Odisha Health Sector Plan: Contributing to Change

Introduction

This document presents a collection of briefs outlining some of the key areas of achievement of Government of Odisha (GoO) under the Odisha Health Sector Plan (OHSP), supported by the UK Department for International Development (DFID). OHSP is aligned with the National Rural Health Mission (NRHM) to bring about sustained improvements in the health and nutrition status in Odisha through a combination of financial and technical support. The briefs relate particularly to areas where the Technical Management and Support Team (TMST) have worked closely with relevant departments towards agreed policy and management reforms. Set-up in 2008 under OHSP, TMST is managed by consortium partners, Options, IPE and CARE, and will continue to provide technical support until March 2015.

The individual topic briefs are arranged under the four OHSP outputs, which relate to (1) improved access to services, (2) strengthened public health management systems, (3) positive health seeking behaviours and practices and (4) increased use of evidence in planning and delivery of services. Each brief provides a summary of the specific context or background of the piece of work, activities undertaken, results and/or impact achieved and plans or recommendations to be taken forward in the future. These will be useful for departments in Odisha and for other government and technical assistance teams in India states with similar health and nutrition challenges.

Which topics are covered and why: The topics covered in the briefs relate to areas of agreed priority for the GoO, and are necessarily those for which substantial impact can already be seen, or which represent a significant reform and/or foundation for future developments. For example, the distribution of bed nets to prevent malaria among pregnant women, improvements in hospital diets and the establishment of telemedicine networking all have a direct impact on health, especially among underserved groups. Other initiatives are aimed at increasing the efficiency of health sector management and quality of services, including human resource reforms for doctors and the nursing profession; adoption of IT management systems; and reforms in procurement of drugs and equipment. A more systemised approach to communications planning reflects recognition of the importance of public information to encourage health seeking behaviour. Increased use of evidence in planning is illustrated by the briefs on reducing Out Of Pocket Spending (OOPS) on health care and concurrent monitoring of village level services. The Nutrition Operational Plan is an important step forward in the drive to address the enormous nutrition challenges in the state, which directly affect the health status of large numbers of the population.

More for the future: However, despite the wide range of activities and policies covered, the topic briefs are not the whole story and cannot provide a comprehensive picture of all the work being undertaken under the DFID-GoO partnership, some of which is still at an early stage of development and will form the foundation for further reform and impact. Examples of work in progress include new approaches to reduction of malnutrition, with enhanced focus on children below two years of age and those who are severely malnourished; additional community based approaches to increasing demand for quality services; further reductions in the still high levels of OOPS; and achieving functional convergence of health with nutrition and sanitation services. Other critical areas of unfinished agenda of core health system reform being pursued include human resource management, procurement of drugs and equipment and development of more responsive and more accountable service delivery.
Odisha Health Sector Plan: Contributing to Change
An Overview of Sector Progress During April 2008 - March 2012

Background

The Odisha Health Vision 2010 was developed during 2003/04 by the Department of Health and Family Welfare and approved by the State Cabinet. The Mission aims “To facilitate improvement in the health status of the people of Odisha with their participation, and to make available health care in a socially equitable, accessible and affordable manner within a reasonable timeframe, creating partnerships between the public, voluntary and private health sector and across other developmental sectors.”

The Odisha Health Sector Plan (OHSP) translates the Vision into a plan of action and is aligned with the National Rural Health Mission (NRHM). Both were developed by 2005, marking the beginning of a change from input-based approaches in public health to a focus on health outcomes.

OHSP Expected Outcome:
Increased use of quality health, nutrition and sanitation services by the poor

There is particular emphasis on achieving equity of access and outcomes. Factors affecting under-nutrition are addressed through a dedicated Nutrition Operational Plan led by the Department of Women and Children. This combines state wide system strengthening, with focused activities in half of the districts which are highly vulnerable to poor health status and malnutrition (15 high burden districts).

Sector Budget Support for health and nutrition in Odisha has been provided by DFID since 2007-8, building on a partnership with the Government of Odisha that spans more than 25 years. From 2012-15, DFID will enhance its support for nutrition programming and provide additional technical support for improvements in water, sanitation and hygiene, which are important determinants of health and nutrition.

How OHSP supports change

Direct funding helps government to respond to state specific needs through:
• Complementary activities under NRHM (mobility and communications for health workers, malaria protection for pregnant women)
• Improvements in under-funded areas (medical and nursing education, biomedical waste management, drugs supply)
• Funding for new areas (sickle cell treatment, and critical care services)
• Systems strengthening and reform (human resource reform, financial planning and management, drugs and equipment procurement and logistics).

Technical support from TMST enables:
• Capacity building for institutionalising reforms
• Conduct of studies and pilots for evidence-based planning and improvements in implementation
• Development of guidelines for standardised, quality service provision
• Procurement strengthening for drugs, equipment and services
• Generation of new ideas and ways of working
• Documentation of best practices.

Evidence of Progress

Government of Odisha’s effective use of financial and technical resources from multiple funding streams has resulted in a number of significant sector improvements during the last five years.

Impact: The trend in impact indicators is improving. The Maternal Mortality Ratio is down from 303 deaths per 100,000 live births in 2004-6 to 258 per 100,000 in 2007-9 (SRS 2011). Infant Mortality fell from 75 per 1,000 live births in 2005 to 61 per 1000 in 2009 (SRS 2011).
Child under-nutrition has declined from 42.3% (NFHS 3, 2005-6) to 39.3% in the highest burden districts, and 32.4% in the less high burden districts, evidenced in a TMST commissioned Nutrition Baseline Survey 2011 (Figure 2).

