, this intervention is meant to help women cover costs of nutritious food and also compensate for wage loss so that they get adequate rest. Anecdotal evidence shows that this has helped women access institutional delivery care.

2. Promoting institutional deliveries

The challenge of improving institutional deliveries was met head-on by the health and family welfare department of Tamil Nadu more than a decade ago. During 1997-99, an attempt was made to provide 24-hour delivery services in some PHCs, staffed by three medical officers. This model did not meet with much success. After reviewing this experience, it was decided to change this to a model with three additional staff nurses, two cleaners and a driver to equip PHCs for 24 hour delivery services. The nurses were skilled in conducting normal deliveries, and were to refer complications after providing obstetric first-aid for haemorrhage, premature labour or newborn complications. This was initiated in 1999-2000 in Madurai, Theni, Dharmapuri, Krishnagiri, Thanjavur, Thiruvarur and Nagapattinam districts. This attempt was extremely successful and the project was upscaled to cover 780 PHCs in two phases (8). The programme was sustained using RCH-1 State Implementation Plan funds. During 2007-08, 220 more PHCs were to make available 24 hour services (2).

Availability of 24-hour services has resulted in a steady increase in deliveries happening in PHCs in Tamil Nadu, and is believed to have resulted in a 36% decline in maternal mortality ratio by 2005 (8). It has also begun to shift the load of normal delivery to primary care level and this would enable secondary and tertiary care hospitals to focus on emergency obstetric and newborn care.

Under the NRHM's *Janani Suraksha Yojana*, a sum of between Rs.500 and Rs.700 is being granted to women from BPL households if they deliver in an institution. Together with the Dr. Muthulakshmi Reddy Scheme for financial assistance to pregnant women, this has contributed to increases in institutional deliveries in Tamil Nadu. The Birth Companion Programme (see next section) introduced in secondary and tertiary hospitals have also been extended to Primary Health Centres providing delivery services, and this may also have had an impact. Between 1999-2000 and 2006-07, the proportion of institutional deliveries in the state has risen from about 84% to nearly 97% (25).

3) Expanding access to and improving quality of Basic and Comprehensive Emergency Obstetric and Neonatal care

Expanding access

Encouraged by its success in increasing institutional deliveries through 24-hour PHCs, the government decided to upgrade some of these PHCs in every block into Basic Emergency Obstetric and Neonatal Care (BEmONC) centres. The idea is that every woman would have access to a BEmONC centre within a 7.5 km radius. In 2007, there were 385 BEmONC centres in Tamil Nadu (25).

Each BEmONC centre is equipped to provide the following services:

- Normal deliveries
- Manual vacuum aspiration for termination of pregnancy
- Tubectomy
- Blood storage centres
- Stabilisation of obstetric and newborn emergencies and referral
- Essential newborn care, especially care of premature and newborn babies (25)

Comprehensive Emergency Obstetric and Newborn Care (CEmONC) centres include all the above and in addition, blood collection and storage and operation theatre facilities. Some of the CEmONC centres had already been started earlier under the RCH project, but this whole project is now part of HSDP because of the location of CEmONC centres in secondary hospitals. In all 66 centres – at least two centres for every district of Tamil Nadu – were already operational by 2007, and 32 more had been commissioned. The idea is to have one CEmONC centre within 10 kms of travel for every woman, open round the clock, equipped with an operation theatre where emergency c-sections can be performed and blood bank with storing and collecting facilities. The CEmONC centre is supposed to have separate casualty for obstetric, and new born cases in addition to casualty for general cases (25).

Each CEmONC centre is meant to be staffed by four obstetric and gynaecology specialists, four paediatric specialists, two general surgeons and two anaesthetists (25,8). One of the indicators for their effective performance is the number and proportion of c-section performed during the night. A CEmONC centre is certified on the basis of

- Availability of paramedical staff
- Functioning equipments

- D rugs
- Implementation of infection control protocols
- Use of emergency treatment protocols
- Availability of round the clock care (25)

Yet another intervention to guarantee access to emergency obstetric care in secondary hospitals for those who have reached the facility is ensuring supply of blood of all groups throughout the year. Regular blood donation camps are being conducted in all PHCs and blood is stored in secondary and tertiary care hospitals. An area-wise directory of blood donors is available for each PHC area and is used in case of blood requirement in emergencies (2).

Emergency transportation free of cost for women developing complications during delivery to reach the nearest CEmONC centre is made available through the medical cum referral control rooms set up in each district under the TNHSDP to provide public access to ambulances (25).

Improving availability of human resources

In the past, many secondary institutions have had to refer emergency obstetric patients to tertiary care centres because of not having an anaesthetist or obstetrician available at hand. Under the RCH component of the NRHM, anaesthetists and obstetricians can be hired to attend to specific cases. This has increased the proportion of c-sections conducted in secondary hospitals and is believed to have contributed to further decrease in the maternal mortality ratio which had fallen by 36% between 2001 and 2005 (8). A training programme of 24-weeks' duration on life saving anaesthetic skills is being conducted in medical colleges for MBBS doctors from secondary hospitals and upgraded PHCs. This aims to further increase the pool of providers available for emergency obstetric care. One hundred MBBS doctors working in government health facilities are expected to be trained during 2007-08 (2).

Improving quality of care

Measures are in place to improve both technical quality and user satisfaction. Protocols on emergency obstetric and newborn care have been developed for the immediate management of six most common emergencies seen in referral units. These are in easy-to-read chart booklet format and have been supplied to all district and taluk hospitals. Doctors from each of the district and taluk hospitals have been trained in using the protocols (8).

An innovation in place since 2004 in secondary and tertiary care hospitals to enhance quality of care for the patient, is the Birth Companion Programme. A pilot

scheme was implemented in two EmOC facilities in Chennai and following its success, a GO was passed in 2004 allowing one female companion to be present in the labour ward with an expectant mother in all government secondary and tertiary care hospitals. The birth companion must be a woman who has experienced the process of labour; be free of communicable diseases; wear clean clothes, agree to stay with the expectant mother throughout the process of labour, and not have interactions with any other woman. This intervention was meant to provide constant human support during labour, and contribute to shorter labour, fewer medical procedures, lower rate of perinatal problems because of reduced stress and lower incidence of postpartum depression, in addition to deterring informal payments in hospital (26).

The NRHM has also allocated funds for improving the quality of delivery and EmOC care available in tertiary care hospitals. Fourteen medical college hospitals in the state have each been allotted Rs 50 lakhs for providing patient welfare amenities such as linen, waiting hall, play material for children, inverters for uninterrupted power supply, solar heaters and cleaning facilities (2).

4) *Maternal death audits*

Maternal death audits in Tamil Nadu have evolved over more than 15 years. They are reported to have been first introduced in 1994 by Sheela Rani Chunkath, the then director of Reproductive and Child Health Project (6). According to another account, reporting of maternal deaths was institutionalized under the DANIDA project (14), wherein VHNs were instructed to send telegrams to the DDHS in the event of any maternal death. This was followed by investigation of maternal deaths within 15 days using a structured format. In 1996, facility based audits were put in place. However, this met with limited success. There was no motivation on the part of service providers to sincerely audit the death, and supervisors tended to protect their subordinates rather than identify lapses and correct those. Also, non-medical causes were not identified and relatives of the deceased were not involved.

Another attempt at reviving maternal death audits appears to have been made around the year 2000. District maternal death investigation team carried out a field level investigation of all reported maternal deaths, to identify medical as well non medical causes including health system failures. This information went up to the highest levels: to the State Commissioner of Maternal and Child Health and the district collector.

In 2004, the government of Tamil Nadu issued a GO issuing guidelines for carrying out community-based verbal autopsies of all maternal deaths in the state (27). Any maternal death in an area is to be reported by the medical officer of the PHC or Municipal Health Officer to Deputy Director of Health Services of the health

district. These officers are also responsible for carrying out a detailed investigation using the verbal autopsy format. Deaths occurring in private institutions are also to be investigated. A district level committee headed by the district collector reviews all maternal deaths. Relatives of the deceased woman participate in these review meetings to provide information on what happened. The district committee in turn reports to the Commissioner Maternal-Child Health and Family Welfare and the Health Secretary about corrective measures taken following each review (27).

Many of the new interventions and reforms in the provision of basic and comprehensive emergency obstetric care described in earlier sections have been informed by findings from maternal death audits. For example, unnecessary referrals from FRUs to tertiary care facilities owing to non-availability of equipment or personnel; lack of emergency transport facilities; overcrowding of FRUs for normal deliveries, all of which have been addressed through appropriate interventions.