**Figure 2 : U5 Children Underweight**

Coverage: Whilst impact indicators reflect changes both within and beyond the sector, service coverage is a direct effect of health inputs. Coverage of Maternal and Child Health (MCH) services is a major story of improvement. Figure 3 shows data from NFHS 2005-6 compared with independent household data from Concurrent Monitoring (CCM), commissioned by TMST on behalf of the Departments. Results from a large sample of households (more than 40,000) in all 314 blocks of Odisha, suggest substantial increase in use of four essential services for all pregnant women and their infants. Most striking is a massive increase in utilisation by women from tribal communities, significantly closing the gap between these women and the mainstream. The strong pro-equity approach adopted by the Departments since 2009 has demonstrated results.

**Out-of-Pocket Spending on MCH :** Whilst Out-Of-Pocket Spending (OOPS) on all health care remains a concern in Odisha, Figure 4 shows the burden of OOPS on childbirth is equitable, since poorer people pay proportionately (70%) less than their richer counterparts. Additional interventions were launched in 2011 to further reduce expenditure on institutional delivery (JSSK), and increase uptake of MCH services through a state wide cash transfer scheme, Mamata.

**Figure 4: OOPS on Institutional Delivery**

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**Out-of-Pocket Expenditure for Institutional Delivery**

(Odisha Public Expenditure Review, 2010)

- <2K: 764
- 2K-5K: 723
- 5K-10K: 737
- 10K-15K: 1656
- >15K: 2764

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**Fig. 3 : Percentage utilisation of MCH services by (ST) women and all women in 2005/6 and 2010/11**

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**Fig. 1: Infant Mortality Rate**

Infant mortality rate of Odisha and India (Source - SRS Bulletin)

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**Fig. 2 : U5 Children Underweight**

% Children U5 underweight

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**Fig. 3 : Percentage utilisation of MCH services by Scheduled Tribe (ST) women and all women in Odisha : 2005 / 6 and 2011**
System Reforms: Beyond the efforts aimed specifically at improving the health and nutrition of women and children, some of major health sector reforms supported by TMST will also benefit the wider population. These include improved procurement practices, increased budget allocation and expanded storage facilities for drugs and equipment; human resource reforms; improvements in provision of hospital diets; improved financial management systems, including medium term financial planning and outcome based budgeting; improvements in health communications planning; creation of a programme management structure at state and district levels to support convergence of health and nutrition planning; and additional monitoring to increase the use of evidence in planning.

These initiatives, together with many more under the NRHM and other health directorates, have led to a substantial increase in use of essential services.

Fig. 6: Institutional Deliveries in Odisha

In the period leading up to 2015, TMST will continue to support Government of Odisha in developing, implementing and tracking the outcomes of further initiatives to strengthen systems and services and to increase demand for and utilisation of these services. There will be a strong continuing focus on the needs of underserved groups and increasing convergence between health, nutrition and sanitation services.
List of Policy And Activity Briefs

Output 1: Improved Access to Priority Health Nutrition and Water and Sanitation Services

1. ‘MO MASHARI’ (MY BED NET): PROTECTING WOMEN FROM MALARIA DURING PREGNANCY
2. ENHANCING QUALITY OF CARE OF HOSPITAL MATERNITY SERVICES IN ODISHA: A SCORING AND RANKING EXERCISE
3. HOSPITAL DIET SERVICES: REFORMING AN ESSENTIAL ASPECT OF HEALTH CARE
4. ODISHA TELEMEDICINE NETWORK: SPECIALIST CARE FOR PEOPLE IN REMOTE LOCATIONS
5. ODISHA SICKLE CELL PROJECT: ADDRESSING A MAJOR PUBLIC HEALTH CHALLENGE
6. WHEELS FOR ASHAS: SUPPORTING SERVICES FOR WOMEN AND CHILDREN

Output 2: Public Health Management Systems Strengthened

1. REFORMING HUMAN RESOURCE MANAGEMENT TO MEET HEALTH CARE NEEDS
2. NURSING REFORMS: STRENGTHENING INSTITUTIONS AND IMPROVING QUALITY OF CARE
3. MODERNISING PUBLIC HEALTH SERVICES: AN IT ROADMAP AND E-GOVERNANCE PLAN
4. PROCUREMENT OF DRUGS AND EQUIPMENT: OPTIMISING USE OF PUBLIC HEALTH RESOURCES

Output 3: Positive Health, Nutrition and Hygiene Practices and Health Seeking Behaviour of Communities Improved

1. THE NUTRITION OPERATIONAL PLAN: A STRATEGIC APPROACH
2. COMMUNICATIONS: AN INTEGRATED APPROACH TO PROMOTING POSITIVE HEALTH

Output 4: Improved use of Evidence in Planning and Delivery of Equitable Health Nutrition and Water and Sanitation Services

1. EQUITY IN HEALTH: A STRATEGY FOR POSITIVE CHANGE
2. OUT OF POCKET SPENDING ON HEALTH IN ODISHA
3. CONCURRENT MONITORING OF VILLAGE LEVEL HEALTH AND NUTRITION SERVICES: ANALYSIS AND FEEDBACK
‘Mo Mashari’ (My Bed Net): Protecting Women from Malaria During Pregnancy

**Highlights**

Mo Mashari (my bed net) was launched in November 2009, as a programme to protect pregnant women against malaria through distribution of Long Lasting Insecticidal Nets (LLIN). Initially five districts with high malaria burdens were targeted, in a pilot period from March 2010 to March 2011, expanded to a further two districts in 2012. LLINs were distributed through local ANMs during antenatal checkups, VHNDs, immunisation days or other non-health specified days. Accompanying health education activities ensured women knew how to use and care for the nets. An evaluation by TMST showed that LLINs were retained and used by pregnant women (91% slept under an LLIN the previous night and 88% slept under an LLIN with their children aged less than two years). Rates of malaria infection, anaemia and underweight in women were found to be substantially lower in households that had received LLINs, compared with those that had not.

**Context**

Malaria is highly endemic in Odisha, with the plasmodium falciparum parasite responsible for the majority of cases. Pregnant women and young children are particularly vulnerable to infection and complications from this parasite, which has recently developed resistance to the drug, chloroquine, previously used for chemoprophylaxis. As a result, since 2008 the National Drug Policy for Malaria in India no longer recommends use of chloroquine. The Government of Odisha Department of Health and Family Welfare (DoHFW) therefore initiated a policy for protecting pregnant women and young children from malaria infection by providing Long Lasting Insecticidal Nets (LLIN) in high malaria burden districts. This was launched as the ‘Mo-Mashari’ initiative in November 2009.

**Process**

Around 2.34 lakh LLINs were procured by the State Vector Borne Disease Control Programme (VBDCP) of DoHFW under the DFID supported Odisha Health Sector Plan. Around 1 lakh of these were distributed to pregnant women in five districts (Malakangiri, Nawrangpur, Rayagada, Kandhamal and Keonjhar) during a one-year pilot from March 2010 to March 2011, and the remainder were procured in the first quarter of 2012 and supplied to a further two districts (Koraput and Kalahandi) for distribution to pregnant women. This is in addition to 38 lakh LLINs procured and distributed to families as needed in cluster villages of 26 districts in Odisha under support from the Government of India.

Distribution of LLINs to pregnant women was in accordance with the Mo-Mashari Guideline issued by the State VBDCP. During the pilot phase, all pregnant women were targeted. LLINs were procured by the State and supplied to the district warehouses, which distributed them to blocks, where Auxiliary Nurse Midwives (ANM) ensured they were issued to pregnant women and young children from malaria infection by providing Long Lasting Insecticidal Nets (LLIN) in high malaria burden districts. This was launched as the ‘Mo-Mashari’ initiative in November 2009.
An independent evaluation of Mo-Mashari commissioned by the DFID funded Technical and Management Support Team (TMST) in a total of 1,329 households found that:

- Around 84% of pregnant women were given an LLIN under Mo-Mashari during the one-year pilot distribution period.
- In 99.5% of cases LLINs given to pregnant women were visually verified by the study team, indicating retention of the LLINs by pregnant women.
- Different modes of LLIN distribution were adopted by different blocks, including targeting the first antenatal check-up and administration of first tetanus toxoid dose.
- The ANM was the main conduit of LLIN distribution, with 84% of pregnant women receiving them from ANMs.
- About 50% of pregnant women were given an LLIN on specified health days (33% on VHNDs and 17% on immunisation days) and around 43% received them on other days.
- 51% of pregnant women were given LLINs at the health sub-centre and 36% at the Anganwadi Centre.
- While the distribution guideline specifies provision of LLINs during the first trimester of pregnancy, in fact 43% of women received them in the second trimester and 42% in the third. Late registration and failure to attend antenatal services were given as reasons for the delay.

Impact
The TMST evaluation showed that:

- More than 84% of eligible pregnant women were protected by LLINs in the distribution area.
- 91% of pregnant women had slept under an LLIN the previous night, indicating that they had adopted this effective personal protection measure against malaria very satisfactorily.
- 88% of pregnant women slept under an LLIN the previous night with their children aged under two years, so that young children were also protected.
- While LLIN use is high among pregnant women who directly received them, the rate is less (70%) among families in villages where LLIN has been distributed to the entire population, indicating that specific targeting of pregnant women is effective.
- The anaemia rate was much lower (48.5%) amongst currently pregnant women in households that received LLINs, compared with 70.5% observed in non-LLIN households (global research provides evidence that protection from malaria helps reduce anaemia).
- Similar reductions in anaemia rates were observed in women who had completed pregnancy (56.6% in LLIN households, compared with 70.5% in non-LLIN households) and among children less than two years (77.7% in LLIN households, compared with 88.2% in non-LLIN households).
- The percentage of underweight women was at lower in LLIN households (33.8%) compared with non-LLIN households (42.9%). Rates of severely/moderately thin women were lower in LLIN households (10.1%) in comparison with non-LLIN households (20.2%).

Way Forward
Based on these very positive outcomes the DoHFW is considering scaling up the Mo-Mashari programme for pregnant women in all high malaria burden districts in Odisha.
Enhancing Quality of Care of Hospital Maternity Services in Odisha: A Scoring and Ranking Exercise

Highlights

A quality of care assessment was carried out in 30 district headquarter hospitals across the state, to identify gaps and support the process of improvement. Scoring under three dimensions (inputs, process, and outputs) showed wide variations between hospitals and enabled them to identify their strong and weak areas. Human resource shortages continue to be a major constraint and conditions are often overcrowded as a result of rapidly increasing caseloads. Detailed suggestions were provided for addressing shortcomings and it was recommended that each hospital develop its own quality improvement plan as a basis for implementing these.