2.3.2. Other sexual and reproductive health services

1) Contraceptive and abortion services

Tamil Nadu was the first state in India to introduce the 'Target-Free' Approach in family planning starting with one district in 1991-92, well before ICPD. This experience indicated that targets were not essential for achieving high levels of contraceptive prevalence.

Consequent to the steady decline in fertility rates in the state (it has below replacement level fertility currently), the aim is to sustain the ongoing interventions. In addition, in 19 districts of the state which have a higher proportion of births order three and more have been targeted for intensified interventions (27). Attempts are being made under the RCH project to popularise vasectomy. In order to help women have access to female sterilisation operations at the PHC level, funds have been made available under the NRHM to meet contingency expenses of operation theatres.

Abortion services are sought to be increased through training of providers in MVA techniques. The strengthening of BEmONC centres has also contributed to increased availability of abortion services (27).

2) STI/RTIs and HIV

Family Health Clinics are being conducted in 385 BEmONC centres three days a week. These clinics provide lab services for diagnosis, treatment of RTI/STI and infertility management and counselling services. The BEmONC centres have attempted to bring about a convergence of RCH and HIV programmes by including Voluntary Counselling and Testing Centres for HIV within the Family Health Clinics, with a professional counsellor and a lab technician. Nevirapine is also administered through these facilities to prevent mother-to-child transmission of HIV (25).

3) Cancer screening

Screening services for cervical cancer is being piloted under the TNHSDP in two districts, viz., Thanjavur and Theni. Screening is done through two tests: Visual Inspection with 4 % Acetic Acid (VIA) and Visual Inspection with Lugol's Iodine (VILI). Those found to have abnormal cervixes through visual inspection are referred for further screening through pap smear and/or colposcopy. Visual inspection is done by gynaecologists or women doctors, in all district hospitals and PHCs of these two districts. A cancer control officer monitors this project. Six to eight lakh women are to be screened within three years of the project (19).

4) Adolescent health

Under the RCH component of NRHM, some services for adolescents have been included such as counselling services, anaemia control programme. Education and Behaviour Change Communication campaigns are also planned for addressing adolescent sexual and reproductive health needs (2).

3. Reforms and improvements in access to delivery care for rural women: Case study of a high performing district (29,30)

The following is a case study of Vellore health district which has achieved the highest number of deliveries in PHCs during 2006-07. We see here an example of how the provisions of NRHM may be imaginatively used to benefit rural poor women, given political will and support at the top and able leadership at the district level.

3.1. Health infrastructure in Vellore health district

Vellore health district lies to the south west of Chennai, and includes 10 blocks and five municipalities. Vellore, the district headquarters, is part of the health district. The well known centre of excellence in medical education and training and clinical services, the Christian Medical College, (CMC) is located in Vellore. CMC Vellore is also well known for its community extension activities in the Kaniyambadi block adjacent to Vellore town.

The public health infrastructure of Vellore district consists of 35 primary health centres and 231 health sub-centres, and a medical college hospital located in Vellore town. The 35 PHCs include three upgraded PHCs with 30 beds and an operation theatre, two of which –Banavaram and Anicut – also have blood storage facilities. All three upgraded PHCs are equipped to provide elective c-sections. There are in all 12 operation theatres (including the three in upgraded PHCs) equipped to perform female sterilisation operations. Of these 12, five operation theatres were added in 2007.

The health district has 10 BEmONC centres including the two upgraded PHCs, Banavaram and Anicut . There are also 14 additional PHCs and 10 PHCs that are open round the clock. There is thus a good coverage by public health facilities, especially for delivery and neonatal care. (Table 2).

Table 2.
Vellore Health District Statistics - 2007

Population	1798935
Blocks	10
Municipality	5
PHC	35
BEmONC Centres + 24x7	8
BEmONC Centres + Upgraded PHCs	2
Upgraded PHCs	3
Additional PHCs	14
24x7 PHCs	10
HSC	231
Medical College & Hospital Govt. Vellore Medical College Christian Medical College	2

Source : (29)

3.2. Recent achievements in improving women's access to delivery services at the primary care level

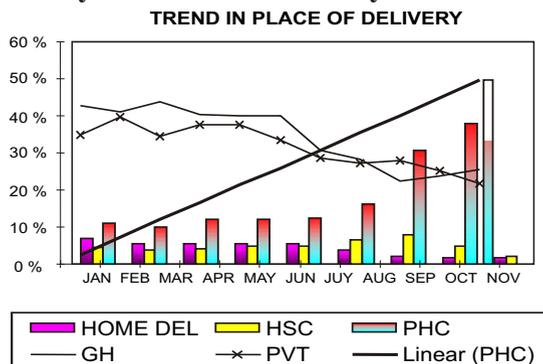
Vellore health district has seen a spectacular increase in deliveries performed in PHCs since May 2007.

In January 2007, the total number of deliveries conducted in all 35 PHCs in Vellore health district, was 248. In May 2007, the figure was 332. Subsequently, there has been a steady increase, to 1252 deliveries in PHCs. An average of 764 deliveries per month are now conducted in PHCs. Since July 2007, 145 elective c-sections have been conducted in the three upgraded PHCs: (116 in Banavaram between July and November, 23 in Anaicut between September and November, and 6 in Lalapet in November 2007).

Data tracking the number of referrals out between May and November 2007 shows that the proportion of referrals of obstetric emergencies has been steadily decreasing, from 26% in May 2007 to 9.5% in November 2007, reflecting an improvement in PHC and staff capacity to deal with most of the complications. This is confirmed by the data available. While in May 2007, 56% of all referrals ended in a normal delivery, in November 2007, only 21% of referrals ended in a normal delivery, and the others needed surgical or instrumental intervention. Thus, referrals increasingly consist of those needing Comprehensive EmOC, reducing the load of normal deliveries in tertiary and secondary hospitals and contributing considerably to improved efficiency of the public health system.

Increase in PHC deliveries has contributed to a direct decline in deliveries in the private sector as well (see figure 2).

Figure 2.
Deliveries in Vellore Health District during
January - November 2007 by Place of Delivery



HSC: Health Sub-centre; PHC: Primary Health Centre; GH: General Hospital;
Pvt: Private health facilities. Source: (29)

3.3. Factors responsible

The following is a description of the many ingredients that appear to have contributed to this spectacular performance in providing delivery care services.

Political will and stewardship of the department

According to the district's Deputy Director of Health Services, support and guidance from the Director of Public Health, the resources available through National Rural Health Mission (NRHM), political will at the state level have all contributed to the improvement in performance.

Support from the top may be seen as a facilitating factor which transformed the dynamism, leadership and commitment of the DDHS into positive changes at the field level. The DDHS has been a field-based manager, identifying barriers to performance and helping staff solve problems and improve performance.

Staff motivation

The DDHS own policy of motivation and encouragement of staff, and his active involvement with programme implementation have improved staff morale and made them active participants in strengthening the public health facilities.

May 2007 marked the start of a concerted campaign complemented by interventions to promote deliveries attended by skilled birth attendants, especially deliveries conducted in Primary Health Centres. As soon as he took charge, the DDHS held a series of 10 meetings with staff within a period of 10 days. He met all staff responsible for maternal health care and discussed with them performance in delivery care, early antenatal registration, postnatal care and sterilisation. He has also sought to build and sustain staff morale through attention to their needs and requirements: e.g. quick settlement of claims, attention to increment, leave sanction, GPF loan sanctions etc.

Further, nursing and midwifery staff has been publicly acclaimed and rewarded in a special function held to celebrate Vellore health district's achievement of conducting the highest number of deliveries in PHCs in Tamil Nadu. This recognition has been a further morale booster to the staff.

Infrastructure development and ensuring equipments and supply

It is well known that most PHCs do not have the infrastructure or equipment to conduct safe deliveries. This situation has been changed using mainly funds made available through the NRHM to the PHCs and to Rogi Kalyan Samitis. Additional funds mobilised include Rs.11 lakhs from the Directorate of Public Health for starting two blood storage units in Banavaram and Anicut upgraded PHCs where

elective c-sections are now being conducted, and Rs.12 lakhs from the district collector used for renovation of operation theatres, setting up air conditioning and buying generators for the operation theatres.