Context

To address the prevailing high rates of maternal and neonatal mortality, the Government of India launched a conditional cash transfer scheme, Janani Suraksha Yojana (JSY), to increase access to and utilisation of maternal and child health services among poor families. This has been successful in increasing the rates of institutional delivery across all states, and in Odisha the vast majority of these deliveries take place in public sector facilities (estimated 93% in rural areas). However, the safety of childbirth depends not just on delivering in a health facility, but also on the Quality of Care (QoC) provided, and there were concerns that high and rapidly increasing caseloads could compromise this, and in turn affect people’s future utilisation of services. The Department of Health and Family Welfare therefore requested the DFID supported Technical and Management Support Team (TMST) to carry out a QoC assessment in 30 public district headquarter hospitals across the state.

Findings

The review assessed key indicators under the categories of (1) inputs, (2) process and (3) outputs at the hospitals, assigning a QoC score for each, thus enabling intra and inter hospital comparisons, to help quantify the practical strategies and resources required to support hospitals in improving quality and to promote a cascade effect on other hospitals in the areas.

1. Inputs

i. Human resources: Shortages of the required staff and skills are acknowledged as the single biggest challenge to QoC. Substantial gaps were found between the number of sanctioned posts and those required for provision of quality services. In addition, sanctioned posts were often unfilled; a particular issue for specialists, such as obstetricians (19% to 39% shortfall) and anaesthetists (only 31 out of 56 sanctioned posts filled). Most maternal care is provided by nurse-midwives, yet most hospitals had only five or six of these shared across three shifts, compared with a minimum of 10 needed. Thus in practice only one or two nurse-midwives are present at any time, to manage deliveries, monitor post-operative mothers and newborns and provide medication. Staffing does not match the variations in hospital caseloads.

ii. Infrastructure: In most cases infrastructure was found to be inadequate, both in capacity and layout, for smooth client flow. The result is overcrowding, a stressful environment and mothers not being kept in the labour room for long enough to support proper monitoring during the critical periods pre and post delivery, meaning that foetal distress and obstetric emergencies can be missed. Only 20% of facilities had a separate post-natal ward.

iii. Equipment: Only half the operation theatres had functional hand-washing facilities; only one third of labour rooms had adequate sterilisation equipment; and there were too few instruments to meet the needs of increased caseloads. The huge variation in these scores between hospitals suggests this can be addressed by local action.

iv. Drugs and consumables: Availability of essential drugs was generally good, apart from two low-scoring hospitals, but there were shortfalls in assured stock. Supply of common consumables, such as gloves, in labour rooms was poor.

v. Non-clinical services: While waste management facilities and protocols were in place in most of the hospitals, only 60% put them into practice. Outsourced housekeeping services performed relatively well. Standards of cleanliness fell short of infection prevention requirements. Effective information management tools were either not in place or not properly used, often due to the constraints of high caseloads and staff shortages.

Concurrent Monitoring, 2011
2. Process

i. Good practice: Scoring was based on regular reported and observed use of 20 internationally accepted good practices. While there was good awareness of infection control practices, nurses often said they had no time to use them. Similarly, it was found that partographs were not widely used outside training situations, and only a quarter of staff said they always monitor pulse, blood pressure and foetal heart beat hourly. Use of magnesium sulphate for eclampsia was almost universal, but provision for privacy during labour was sub-optimal and allowing choice of birthing positions or companions during the birth was not common.

ii. Referral: Twenty of the hospitals said they sometimes referred out (to medical colleges) for caesarean sections, either due to major complications or lack of key staff. This is a cause for concern as these hospitals are expected to function as referral centres, and with only three medical colleges in the State there is the risk of overloading them with cases that are should be dealt with at the lower level hospitals.

3. Outputs

Provision of services depends on the availability of trained staff, infrastructure and equipment. Only 53% of all district headquarter hospitals are able to provide the nine signal emergency care functions 24 hours a day and seven days a week. Provision of caesarean section services appears to be low. Only 17% of the hospitals had 24/7 laboratory services and only about two thirds had ultrasound facilities. While around two thirds of the hospitals provided post-partum and post-abortion family planning support, uptake was reported to be low.

Chart 7 QoC Component Scores for DHHs

Recommendations

The wide range of scores shown in the chart above indicates a need to plan strategies for improvement at individual hospital level, especially in the light of the wide variation in caseloads. Individual QoC charts generated for each hospital enable them to see their strong and weak areas.

The assessment provided 29 detailed suggestions related to key findings under the three dimensions. The starting point for implementing these is the development of individual quality improvement plans at each hospital, to ensure the availability of all nine signal comprehensive emergency obstetric and neonatal care functions 24-7, and a similar plan at system level for generic issues. It was also suggested that innovations and best practices should be appreciated and documented to inspire further change.

Key suggestions related to human resources include enhancing the role of nurses and nurse-midwives, empowering them to fulfil the roles for which they are trained, increasing their numbers, relocating skilled birth attendants to hospitals where they are fully utilised, and accrediting more private health care providers. Inadequate infrastructure should be addressed by designing generic maternity units and labour rooms that are fit for purpose and promote smooth client flow. Pre and post natal hostels near hospitals could be considered under public private partnerships.

Supply systems need to be improved. Introduction of the WHO Safe Childbirth Checklist was recommended as a tool for ensuring the basic steps for good practice are followed. The concept of continuum of care from admission to discharge needs to be kept in mind when designing structures and staffing patterns.