In all PHCs now, there is a well-equipped labour room with an emergency tray, delivery kit and a focus lamp. The emergency tray in every PHC contains

- Misoprostol tablets – 600 µg P/R to prevent post partum haemorrhage
- Plasma Expanders (Haemmacel)
- Injection Carboprost (Prostaglandin)
- Anti-D Immunoglobulin for Rh –ve blood group mothers to prevent their having to be referred to a tertiary care facility

The Anti-D immunoglobulin was not part of the drugs supplied by the Tamil Nadu Medical Supplies Corporation (TNMSC), and advocacy was needed to include it in the list. Now, all districts get supplies of Anti-D immunoglobulin for their PHCs.

Labour rooms have been redone with non-slippery floor tiles and washable wall tiles. There is a foetal monitor for antenatal check-up, and a post-natal ward with at least three beds. Continuous power supply has been guaranteed by setting up an inverter in every PHC. Every PHC also has an ultra sound scan machine and an ECG machine, and a needle destroyer is available not only in the 35 PHCs but also in the 231 health sub-centres. There is also a condom box from which clients can take free condom.

In addition, PHCs have also been provided with good patient amenities, in most instances with the support and finances from Rogi Kalyan Samitis. All PHCs have been painted, and are maintained clean. There are clean curtains in every room.

The wards are clean, the beds have clean linen on them. Bathrooms and toilets have been repaired, and there are now clean toilets with running water for in- patients. Every bed has a bedside locker for safe keeping of the patient's valuables. The out patient area is also well-kept. There is a television, a water filter, and roomy waiting spaces often created by putting up a roof in the open space available. All electrical repair work has been attended to. Many PHCs have parks and herbal gardens being developed. Bystanders of women admitted for delivery have a shelter to wait in. There is a coin-operated telephone in every PHC. The atmosphere is confidence infusing, and the staff are proud that their facilities are “*comparable to or better than private facilities*”. Sensitivity to patient needs is evident in small gestures such as information in urdu on the walls and notice boards in a PHC where Muslims are a majority of the population covered.

All this has been done without any new construction activity, barring one or two exceptions. A lot of imagination has gone into making the best use of available space, fixing and repairing unused or inappropriately used rooms and spaces. For example, in two PHCs without a vehicle but having a vehicle shed, the unused shed has been converted into a postnatal ward with three beds. Rooms filled with files and documents, or occupied by one or two staff members, or dilapidated and condemned rooms have been taken over and converted into wards and these have been equipped to create a new BEmONC Centre. An unused 30-bedded upgraded PHC in Banavaram has been converted into an active BEmONC centre with c-section being provided, and a new blood storage facilities installed. Medical officers from under used facilities have been moved into facilities with high patient load, and ANMs have been redistributed from PHCs to additional PHCs needing additional hands. PHCs conducting c-sections had no access to some essential supplies such as suture material, because these were not part of the TNMSC list of drugs supplied to PHCs. A decision was made to use the untied funds available to PHCs and HSCs towards purchase of these items.

Improving access through improved transportation

As in all districts, this district has a referral control room under the HSDP. Ambulances have been provided to NGOs in the district. A 24-hour referral control room received phone calls and arranges to send a vehicle from the nearest location. Ambulance services are free for patients coming for delivery and sterilisation, and all referral patients are also transported free to the referral centre from the PHC. All referrals have an emergency referral companion accompanying them to the referral facility. The emergency referral companion is a VHN, SHN, staff nurse or medical officer, whoever is available. These companions also take with them an emergency delivery kit, in case the patient delivers during transportation.

Another initiative to improve patients' access to services is decentralisation of vehicles owned by the department. One vehicle is now shared by two PHCs, three days a week by each. The vehicles are used mainly for outreach services by the PHC staff in the community, to provide antenatal and postnatal care. PHC staff including a medical officer go as a team to health sub centre areas. In addition to these steps, public bus services to PHCs have also been improved through co-ordination with transportation sector.

Strengthening of community-based activities for pregnant mothers

A motivation campaign aimed at pregnant women was started on 3 May, 2007. The campaign (known as “EDD” – Expected Date of Delivery- campaign) has consisted of maintenance of an EDD register in which the name and details of every pregnant woman is entered, and every month, a list of women whose EDD falls on that month

is made. Every pregnant woman is covered by antenatal care, and “motivated” to deliver in the PHC. Special visits by the PHC team (using the vehicle) and RCH outreach camps are also used to reinforce the message for institutional delivery in the local PHC.

Concerted efforts have also been made to win over the potential users. A meeting is held once a month in the PHC of all women in the third trimester of their pregnancy. Women are shown around the labour room and facilities available at PHCs and given a briefing on what the procedure for referral will be. There is also a lunch with nutritious food served for all the women attending this meeting in which they are given a full 'banana-leaf' meal of nutritious dishes including spinach, egg, carrots and fruits.

Community involvement

Interaction with PRI members and community played an important part in improving the community's confidence in delivery services in public facilities. Several meetings were held to which PRI leaders and key persons from the community, with a good representation of women, were invited. In these meetings, the staff of PHCs and HSCs were introduced and their roles and responsibilities were presented. A detailed account of PHCs' working hours and services available in PHCs was given by senior staff members. The mobile phone numbers of all Village Health Nurses was shared with the PRI leaders and members of the community.

These were not sites of one-way communication. The managers paid attention to complaints and criticisms of the PRI members and responded to these in action. For example, in Melvisharam additional PHC area where the number of deliveries were low, the feedback from PRI members was that the labour room was too small and that the postnatal ward lacked facilities. Subsequently, a large room that was the consultation room for a Unani doctor was shifted into a smaller space adequate for outpatient care, and the freed up space and the existing facilities were remodelled to a larger labour room with a postnatal ward.

In another instance, there was only one PHC with delivery care facilities in an entire block covering 24 health sub-centres. It was difficult for all women in this block to reach this PHC, as was expressed in the meetings with community. To change this situation, one HSC situated more than 15 kms from the only PHC was converted into a PHC. A woman medical officer, two VHNs and one ANM have been deputed to perform delivery services round the clock. In this instance, a new block has been constructed and there are now eight beds in this PHC. This new PHC had a delivery load of about 43 per month in November 2007, all of whom would have previously had to seek either private sector care or have home deliveries.

Efforts have been made to facilitate the functioning of Village Health and Sanitation Committees. A booklet has been produced for the Village Health and Sanitation Committees and workshops on public health held for its members.

Mass communication strategies

Building public confidence in the PHC system has been attempted also through mass communication strategies. Sign-boards with clear information in every PHC conveys a commitment to transparency, while ample use has been made of public meetings and newspaper coverage to spread the message wider.

Sign Boards in every PHC

There are multiple sign boards in every PHC, giving information on services available and contact details of staff. All the sign boards are uniform, and contain the same information, because these have been commissioned and provided by the DD's office.

For example, there is an information Board on the NRHM's activities found outside every PHC. The activities described include:

- Free 24x7 delivery services in PHCs
- Establishment of BEmONC centres
- RCH outreach camps
- Establishment of referral control rooms (Ambulance phone)
- Blood donation camps and awareness campaigns
- Hiring of private anaesthetists and obstetricians
- Family health clinic
- Scan centre audit
- Implementation of Janani Suraksha Yojana Rs.700
- Mainstreaming of Indian system of medicine
- Establishment of Patient Welfare Society at PHC level
- Establishment of Health and Sanitation Committees at village level

A second board in every PHC announces the Rogi Kalyan Samiti and provides a contact phone number.

A third board announces that it is a BEmONC centre, or a 24-hour PHC and that deliveries are conducted round the clock, free of cost. The same board describes

the Janani Suraksha Yojana as giving Rs.700 for every mother delivering in an institution, for the first two deliveries. Also announced is the Dr. Muthulakshmi Reddy Scheme, which provides all pregnant women with Rs.6000 per delivery.

A fourth board or poster in every PHC details the Birth Companion Scheme. A woman who has gone through labour is permitted to be with the mother during labour and delivery and to provide mental and physical support; this is supposed to help instate breast feeding soon after birth as well.

A fifth board gives the phone number of the PHC and details of services provided and the timings. Out patient services are available from 8 am to 11 am. Surgery and specialist services are available between 11 am and 1 pm. Between 2 pm and 4 pm staff are engaged in administrative tasks, and outpatients are seen again between 4 pm and 5 pm is again OPD and after 5 is emergency services. The same board also gives the mobile numbers of all VHNs staffing 10 HSCs under the PHC.