Impact

The detailed findings of this exercise provide a practical basis from which individual hospitals can learn and make their own plans to improve their services. In making childbirth safer for women accessing delivery services at public sector health facilities, this has potential positive impact on maternal and newborn mortalities and morbidities. Many of the recommendations, such as small scale infrastructure improvements and staff practices, can be addressed at individual hospital level, with the support of the local RKS. Others, such as human resource allocation and supplies, need system level attention.
Hospital Diet Services: Reforming an Essential Aspect of Health Care

**Highlights**

Poor management and delivery of hospital dietary services was due to low budget provision and lack of clarity on roles within the management structure. Inpatients were therefore forced to buy their own food to supplement the inadequate diet, with particular impact on the poorest. Reforms have resulted in:

- Increased diet budget for all categories of patient, improving the quality and amount of food provided
- Preparation and circulation of standard guidelines to all public health institutions, to ensure provision of standardised appropriate diets for all inpatients in public health facilities.

**Context**

Appropriate diet, in terms of nutritional value and quantity, is an essential part of the health care provided by a health institution. Yet spending on food is responsible for a major part of patient Out Of Pocket Spending (OOPS) on health care. This is often due to failure of health facilities to provide an adequate and acceptable diet for inpatients. Within the public health sector in Odisha, dietary services often fall well short of the standards required, largely due to low budget allocations, which do not support provision of a quality diet, and lack of standard guidelines. Recognising this, the Department of Health and Family Welfare (DoHFW) initiated major reforms and policy changes, based on identification of critical gaps in dietary services and the steps required to address them.

**Process**

The DFID funded Technical Management Support Team (TMST), prepared and shared a comparative assessment of the budgets and practices related to hospital diets in a number of Indian states, including West Bengal, Bihar and Jharkhand. Parameters such as amount of diet budget, date of last revision of diet budget, management structure and diet practices were assessed. TMST also reviewed current practices of the Odisha Home Department for prison inmate diets.

A study on Improvement of Dietary Services and Management in Medical College Hospitals and selected District Headquarter Hospitals was conducted in March 2011, commissioned by TMST on behalf of the DoHFW. The objective was to provide recommendations for improving dietary services, based on a comparative analysis of diets in selected public health institutions of various levels, including diet composition, preferences and rates.

**Key recommendations from the study were:**

- Preparation of diet menus by broad disease types, adhering to nutritional norms
- Revisiting the present cost norms based on required nutritional value by broad disease types
- Revisiting the diet cost norm at least once in a five-year plan period and adjusting against market prices
- Special allocation for lactating mothers, supporting institutional delivery and extended periods of stay in a health institution, as required
- Outsourcing of diet preparation and supply in district headquarter and medical college hospitals, capital hospitals and feasible sub divisional hospitals; piloting is essential
- Basing diet provision on inpatient admission lists rather than bed occupancy (to account for patients admitted without a bed)
- Examining diet cost sharing norms for preferential diet category only
- Placement of a dietician/nutritionist at least in each district headquarter hospital
- Constitution of a Diet Vigilance and Regulatory Committee through the local RKS
- Upgrading of kitchen facilities, at least in higher level facilities, such as district headquarter hospitals, sub-divisional hospitals and above, with proper storage to ensure freshness of food.

To finalise recommendations for diet menus, a working group was formed under the chairmanship of the Special Secretary of the DoHFW involving dieticians from the three government medical colleges and private hospitals. A feasible menu was agreed, adopted and recommended to the department.
## Results

Diet budget revised: The daily diet costing for inpatients at all government health institutions was revised as shown in the table below (Resolution 5155; 28th February 2011).

### Revision of Cost Norms for Hospital Diets

<table>
<thead>
<tr>
<th>SN</th>
<th>Category of Patient</th>
<th>Earlier Rate of Diet per Patient per Day in INRs</th>
<th>Revised rate of diet per Patient per Day in INRs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Paediatric</td>
<td>20.00</td>
<td>25.00</td>
</tr>
<tr>
<td>2</td>
<td>General</td>
<td>20.00</td>
<td>50.00</td>
</tr>
<tr>
<td>3</td>
<td>Cancer</td>
<td>20.00</td>
<td>60.00</td>
</tr>
<tr>
<td>4</td>
<td>TB</td>
<td>25.00</td>
<td>60.00</td>
</tr>
</tbody>
</table>

Effective from 1st of April 2011

1. Up to the age of nine years, a patient is considered paediatric and above this, provision for adults will apply i.e. Rs.50 or Rs.60 according on the patient category
2. Cost of diet for burn cases is Rs.60, in line with cancer and TB patients

Guidelines developed: For smooth functioning and standardisation of diet arrangements, the Guidelines for Diet Management in Health Institutions, 2011 were issued for implementation by health institutions (Department Notification 14986/H; 14th July 2011). These guidelines have specific menus for each category of patient: General, TB, Cardiac, Cancer, Renal, Burn, and Paediatric.

Diet slips: Coloured diet advice slips were introduced in public health institutions, to be treated as diet entitlement slips.

Provision of diet for all inpatients: Any inpatient, whether allotted a bed or admitted without a bed, is entitled to the diet as prescribed by the doctor and advised by the dietician.

Diet vigilance committee: A robust internal structure is now in place for all public health institutions, comprising members from RKS. Its main function is to strengthen monitoring and supervision for quality assurance.

## Impact

These reforms are important in terms of supporting better quality of health care in public health facilities, since an appropriate and nutritious diet can speed recovery from illness. The reforms also reduce the need for OOPS during a hospital stay, which has implications for equity, since the burden of OOPS proportionately higher on poor people, and under previous arrangements patients admitted without a bed, who were usually the poorest, were not provided with a hospital diet.
Odisha Telemedicine Network: Specialist Care for People in Remote Locations

Highlights

Establishment of the Odisha telemedicine network connecting district headquarter hospitals to three government medical colleges, which are in turn connected to super-speciality centres in different parts of India, provides access to specialty and super-specialty health care for people living in remote rural or semi-urban locations, who may be too poor to travel to a specialised health care centre. Specific benefits are:

- 2,541 patients suffering from major illnesses received tele-consultation and tele-follow-up services from SGPGIMS, Lucknow and AIIMS, New Delhi.
- 489 patients from six district hospitals received specialist tele-health care from SCB Medical College Hospital, Cuttack for complicated health problems.
- Nine batches of postgraduates trainees in the three government medical colleges of Odisha have benefited from online teaching on 1,694 topics.

Context

Telemedicine is the use of telecommunication technology to enable experts at specialised centres to provide medical information and services to patients in distant locations, through their local health workers. This directly benefits people living in remote and inaccessible areas, who may be too poor to travel to a more advanced treatment centre and would therefore not have access to the care they need. In response to increasing demand for specialised medical care, due to greater public awareness and changing disease patterns, and recognising the challenges of bringing such care to the whole population, the Government of Odisha established a state telemedicine network in 2003. Initially three government medical college hospitals were connected to leading super-specialty hospitals in different parts of India, and district headquarter hospitals were included at a later date, making specialist and super-specialist medical care available to people living in rural and semi-urban areas of the State.

Process

Phase-I: Three government medical college hospitals, located in three districts of Odisha (Cuttack, Ganjam and Sambalpur) were connected to Sanjay Gandhi Post-Graduate Institute of Medical Sciences, Lucknow, with support from the Government of India (ISRO/Department of Space and Department of IT, Ministry of Communications and Information Technology).

Phase-II: With annual financial support from the Government of Odisha from 2005/06, the network was expanded to include district headquarter hospitals in Koraput, Kalahandi, Rayagada, Sundargarh, Mayurbhanj and Capital Hospital, Bhubaneswar, which thus receive expert medical service from SCB Medical College and Hospital, Cuttack.

Phase-III: Launched in November 2011 by the Honourable Health Minister of Odisha, this phase is still in progress, connecting the remaining 21 district headquarter hospitals of the State and one city hospital (Rourkela Government Hospital) to the three medical colleges. Based on the BOT (Build Operate and Transfer) model, the primary communication infrastructure used is MPLS-VPN/VPNoBB connectivity, provided by BSNL, Odisha. Each remote telemedicine centre has, or will have, reliable connectivity with adequate capacity. Funding is divided into (1) non-recurring one-time costs for capital equipment, software (Mercury) solution and support, installation and commissioning, personnel training, to be met from OHSP and NRHM funds; (2) recurring costs for operation, MPLS-VPN connectivity and PSTN regular telephone charges, which will be met from NRHM funds.

Impact

Since 2003, 2,541 patients suffering from major illnesses have benefited from tele-consultation and tele-follow up services offered by SGPGIMS, Lucknow and AIIMS, New Delhi to the medical college
hospitals in Odisha. In the last three years, 489 patients from the six phase II hospitals have received super-specialist tele-health care from SCB Medical College Hospital, Cuttack, for complicated health problems. Tele-medical education has also played a significant role in improving the quality of postgraduate education in the medical colleges, with nine batches of postgraduate trainees receiving online teaching on 1,694 topics in the period August 2001 to April 2011. These achievements and consultation on upgrading the service were discussed at an international conference on telemedicine organised by the Department of Health and Family Welfare in Bhubaneswar, attended by 326 delegates from India and abroad.

Next Steps
A state level Telemedicine Resource Centre has recently been set up at the SCB Medical College and Hospital, Cuttack to enhance telemedicine applications in the State. The Resource Centre will be responsible for monitoring the activities of the state telemedicine network, maintenance of the network to house the main server for storage of teaching materials and clinical data in digital format, and will function as a platform for further studies in tele-mentoring, tele-proctoring, tele-presence surgery and tele-robotics. The launch of Phase III expansion of telemedicine network will also facilitate further upgrading of the health care available to the population of Odisha.
Odisha Sickle Cell Project: Addressing a Major Public Health Challenge

**Highlights**

- Sickle cell diagnostic and treatment facilities created in six district headquarter hospitals in western Odisha, where the disease is prevalent.
- Technical capacity of doctors to diagnose sickle cell disease improved.
- Comprehensive tertiary care centre established for sickle cell disease.
- Patient database created to facilitate further research.
- Comprehensive BCC plan developed to improve awareness about sickle cell disease, as part of a preventive strategy.

**Context**

As an inherited haemoglobin disorder, sickle cell disease is prevalent in 13 districts in western Odisha, an economically poor area mostly inhabited by tribal groups. It is estimated that 5.35 lakh people are affected across the State, of whom 94% live in the western parts. There is currently no cure for the disease, which bends the red blood cells into a sickle (crescent) shape, but its progression can be limited by medication (Hydroxyurea) and repeated blood transfusion. Approximately 40 sickle cell patients die each year in the VSS Medical College Hospital (VSS MCH), in Burla, Sambalpur, the main centre for treatment of the disease in Odisha. Infection with malaria increases the severity of the effects of sickle cell disease, and mortality among patients affected with both ailments is very high.

Although it has long been identified as a major public health challenge, substantial shortfalls exist in management of sickle cell disease, including inadequate record keeping, doctors using outdated treatment regimes and lack of public awareness about the importance of early diagnosis and treatment. The high costs involved also discourage patients from seeking treatment - the medication alone costs around INR 500 per month.

**Process**

To address the problems, the Odisha State National Rural Health Mission (NRHM) initiated the Odisha Sickle Cell Project (OSCP) in 2010, with financial support (total INR 4.54 Cr.) under the OHSP.