Use of public meetings and print media

The district has effectively used public meetings and the print media in Tamil to create a positive attitude towards primary health centres. Starting May 2007, a series of news reports has appeared in the local edition of various Tamil newspapers. On May 22, a news report announced a public meeting to consult with leaders of *panchayats* around the Mudur PHC on why the PHC was not being utilised by the local people. A follow-up report to the meeting announced the availability of free ambulance services for women in labour living in any part of Vellore health district, on calling the number 1056. Another news report covered the improvements being made in Lalapet PHC, and said that the PHC was “*being made comparable to private nursing homes*”. The news report also announced that new equipments such as an ultra sound machines and foetal monitors were being acquired by all PHCs, and that there was an inverter for uninterrupted power supply, and a TV in every PHC.

A news report in June presented the DD's plea during a consultative public meeting with the population covered by the Melvisharam PHC. Subsequent news reports announce the conversion of Vilapakkam and Melvisharam PHCs into 24x7 facilities; the expansion of labour wards in Melvisharam and Kaniyambadi PHCs to accommodate more deliveries simultaneously; and in September, announcements that Vellore health district topped all districts in Tamil Nadu in terms of deliveries in PHCs. These are just a few examples. Such media coverage has helped to keep the public health system in the news in a positive light, a big change from news items that only covered failures in the public health system.

3.4. Users' perspectives

I spoke to five women who had delivered in a 24-hour PHC or upgraded PHC in Vellore health district. All women said they had been approached by the PHC team and motivated to have their deliveries in public health facilities. They liked the atmosphere in the PHCs and said the quality was like private hospitals, except that they did not have to pay for anything. No informal charges had been demanded in any health facility. One woman said her previous delivery was c-section in a private hospital and she had spent Rs.5000, while for the present elective c-section which had taken place in the upgraded PHC she had not spent any money including for transportation, but actually got money paid to her.

All but one of them had received Rs.3000 under the Dr. Muthulakshmi Reddy Maternity Benefit Scheme when returning home after delivery and were to receive the remaining Rs.3000 when bringing their babies for immunisation. This made them come back regularly for immunisation. They did not have to spend any money for getting the benefit except Rs.60 for the Village Officer who had to certify their domiciliary status. One woman was not eligible to receive the benefits under the scheme because this was her third delivery, and she felt it would have been good if the scheme covered at least 3 children. All women had been allowed birth companions. The women were all praise for the health centres and more so for the maternity benefit scheme. Their credit worthiness had gone up because of this, people were willing to give them loans for seeking maternal health care and delivery services.

3.5. Status of other sexual and reproductive health services

All sexual and reproductive health services introduced as part of the RCH programme were in place in all PHCs visited. For example, the Family Health Clinics offering a range of SRH services were operational. The regular health activities reports of DDHS of health units report on all initiatives under the NRHM and also provide data on number of STI/RTI cases seen in Family Health Clinics, numbers counselled for HIV or for infertility management.

Improvement in operation theatre facilities in upgraded PHCs has helped women access female sterilisation services closer to home. MTP services were being offered in all BEmONC centres. However, from the visits to PHCs it appeared that the number of MTPs in these facilities had not increased very much despite the improvements in availability of services.

The single-minded commitment to improve deliveries in PHCs has yielded excellent results, but may have allowed limited time for attention to other components of sexual and reproductive health services. We hope that in the next phase, improvement in access to other SRH services in the primary health centres will become an equally important priority.

4. Reforms and the status of maternal and other SRH services in an adjoining comparison district

In this section, we report on the status of maternal and other SRH services in the Kanchipuram health district of Tamil Nadu, which adjoins Vellore district to its South East. The intention was to look at how a district that did not have the specific advantages of Vellore may respond to the reforms in terms of improvements in maternal and other SRH services.

This account based on diverse sources:

- Observations of this author from a visit to the CEmONC centre at the Kanchipuram district hospital, records obtained from the centre and discussions with health providers in the centre (31)
- Data available with the office of DDHS of the Kanchipuram health district (32)
- Observations marked on a check-list during a visit to a BEmONC centre in the same health district by a member of the local community (33)
- Information obtained from interviews with recently-delivered women living in communities served by this BEmONC centre and a 30-bedded BEmONC centre in this health district by a community-based organisation working in the area (34).

Choice of facilities and participants in the interview were based on convenience. The information presented is intended only as a case example and may not be representative of districts in Tamil Nadu.

4.1. Health profile of Kanchipuram Health District

Kanchipuram health district has a population of 12,21,548 of which 10,29,689 is rural and 1,91,859 is urban. The birth rate is 15.6 per 1000 and the death rate, 5.0 per 1000, both below the state average. It has an infant mortality rate of 14.2 per 1000 and couple protection rate of 54.8 per cent, the comparable figures for the state being 23.8 per 1000 and 50.1 per cent respectively. Thus overall, Kanchipuram health district has better health indicators as compared to the state averages (32).

Table 3.
Kanchipuram Health District Statistics - 2007

Population	1221548
Blocks	7
Municipality	2
PHC	27
24x7 PHCs	11
BEmONC centres	7
Upgraded PHCs with 30-beds and OT	3
HSC	196
Taluk Hospitals	3
Dt. HQ Hospital + Meenatchi Medical College and Hospital, Kanchipuram	2

*Source: (32) Health activities report April 2007-November 2007,
DDHS Kanchipuram Health District, and personal communication by DDHS*

The proportion of deliveries conducted by health staff of the Kanchipuram health district has increased steadily in HSCs and PHCs. In 2006-07, only 12% of all rural deliveries were conducted by sub-centre and PHC staff. However, during the 8 months April-November 2007, 23% of all rural deliveries were being conducted by government staff. The average number of deliveries per PHC per month had gone up from 4 per month in 2006-07 to 9 per month during April-November 2007. It is estimated that in November 2007, 50% of deliveries came to government hospitals, 33% were delivered in PHCs and HSCs or by HSC staff and 17% went to private institutions (32).

The number of infant deaths in Kanchipuram health district had steadily declined from 570 in 2000-01 to only 296 in 2006-07 and during the first eight months of 2007-08, stood at 198. The number of maternal deaths during the same period had declined from 36 to 25, and during the first eight months of 2007-08, stood at 9. This seems to suggest a steep decline in maternal deaths at the same time as an increase in deliveries in primary health centres (32).

4.2. The CEmONC Centre at Kanchipuram District Headquarters Hospital (31)

4.2.1 Infrastructure and personnel

The Kanchipuram district hospital is housed in dilapidated buildings, with very poor overall sanitation and hygiene. We understand that there is an acute shortage of sanitary workers. In place of nearly 40 workers employed earlier, only 18 are currently in place. The acting Joint Director tells us that despite repeat calls for interview, very few appeared for interviews and those selected did not join duty.

The hospital functions without a generator or even an inverter, despite having several functioning operation theatres. The hospital faces an acute shortage of doctors. I am given to understand that from 67 doctors employed about 35 years ago, there were only 27 doctors working in the district hospital now.

The hospital has 43 obstetrics and gynaecology beds and 40 family planning beds for women. It provides antenatal and postnatal care, MTP services, contraceptive services and services for gynaecological morbidity on an outpatient basis. There are two outpatient departments, one for obstetrics and gynaecology cases and the other for family planning cases including MTP.

A CEmONC centre has been functioning in this hospital since 2004, and in 2005 this was “certified” as meeting the requirements of a CEmONC centre. However, many of the requirements were not in place on the day of my visit in December 2007.

For example, as per CEmONC guidelines, there are meant to be 4 obstetrician gynaecologists and specialist paediatricians working in shifts in the CEmONC centre, in addition to two general surgeons and two anaesthetists. Additional nursing and paramedical staff are also to be appointed for the CEmONC centre.

The reality in this centre is that only three staff nurses have been appointed specially as CEmONC centre staff. As of now, there are six medical officers serving the department. Of this, two persons are on long leave, and the department head has been suffering from health problems and has not been able to provide dynamic leadership. The remaining three medical officers have to attend deliveries, surgeries and out patients. The medical officers I met with were dedicated women concerned about the deterioration in the quality of services and keen to improve the quality of care. However, they were clearly feeling overwhelmed and needed support to change the situation.

There is no dedicated casualty ward or not intensive care units for the CEmONC centre. The centre is not equipped to handle emergency eclampsia patients, or many neonatal emergencies. There is not even an incubator or phototherapy unit. However, the blood storage facilities seem to be good, including availability of negative blood groups. Given the shortage of medical officers, and the absence of inverters or generators to ensure round-the-clock power supply, many emergency obstetric cases especially during the night, were being routinely referred to the Chengalpattu medical college hospital more than 45 kms away.

4.2.2. Quality of care

As already mentioned, the acute shortage of sanitary workers was making it really difficult for maintaining good hygiene in the CEmONC centre, where huge volumes of soiled linen following deliveries have to be washed on a daily basis and the labour room cleaned constantly.

Overcrowding made matters worse. All the wards: pre and post-partum, including post-operative wards, were overflowing with patients. There were, as in many similar facilities, postpartum patients lying on a mat on the ground, including post operative patients who were given a bed for the first three days post-surgery. The post-sterilisation ward is an open ward – a big hall, on the left side of the hall are post sterilisation patients and on the right side, post-operation, general surgery and ENT surgery women patients. The outpatient department for family planning was to one end of the ward. The ward was therefore crowded not only with bystanders of patients, but by outpatients and staff walking in and out. It did not seem like any infection prevention would at all be possible, an alarming situation in a post operative ward.

Improvement in biomedical waste management is one of the components of HSDP project being implemented in this hospital. However, while waste was meticulously separated within the hospital, it was then all pooled into a larger waste container. The staff wondered whether this practice would not nullify the usefulness of the entire exercise.

The Birth Companion Scheme was not being implemented in this CEmONC centre. Given the level of overcrowding and chaos, it seemed to me that such a system may not be feasible to implement.

In terms of technical quality, there seem to have been many recent improvements. For example, the partograph is being used to monitor progress of labour, following training for staff nurses in partograph use. Nursing staff have been trained in labour ward work, newborn care, using standard treatment protocols for obstetric emergencies, use of equipments and better communication with patients.

4.2.3. Emergency transportation

A referral control room is situated in this district hospital. It is staffed by an NGO worker, who takes calls and contacts the closest located ambulance of the 13 ambulances given out to NGOs in different blocks of the district. Starting from about 25% of all cases in January 2007, obstetric emergencies increased to 35-39 % between April and August, and rose to 45-49% between September and November 2007. More emergency obstetric cases were thus being brought to this CEmONC centre than before as a result of better emergency transportation.

4.2.4. Counselling services

There is a single counsellor in place, a graduate in sociology who had received one month's training. She has been employed by an NGO. I found her to be a well motivated young woman, but with limited knowledge and skills.

Here is an account of one of the users of counselling services about her interaction with this counsellor. The client said she was seeking help for white discharge, and that she had not taken any treatment thus far. The counsellor asked her where her husband was employed, and after learning that he worked in a private company, gave her the following advice. White discharge may have come from wearing the under garment of someone with similar white discharge, or from her husband. If her husband also had white discharge, then the client should bring him to the hospital and both should undergo treatment. She then asked the client to go consult the doctor, and undergo any tests prescribed by the doctor, and to return the next morning at 8 am to watch a video film explaining the nature of her problem. The film is shown to a group of people, there is no privacy.

The counsellor reported having undergone a brief training by the NGO on HIV and STIs and then posted in the hospital. Her entire counselling exercise was focused on identifying potential HIV positive “cases” and referring them to voluntary counselling and testing services. Much can be done with adequate training, monitoring and feedback provided to these counsellors, and more counsellors need to be posted if both outpatients and inpatients are to receive counselling services.

4.2.5. Performance of the CEmONC centre (31)

Between January and October, 4013 deliveries have been conducted in the hospital, including 1377 c-sections, of which 1216 were emergency c-sections.

Average number of deliveries conducted per month has come down from 468 in 2004 to 401 currently, which means about 800 fewer deliveries were conducted in 2007 than in 2004. Emergency c-sections as a proportion of all deliveries have increased from 23% in 2004 to 30% in 2007, and of all c-sections (elective included) from 27% to 34%. Referrals out have increased from 9.7 per month to 17.7 per month, or nearly doubled.

We see a scenario emerging of fewer overall deliveries but a higher proportion of complicated deliveries. This appears to be a logical outcome of increasing number of normal deliveries in PHCs and referral of complication alone. Post partum sterilisation rates have declined from 258 per month to 158 per month, probably because of sterilisations being conducted regularly in PHCs.

4.3. Profile of a BEmONC centre in Kanchipuram Health District (33)

This BEmONC centre is located more than 2 kms away from the nearest bus stop. Patients had to either walk or take a “share” auto to reach the centre. The building is old but functional. There are two unused buildings, presumably condemned, in the same compound.

The centre had on display prominently a sign board saying that delivery services were available round the clock on all days. There were sign boards listing services provided in the family health clinic and also the birth companion programme and the maternity benefit schemes.

The BEmONC centre provides antenatal care and is equipped with an ultrasound machine for use during pregnancy. It is also meant to provide delivery services. At the horizontal hood of a T shaped- structure was a well-equipped labour room with neonatal resuscitation equipment and u-v stand, an autoclave and sterilisation room. Next to it was an “inpatient” ward, a small room with barely space for three beds. There was in this ward, barely space for patients to get off their beds and stand straight. According to the staff present, deliveries were being regularly conducted in the facility, but on the day of visit, there were no patients either waiting to deliver or following delivery. The equipment in the labour room seemed to not have been used for several days.

This BEmONC centre is expected to provide a wide range of SRH services. However, there was no operation theatre and so sterilisation for family planning could not be performed here. There did not seem to be any facilities for providing abortion services. Services in the family health clinic included pap smear for cancer cervix, counselling for childless couples, diagnosis and treatment for RTIs/STIs and an Integrated Community Testing and Counselling (ICTC) centre housed in a separate room. On the day of visit by a woman from the local community, a rainy morning, there were no patients waiting to receive any of these services.

4.4. Users experiences and perspectives (34)

The following account is based on interviews with 25 women residents of villages in the Kanchipuram health district. All women who had delivered a baby between June and November 2007 in the village in which the health facilities was located were included. The interviews were conducted by a community-based organisation in this area working with women in promoting awareness about health and especially sexual and reproductive health. The women were all from low-income groups (See Annex). This was a convenience sample, but may nevertheless be considered representative of the low-income women residing in these villages.

4.4.1. Socio-demographic characteristics

Twelve of the 25 women lived in the area covered by the BEmONC centre described in a previous section (4.3) (PHC-1) and the remaining 13 lived in villages covered by a 30-bedded upgraded PHC (PHC-2) which was also a BEmONC centre.

The women were young, educated and from low-income households. All were below 30 years of age. Eighteen were between 20 and 25, and 7 were between

26 and 30 years old. All but two women were literate, 15 had secondary education including 2 who had completed higher secondary schooling, and 8 had five or fewer years of schooling. Only 6 women belonged to backward castes, and 19 belonged to scheduled castes. All but four women belonged to landless agricultural wage labour households, and lived in thatched huts.

Ten of 25 had gone through their first delivery, and 9, their second delivery. Four women had delivered their third child, and two women, their fourth child. These six women had gone on to have more children because all earlier children were girls.

4.4.2. Place of delivery and type of attendant

Of the 25 women, 24 had delivered in a health facility. In all but four instances (2 c- sections, 1 forceps, 1 normal) in which medical officers had attended delivery, women reported as having been attended by a “nurse” – a term they use to include staff nurses as well as auxiliary nurse midwives.

Women living in villages covered by PHC-1 did not always receive services from this 24 hour BEmONC facility. Of 12 women from PHC-1 villages, only three had delivered in that facility and 9 had delivered in other facilities.

Of the nine delivering in other facilities, six had been referred by staff at PHC-1 to another facility: five to the CHC or teaching hospital located more than 25-30 kms away, and one to a nearby CHC who then sent her to the teaching hospital.

The remaining three women had gone directly to the CHC or teaching hospital because they did not want to incur double expenses being referred from PHC-1.

Of six women referred, four went on to have a normal delivery, one had a c-section and one was a forceps delivery. Those referred had to make their own arrangements for travel, usually through hiring private cars.

The record of women from PHC-2 villages was much better. Eleven of 13 women interviewed had delivered in PHC-2. One woman had been referred to CHC because the nurse in PHC-2 was alone at night and did not feel confident to conduct the delivery alone. One woman had delivered at home. She had gone to PHC-2, but sent back because there was no staff to attend to the delivery at night. She was attended by a trained TBA. The woman said that the TBA did not use gloves or blade and that she was not happy with the standard of hygiene.