- The primary objective was the development of infrastructure for research into sickle cell diseases, with treatment and comprehensive care for patients, in six district headquarter hospitals within two years.
- The secondary objective was the development of infrastructure and human resources for diagnostic and preliminary treatment facilities for sickle cell disease at the six hospitals and development of a centre for sickle cell research, preventive and comprehensive care at VSS MCH, Burla within three years.
even more marked, from a situation of no dedicated staff to 12 new posts created (one laboratory technician and one field worker for each hospital) of which 11 are already filled.

- Equipment: A range of specialist equipment procured and made functional at the VSS MCH centre and basic essential equipment at the district hospitals.
- Drugs and field screening: A total of 1.82 lakh capsules of hydroxyurea purchased, of which 71% was distributed free of charge between April 2010 and November 2011. A total of 10,144 patients received field screening at the VSS MCH centre, and 3,381 in the six district hospitals.
- Health Camps: Organised in various locations to reach poor patients, collecting and testing blood samples, distributing medicines free of charge and providing counselling about treatment. A total of 593 patients were examined (Figure 1), of whom 92% received blood testing services. This compares with a total only seven camps organised prior to the project, between 1998 and 2010.

Impact
Initial figures for blood sample collection and testing (Table 1) show significant increases in sample collection during the first 20 months of the project, with annual numbers doubled for VSS MCC compared with the 12 years prior to OSCP and increased from zero at the district hospitals. Numbers tested have also substantially increased. Similarly, a total of 13,459 outpatients received treatment from the MCH, compared with 14,749 in the last 12 years. Figure 2 shows a total of 1,677 patients registered in the first 20 months of OSCP at VSS MCH, Burla, compared with only 2,108 people in the 12 years prior to OSCP. Most importantly, 3,381 patients have registered in the six district hospitals, where previously there was no systematic registration at all.

By November 2011, 77% of the allocated budget had been spent, targeting areas which were not touched in the earlier phase, an indication of the high rate of activity under the project.

### Next Steps
- Extension of sickle cell diagnostic and treatment facilities to a further six districts in western Odisha (Phase I) and then to other districts across the State (Phase II)
- Establishment of facilities for prenatal sickle cell diagnosis, to detect presence of the disease in the unborn foetus
- Upgrading of the molecular biology sickle cell laboratory at VSS MCH Burla in line with rapidly advancing technologies for early diagnosis and improved treatment strategies
- Establishment of additional drug depots for free distribution of hydroxyurea across western Odisha
- Screening of the whole population of western Odisha and asymptomatic relatives of diagnosed patients in all parts of the State for sickle cell haemoglobinopathies, with database.
Wheels for ASHAs: Supporting Services for Women and Children

### Highlights
- Distribution of bicycles to ASHAs has significantly increased their mobility and reach, enabling them to devote more time to supporting the health of women and children across the state.
- The process of distributing bicycles through local GKS has had the further benefit of increasing community ownership and support for the work of the ASHAs.
- Involvement of authorities and other key local stakeholders has increased their understanding and support for the role of the ASHAs.
- By March 2012, 32,717 bicycles had been distributed, with funds in place for all ASHAs to receive a bicycle by end of October 2012.

### Context
ASHAs (Accredited Social Health Activists) are local women trained to act as health educators and promoters in their communities. They play an important role in creating awareness about health issues and the social determinants of health, and in mobilising their communities to participate in local health planning, utilise available health services when needed and increase the accountability of these services. They also counsel pregnant women, including accompanying them to health facilities for safe delivery; provide treatment for minor ailments; support malaria patients and TB patients undergoing DOTS; visit couples to discuss permanent family planning measures; and promote immunisation of children. In addition they are expected to attend monthly sector meetings and meetings of the Village Health and Sanitation Committees, known as Gaon Kalyan Samitis (GKS). Currently Odisha has a total of 41,102 ASHAs, of which the majority are in rural areas, with 358 in urban locations and 1,306 as supplementary placements in hard to reach areas.

The range of grassroots activities requires the ASHA to travel extensively around her assigned area, carrying out household visits for populations of around 1,000, with the size of geographical area depending on the population density and number of villages/hamlets. Difficult terrain, inaccessible pockets, lack of public transport and being female add to the challenges and may limit her mobility and ability to fulfil her role, which may affect achievement of over all health indicators. The ASHA needs to be able to reach households quickly, to allow time to carry out her tasks properly, and she also has to find the time to attend sector meetings, share information with community members and attend GKS meetings. During natural calamities, the ASHA may be the only health functionary available to help in the area, and would need to be mobilised quickly. In this context, provision of independent transport for ASHAs, such as a bicycle, is extremely important.

### Process
The 48,383 GKS in Odisha act as pivotal institutions for initiating promotive and preventive activities to address local health problems, building an interface with the formal health system and fostering inter-sectoral convergence. As relatively permanent village level bodies the GKS were given responsibility for ensuring distribution of bicycles to ASHAs in their areas.

Eligibility: Conditions for the GKS and ASHA to receive bicycles are:
- The GKS should have been formed, account opened, fund transferred and Swasthya Kantha activity completed.
- The ASHA should be active, have a bank account with incentive paid through that account and must be able to cycle.
The process for allocation of bicycles to eligible ASHAs is:

- Verification of the request by the concerned Auxiliary Nurse Midwife (ANM) at the health sub-centre and submission to the block primary health centre.
- Compilation of requests received from all the sub-centres; the ASHA coordinator compiles data for all the blocks and furnishes the consolidated requirement of the district to the CDMO, who in turn places it before the Collector-cum-Chairperson/ Zilla Swasthya Samitee (ZSS) for procurement of bicycles. The district based list of ASHAs eligible for bicycles is sent to the Mission Directorate, National Rural Health Mission, for release of funds.