4.4.3. Duration of stay in health facility

The fact that almost all women delivered in a health facility may not mean much if they do not receive adequate care in the post-partum period when more than 60% of maternal deaths occur. It is therefore disconcerting to note that six women (3 from

PHC-1 and 3 from PHC-2), were discharged within six hours following child birth and two others were discharged from PHC-2 within 24 hours.

The standard period of stay appears to be 2-3 days: five women stayed for 2 days, and seven women stayed for 3 days. All women undergoing c-section or sterilisation stayed for 7 days.

4.4.4. Birth companion

As mentioned earlier, the Tamil Nadu government has passed a GO allowing for a woman companion to be present at delivery to provide support and to establish breastfeeding. We found that both the PHCs allowed birth companions to be present, and 17 women had a relative or friend with them. Birth companions were not allowed in case of surgical intervention, but it also appears that the teaching hospital does not permit the presence of companions, while the CHC does so in rare instances.

4.4.5. Cost of delivery care

The average cost of delivery care in public facilities was Rs.1996, or roughly Rs. 2000, but in some instances this included costs incurred for post-partum sterilisation. The range was from Rs. 220 to as high as Rs. 6500.

Transportation costs

In all instances, costs of hiring a private vehicle to reach a health facility accounted for more than 50% of total cost. There were several factors contributing to escalation of transportation costs.

One is the location of the 24-hour PHC/BEmONC centre. PHC-1 is located in area without bus facilities for at least 5 kms, and anyone coming here has to hire a private vehicle.

The second factor is referral. When the PHC refers the woman in labour for trivial reasons such as non-availability of adequate staff or lack of confidence in dealing with deliveries or neonatal complications, the costs increase several fold. For example, a woman who had a normal delivery in PHC-1 was referred to teaching hospital because the baby did not “cry properly”. The teaching hospital pronounced the baby to be normal, but the woman had incurred 2000 rupees as costs of travel. In another instance, PHC-1 referred the woman to the CHC which in turn referred her to the teaching hospital. She had a forceps delivery, and incurred almost Rs. 4000 towards transportation.

We gathered from what women said, that referrals are frequent in PHC-1, because

- Women are referred if they do not deliver after two hours in labour
- Night deliveries are not conducted
- Most deliveries coming in the evenings are sent off to CHC or teaching hospital
- The husband of the “nurse” of local HSC does not allow her to conduct home deliveries at night

The third factor is non-availability of facilities for post-partum sterilisation in the 24 hour PHC/BEmONC centres for a variety of reasons. For example, sterilisations are not conducted in PHC-1, and in PHC-2, these had been stopped for six months from April-September 2007 and was reinstated only in October 2007. As a consequence, women who deliver in the PHCs have then to go on the fifth day following delivery to the CHC or teaching hospital for post-partum sterilisation. While the teaching hospital provides sterilisation at all times, the CHC may at times send the woman back asking her to return at a later date.

We find that some of the poorest women travel by public bus or auto rickshaws within two days of delivery or following sterilisation, in order to save costs. Given the bad condition of the roads, what the consequences for their health may remain a concern.

“Informal” charges

Although delivery itself is free, there appear to be standard “informal” charges for various services provided by ward aides. Although there are variations across facilities and individuals, the following services and amounts charged represent what most women reported:

Table 4.

Informal charges paid in BEmONC centres	
Shaving pubic hair	: Rs.20/-
Enema	: Rs.50/-
Washing bedsheets	: Rs.20/-
Carrying from labour room/O.T	: Rs.50 in PHC, Rs.100 in CHC to ward by stretcher and hospital
“Showing the baby”	: Rs.350/- for female and Rs.450/- for male baby
Dressing the wound in case of Postpartum sterilisation	: Rs.50/- per day
For perennial tear or episiotomy or sterilisation suture removal	: Rs.50/-
Discharge form	: Rs.20/-

Source : Field study

4.4.6. Maternity benefit

All 25 women were aware of the Dr. Muthulakshmi Reddy Maternity Benefit Scheme, and some had also heard of Janani Suraksha Yojana (JSY). Six of 25 women had not applied for any benefit because they were “not eligible”, being of parity three and above. Eight women had applied and not received any payment, and six of these were women who delivered in PHC-2. Two women in PHC-2 area had received Rs. 700 through JSY. In PHC-1 area, all eligible women had received some money: four had received Rs.1000 each and five had received the full amount of Rs. 6000. In many instances, the amount received thus far is well below actual expenses incurred, but the women are hopeful of getting the remaining Rs.5000 and repaying their debts.

How did they use the money?. Three had paid back loan taken for delivery expenses, two spent it on medical expenses for the newborn. One woman had to spend all the money and more for private treatment for infection of surgical wound following sterilisation. Another had spent all the money towards “informal” payments. Two women had spent it on household expenses, one had started a savings account in her baby's name and one had bought some jewellery for herself.

The six women who did not receive money because of being above second parity were all women from low-income households, and included one woman who had been recently widowed. They had to spend money out of pocket for transportation and informal charges and had to incur debts.

5. Summary and conclusions

This paper mapped in some detail health reforms in Tamil Nadu over the past decades and especially since the 1990s.

The government of Tamil Nadu has made sustained investments for many decades in health infrastructure, capacity building of personnel and in improving the organisational and managerial efficiency. Most of the activities introduced under current reforms have continuity with earlier reform activities. Where innovations are introduced, there is always a pilot phase for experimenting and testing the waters before upscaling an innovation. All these have made Tamil Nadu's public health services one of the best performing in the country.

5.1. Improvements in maternal health care

Tamil Nadu government has utilised the assistance provided by DANIDA, as well as the TNHSDP and NRHM to further its commitment to reduction of maternal mortality ratio and improvement of maternal health. Past investments to strengthen the health service delivery system have helped in putting in place a functioning health system, fundamental for reduction of maternal mortality and morbidity. Building on this strength, the government has imaginatively used funds available under NRHM and TNHSDP to promote normal deliveries in PHCs and reduce the burden on first referral units or BEmONC centres and on CEmONC centres.

Speaking on the basis of the experience of Vellore, much work has been done to mobilise community support and to respond to legitimate needs and concerns of the community. Patient amenities in PHCs are comparable or even better than many private facilities. Technical quality of maternity services in the Vellore PHCs were very high, and the provision of blood storage facilities and elective c-sections in upgraded PHCs comes as a boon to low-income women who would earlier have had to spend enormous amounts of money and risk indebtedness. The availability of maternity benefits to women from below-poverty line households has made institutional deliveries no longer beyond the reach of the poorest woman in this district. This district's performance under its dynamic leadership is an inspiration to everyone concerned with reforms in the public health sector about what is possible.

The Dr. Muthulakshmi Reddy Maternity Benefit Scheme appears to have been the main contributor to the situation where almost all deliveries occur in institutions even in Kanchipuram Health District. However, in the absence of exceptional efforts, BEmONC centres may not function very well and women may still have limited access to delivery care and especially emergency obstetric care as seen from interviews with women.

A number of improvements are urgently called for to make services accessible to poor women. Not all 24 hour PHCs live up to their reputation. Unnecessary referrals cause women much hardship and cost them heavily, both financially and health-wise. Transportation arrangements said to be in place – the free ambulance services as part of HSDP – have not reached those most in need. PHCs do not seem to take any responsibility for arranging transportation. Early discharge from PHCs is another matter for concern. There is need for follow-up post partum care, and it is not clear if these are available to women.

Another area of concern is informal charges in health facilities which hurt the poorest women most. Again, the policy of not providing any financial support to women of parity higher than two is a policy that punishes women for something that the couple is jointly responsible for. The socially and economically weakest groups are most affected by this exclusion.

What this points to is the need for systems and mechanisms to be in place, which will make efficient functioning a routine matter and not dependent on charismatic leadership. For example, mechanisms to monitor technical quality of care; systems to facilitate the functioning of Patient Welfare Societies, and to assist staff in PHCs and HSCs in utilising the untied funds and maintenance funds available; strengthening the Patient Welfare Societies' role in bringing community's perspectives and problems into planning for improvements – all these would go a long way in making access to delivery care in public facilities a reality for all women.

Access to EmOC is not as good as it may appear from the reform measures. Even in the case of the best-performing district, certain bottle necks to CEmONC services are apparent. This is because the CEmONC centres are located in secondary and tertiary hospitals and come under the jurisdiction of two other directorates. As primary care centres begin to conduct most of the normal deliveries, the load of complicated cases in CEmONC centres would increase dramatically. Unless CEmONC centres have the resources and personnel as well as efficient management in place, the emergency cases that reach here will have to be referred further on, losing precious time and contributing to avoidable maternal deaths. Such a pattern is obvious from the case study of the Kanchipuram CEmONC centre.

Problems encountered in the Kanchipuram CEmONC centre are not because of the centre itself, but have roots in larger changes occurring in the state. The severe shortage of medical personnel to work in secondary hospitals owes itself at least partly to the increasing privatisation of medical education and the large numbers of private sector hospitals that have emerged, causing a brain drain from the public to the private sector. This problem is avoided to some extent in the PHCs because of the reservation of post graduate seats to medical officers serving in PHCs. All the same, a situation may arise where few medical officers will remain in the sector after they

have obtained admission in post graduate courses. At the other end of the spectrum is the non-availability of sanitary staff and other “helper” categories, also because of the increase in job opportunities in the state in industries and services. This is a serious human resource problem that calls for urgent policy attention. If not, it may not be possible to replicate the experience of Vellore in other districts.

5.2. Improvements in other SRH services

The single-minded focus that has helped the state achieve miracles in maternal health care may inadvertently have contributed to failure to adequately address other sexual and reproductive health needs of women.

There is no denying that structures are in place in the form of family health clinics in BEmONC centres and counselling centres in secondary hospitals, to address SRH needs. However, the absence of performance indicators and targets for achievement in these areas is likely to make them less of a priority for health providers. Regular monitoring of utilisation and of outcomes of such utilisation is very important to ensure that services meet the needs of the local population.

Abortion services appear to have assumed a much lower priority than delivery services in Tamil Nadu's health facilities. For example in the Kanchipuram CEmONC centre, the average number of MTPs in a month during January-October 2007 was only 17. Abortions seemed to be rare in the PHCs visited in Vellore and Kanchipuram. Official statistics show that during 2005-2008 there was a decline in MTP services provided in government and other licensed facilities*.

There may be other reasons besides the focus on maternal health contributing to the decline. One is the achievement of low fertility in the state which may have made provision of abortion no longer a social imperative in the eyes of many providers in government facilities. The second factor is the increasing attention received by sex selective abortions which may be discouraging providers from providing abortion services. When abortion services are not available in government health facilities, it is the poorest women who will be most affected because of their inability to access care from the private sector.

To conclude, in the present era when health sector reforms have been influenced predominantly by neoliberal positions that uphold withdrawal of the state from service provision in health and also have a limited financing role, Tamil Nadu has chosen to swim against the tide and strengthen the public sector in health. The success of these reforms has the potential to inspire and inform the trajectory of health reforms in the country. It is therefore crucial that the bottlenecks and gaps in these reform initiatives are identified, acknowledged and addressed.

* Government of Tamil Nadu policy note on Health and Family Welfare 2005-06, 2006-07, 2007-08 Chennai, Department of Health and FamilyWelfare, Government of Tamil Nadu, various years.

REFERENCES

1. Office of the Registrar General and Census Commissioner. 2001. Census of India, 2001, Series 1, India, Paper-1 of 2001, Provisional Population Totals. New Delhi: Office of the Registrar General and Census Commissioner, India.
2. Govt. of Tamil Nadu. Policy note on Health and Family Welfare 2007-2008, Health and Family Welfare Department, Government of Tamil Nadu, 2007.
3. International Institute for Population Sciences (IIPS) and Macro International. National Family Health Survey (NFHS-3), India, 2005-06: India, Volume 1. Mumbai: IIPS, 2007.
4. From the website of the Health and Family Welfare Department, Government of Tamil Nadu. www.tnhealth.org/information.htm (downloaded on 20/12/2007).
5. The World Bank. Project Appraisal document, Tamil Nadu Health Systems Project, Nov 17, 2004. Washington, The World Bank, 2004. Report No.30276-IN
6. Smith S. Governance and India's maternal mortality crisis. Unpublished paper prepared for presentation at the Public Management Research Association Meeting, October 25-27, 2007, at the University of Arizona, Tucson.
7. Muraleedharan VR. Tamil Nadu's health sector: A review of its achievements and challenges. Unpublished paper submitted to the Madras School of Economic, Chennai, June 5, 2002.
8. Central Bureau of Health Intelligence. Policy Reform Option Database (PROD). Ministry of Health and Family Welfare, Government of India. [Http://www.cbhi-hsprod.nic.in/info.htm](http://www.cbhi-hsprod.nic.in/info.htm)
9. Visaria L. Innovations in Tamil Nadu. Seminar (489):2000. Downloaded from www.india.seminar.com/2000/489/489%20visaria.html
10. Govt. of Tamil Nadu. Policy note on Health and Family Welfare 2001-2002, Health and Family Welfare Department, Government of Tamil Nadu, 2001.
11. From the website of Tamil Nadu Medical Services Corporation, www.tnmsc.com, downloaded 20 December 2007.
12. EPOS Health Consultants. Reform ideas that work. ECTA Working papers 2000/27. New Delhi, ECTA, 2000.
13. Government of India, Ministry of Health and Family Welfare. Health reforms in India: Initiatives from states-II. New Delhi, MOFHW, 2007
14. Interview with Dr. Lata Caleb, formerly with DANIDA, 2007.
15. Government of Tamil Nadu. Department of Health and Family Welfare. GO (Ms) No.4, dated 7 January 2002.
16. Government of Tamil Nadu. Department of Health and Family Welfare. GO (Ms) No.7 dated 1 March 2003.
17. Government of Tamil Nadu. Department of Health and Family Welfare. GO (Ms) No. 94 dated 14 May 2003
18. Government of Tamil Nadu. Department of Health and Family Welfare. GO (Ms) No. 166 dated 17 July 2003.

19. Personal communication from Dr. Julia, staff in TNHSDP
20. Dr. Muraleedharan, Professor, IIT Chennai, personal communication.
21. Tamil Nadu Health Systems Development Project. Tamil Nadu Sukadara Thittam, TNHSDP, 007.
22. Government of Tamil Nadu. Department of Health and Family Welfare. GO (D) No. 249 D ated 18 March 2004.
23. Government of India. Preamble of the National Rural Health Mission: 2005-2012. New Delhi, GOI, 2005.
24. Government of Tamil Nadu. Department of Health and Family Welfare. GO 2(D) No.6 dated 7 January 2003.
25. Padmanabhan P. Good practices in Tamil Nadu. Power point presentation. Directorate of Public Health and Preventive Medicine, Department of Health and Family Welfare, Government of Tamil Nadu, Chennai, 2007.
26. Government of Tamil Nadu. Department of Health and Family Welfare. GO (Ms)No. 215, d ated 2 July 2004.
27. Government of Tamil Nadu. Department of Health and Family Welfare. GO (Ms)No. 223 d ated 9 July 2004.
28. Govt. of Tamil Nadu. Policy note on Health and Family Welfare 2005-2006, Health and Family Welfare Department, Government of Tamil Nadu, 2005.
29. Power point presentation on Delivery Performance in Vellore Health District. By Dr.S.Rajasekaran, DDHS and Team: Dr. Mrs. K.R.Senthamaraiselvi DMCHO, Mr. G.Viswanathan AD(SBHI) and Dr. K.Gopalarathinam D.E. dated 13/9/2007
30. Information based on observation and notes taken during visits to seven PHCs in Vellore health district by this author
31. Observations of this author from a visit to the CEmONC centre at the Kanchipuram district hospital, records obtained from the centre and discussions with health providers in the centre
32. Health activities report April 2007-November 2007, DDHS Kanchipuram Health District, and personal communication by DDHS
33. Observations marked on a check-list during a visit to a BEmONC centre in the same health district by a member of the local community.
34. Information obtained from interviews with recently-delivered women living in communities served by this BEmONC centre and a 30-bedded BEmONC centre in this health district by a community based organisation working in the area.

ANNEXURE

DETAILS OF INTERVIEWS WITH RECENTLY DELIVERED WOMEN IN KANCHIPURAM HEALTH DISTRICT

S. No	Age	Education	SES	Parity	Place of delivery	Why	Time since delivery (months)
1	24	10	BC,AWL,LO,TH	2 child M	24 hr PHC	Lives in the same village	4
2	21	8	BC,AWL,LO,PH	1 child M	CHC	Referred from PHC but had normal delivery	4
3	21	8	SC,AWL,LO,TH	1 F	CMC	Referred from PHC but normal delivery	3
4	26	5	-do- widowed four months ago	3 F	PHC	Nearby. Also, delivered within one hour	5
5	26	5	SC,AWL,LO,TH	4M 3 female children	PHC	Cannot afford to go anywhere else	4
6	28	8	-do-	4M 3 female children	CHC	For sterilisation went directly to CHC (not provided in PHC)	3
7	24	<5	-do-	2F, 1st female	CMC	Referred from PHC, had c-section	2
8	20	<5	-do-	1M	CMC	PHC usually refers all primis, Can't afford paying twice for transport, so went directly to CMC	4
9	23	<5	-do-	1F	CMC	PHC referred to CHC, who then referred to CMC. Forceps case	3
10	24	8	SC,LO,TH, construction worker	2F	KMC Chennai	Husband was working in Chennai at a construction site and she was cooking for him. Delivered there itself, c-section	3
11	21	10	-do-	1M	CHC	PHC referred to CHC saying primi will be difficult	2
12	20	5	-do-	1M	CHC	Went directly to CHC because they always refer primis. Can't afford double payment	3
13	26	12	SC, Van driver, PH	1F	30 bedded PHC	Nearby	5
14	26	8	BC, AWL,L1,PH	3M (first 3F)	-do-	Nearby	4

15	25	10	SC, AWL,L1,PH	2M	-do-	-do-	5
16	22	8	SC, Mason, TH, L1	2M	-do-	-do-	3
17	25	10	SC, Truck driver, AWL, TH	3F	-do-	-do-	4
18	24	8	BC, AWL, LO, TH	2F	-do-	-do-	2
19	25	NIL	BC, AWL, LO, TH	2F	-do-	-do-	3
20	21	8	BC, Farmer, PH	1M	Home	Went to upgraded PHC, no one was there because night. Came home and delivered within one hour. Dai attended, she did not use gloves or blade, was not clean	4
21	22	12	SC, AWL,LO,TH	2M	30-bedded PHC	Nearby	3
22	20	10	SC, AWL,LO,TH	1M	CHC	At night the nurse was alone in UpPHC; she asked me to go to CHC	3
23	27	5	SC, AWL,LO,TH	3F	30-bedded PHC	Nearby	6
24	27	5	SC, AWL,LO,TH	2F	-do-	No other option	5
25	20	NIL	SC, AWL,LO,TH	1M	-do-	No other option	3

S.No	Birth attendant	Birth Companion	Duration of stay	Received benefit?	How utilised?	Cost of delivery services: details
1	Nurse	Relative	Half -an-hour	Rs. 1000	Paid back delivery loan	Rs. 3000. Was referred to CMC because the baby did not "cry properly". They said baby was normal. So spent on car hiring, mainly,
2	Nurse	No one	1 day	Rs. 1000	Used for baby's medical expenses	Rs. 5000: includes car hire to Maduranthakam and charges within the CHC
3	ANM	None allowed	2 days	Rs. 1000	Bought things for the baby	Rs. 5000: car hiring; shaving charges; bed sheet washing charges; stretcher charges; Rs. 450 for ayah for "showing" the baby; money for getting discharge certificate
4	ANM	Two aunts	4 hours	Not eligible	---	Rs. 500, including our voluntary gift to ayah, and soap, blade, washing charges
5	ANM	M-I-L	2 hours	Not eligible	----	Rs. 500, details as above
6	Nurse	No one	5 days	Not eligible	----	Rs. 2000 for auto, dettol and soap and money paid for various services
7	MO, surgeons	No one	7 days	Rs. 6000 through VHN	Paid back delivery loan	Rs. 4000. All charges mentioned above + dressing charges for surgical wound
8	Nurse	No one	2 days	Rs. 1000	Used for baby's medical expenses	Rs. 1500. I went to the hospital before labour advanced, by bus. Came back in auto, all other expenses as above. Saved on car-hiring charges.
9	MO	ANM	3 days	Rs. 6000	Have started a savings account for baby	Rs. 6500, because twice referral. All the above costs in hospital plus "suturing" for perennial tear
10	MO	No one	7 days	Rs. 6000	Paid back delivery loan	Rs. 5000, car hiring plus all charges including dressing surgical wound
11	Nurse	Neighbour	2 days	Rs. 6000	Bought Jewellery	Rs. 3000
12	Nurse	No one	2 days	Rs. 6000	Gave MIL	Rs. 700, went by auto returned by bus
13	Nurse	Mother	Same evening	Rs. 700	Used for buying Horlicks and hh expenses	Rs. 150 ayah took
14	Nurse	Neighbour	Within 4 hours. Came away because of mosquito menace	Not eligible	---	Spent money for FP operation in CHC, not in PHC. There, Rs. 500 for auto, and Rs. 500 for dressing, removing suture, stretcher etc.
15	Nurse	relative	3 days	Not yet	---	Total Rs. 440; Auto Rs. 40, nurse Rs. 200 and ayah Rs. 200

16	Nurse	MIL	3 days	Not yet. Got Rs.450 for FP	Spent everything in the health facility	Spent Rs.2000 including FP in CHC. Went twice, first time no surgery available. So auto fare doubled (Rs.200).Ayah took money, not nurse and there were charges for everything following surgery
17	Nurse	relative	4 hours	Not eligible	----	Spent Rs.1170 for FP surgery-car hiring Rs.1000, Rs.20 for shaving, Rs.50 for suture removal and Rs.100 for stretcher
18	Nurse	relative	3 days	Not yet, Rs.450 for FP recd.	----	Delivery in PHC, only travel expenses Rs.1000; then on 5th day again went to CHC for FP operation, spent Rs.350. And travel Rs.1000
19	Nurse	aunt	3 days	No	---	Rs.600 Rs.250 for auto and 350 for showing the baby
20	Trained dai	family	--	Not yet	--	Gave dai Rs.100, spent Rs.110 for paper work for maternity benefit, total Rs.210
21	Nurse	sister	3 days	Not yet	---	Only Rs.350 for delivery. But for FP, went to CHC, they said come after 10 days, then heard that it may take longer, so went to CMC and paid Rs.1000 for car hiring
22	MO	relative	3 days	Not yet	---	Because PHC referred, had to spend Rs.1000 for car hiring and Rs.450 in the CHC for "showing" the baby
23	Nurse	Neighbour	4 days: they send after 3 days, but I was too weak so I took one more day	Not eligible	---	Rs.500 Rs.400 in PHC and Rs.100 for stretcher charges for FP
24	Nurse	MIL	2 days	Not yet, but got JSY Rs.700 and Rs.450 for FP	Surgical wound was infected and with pus, spent all the money going to a private doctor for this	Rs.1500 Rs.400 for delivery; Rs.1100 for car hiring to go to CHC for FP. Also, PHC asked us to buy 100 needles, we bought 50 and gave.
25	Nurse	Mother	1 day	Not yet	----	Rs.500 in the PHC

BC: Backward Caste; SC: Schedule Caste; AWL Agricultural Wage Labour : MIL _ Mother In law



Rural Women's Social Education Centre (RUWSEC) is a non-governmental women's organisation started in the year 1981 by a team of 13 women of whom 12 were dalit women from the local villages of Chengalpattu taluk near Madras (Chennai) in Tamil Nadu.

Achieving women's wellbeing through women's empowerment is our organisation's vision. Our focus has been on enabling women to gain greater control over their bodies and their lives and achieving wellbeing, through promotion of gender equality and sexual and reproductive rights.

Since its inception, RUWSEC was a grassroots organisation with community-based workers drawn from the local villages. Our approach was to motivate, educate and organise women from poor and marginalised communities to stand up for their rights and become agents of change. We wanted rural poor women to be able to analyse the socio-economic and political factors underlying their lack of good health and control over their sexuality and fertility and to have the knowledge and skills to alter their own situations.

Since 2004, the organisation has transformed into a research, training, advocacy and technical support organisation providing inputs to grassroots organisations in Tamil Nadu which are working on gender, reproductive, sexual health and rights. In addition, we have helped the formation of a group of grassroots organisations under the leadership of former RUWSEC workers, working on sexual and reproductive health and rights, and have been providing them with financial support and technical guidance for effective implementation.

The Executive Director,
Rural Women's Social Education Centre –RUWSEC,
Tamil Nadu, India.