**Procurement**: The bicycles required for the district are purchased by the district ZSS, using funds allocated under the OHSP. The system used is the same as that for provision of bicycles to scheduled caste and scheduled tribe girl students studying in class VIII to XII in scheduled area and class XI and XII in non-scheduled areas.

**Distribution**: The bicycles are supplied to each block, as requested. Their distribution is marked by a block level event to which local dignitaries, such as the local Member of Legislative Assembly, Member of Parliament and Panchayati Raj Institution representatives are invited, and in which the President, Convener of GKS and ASHAs participate. At village level, a GKS meeting is convened in which all the ASHAs from the revenue village participate. The purpose of providing the bicycles is discussed, and issue of the bicycle to the ASHA made a resolution of the meeting. A written agreement is signed between the GKS President and each ASHA for issue of her bicycle. The GKS monitors the ASHA’s use of her bicycle on a quarterly basis and gives feedback. If the ASHA discontinues her work, the bicycle is given to her replacement. Repair and maintenance costs for the bicycle are met from the untied funds of GKS. In the case of a GKS or ASHA currently not eligible, but able to fulfill the criteria at a later date, a bicycle may be requested in the next phase. As of March 2012, a total of 32,717 of the ASHAs had received bicycles, with funds in place for distribution to all 41,102 by the end of October 2012.

**Impact**

By increasing the mobility of ASHAs, distribution of bicycles has enabled them to reach more distant parts of their area on a more regular basis, enabling them to better serve populations who may be predominantly poor and marginalised. It has also freed more of their time to work with all the women and children in their community; time which might otherwise have been spent travelling more slowly on foot. Thus the bicycles have contributed to increasing the support for mothers and children across the state, especially those in remote areas.

Distribution of bicycles through the GKS has had the added benefit of building more community ownership of the work of the ASHAs. Involving authorities and other local stakeholders in the process of distribution has also increased high level support for the role of ASHAs.

### Escorting Institutional Delivery (%)

<table>
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<th>Contributions of ASHA</th>
<th>2007-08</th>
<th>2008-09</th>
<th>2009-10</th>
<th>2010-11</th>
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<td>65</td>
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Reforming Human Resource Management to Meet Health Care Needs

**Highlights**

- The State Human Resource Management Unit (SHRMU) was established in the DoHFW as an umbrella for all departmental human resource policy development and planning.
- Career restructuring for allopathic doctors provides more promotional avenues and a better pay scale, thus increasing the presence of doctors on the ground, especially in under served areas.
- Strengthening of the nursing profession will enable nurses to more effectively complement doctors, particularly in the key role in maternal and child health care.
- Emphasis on supply and equitable distribution of human resources will ensure staff are effectively utilised.

**Context**

Recognising that human resource issues were a major obstacle to progress in addressing health care needs in Odisha, the Department of Health and Family Welfare (DoHFW) embarked on a substantial programme of policy and structural reform across different cadres of health care staff. Specific challenges faced included acute staff shortages at all levels, leading to vacancies in key positions; low salaries and unsatisfactory promotion avenues; a system for posting and transfer of staff that was not need based or transparent; widespread absenteeism and low morale among staff. The aim of the reforms is to develop institutions and systems that focus on ensuring the supply of human resources with the required technical and managerial skills where they are needed. Key to this is effective management of staff posting and increasing their motivation and retention.

**Process**

A key part of the reform strategy was the establishment of the State Human Resource Management Unit (SHRMU) (Government Resolution 15491/H; 1st June 2009), as an umbrella institution to address all human resource issues across the health sector and to streamline their management. The SHRMU is responsible for ensuring adequate supply of skilled human resources to meet the current and future needs of the health sector, through appropriate policy development, planning, management, capacity development, monitoring and evaluation. It is guided by a steering committee chaired by the Commissioner-cum-Secretary of the DoHFW.

Specific Outputs of the SHRMU include:

- Restructuring of the Medical Service Cadre (Government Resolution No- 14994/H dated 26th May 2009), to improve the availability of doctors with the required specialist skills in critical facilities where serious shortages often exist, such as community health centres. A database of doctors was established (Department Resolution 14994/H; 26th May 2009, with modification on 15th December 2011) based on high quality, up to date software for the Human Resource Management Information System. Data pertaining to personal details, qualifications, place of posting has now been entered for all doctors and is utilised for posting, promotion and transfer. The increased clarity provided by the database also enabled the DoHFW to take major new policy decisions related to restructuring of the medical cadre, postings, transfers, promotions and incentives. These include entry level positions for doctors at Junior Class 1 (instead of Class 2), a five-year time scale for promotion, and a larger pool of senior administrative grade officers available for selection to higher level positions. Thus immediately 2,415 doctors were promoted to Junior Class 1 and 380 doctors have been designated specialists, able to fill much needed positions such as district level officers for TB, leprosy, disease surveillance and public health.
• Strengthening and restructuring of the nursing profession, which has a key role to play in reducing maternal and child mortalities, is covered in more detail in the briefing on nursing reforms. Institutional reforms, enhancement of the quality and number of places in nurse education schools and colleges and improvements in pay and conditions are underway as part of a process to develop a more attractive and professional service that will effectively complement the medical profession and in particular, ensure better services at lower level and rural facilities.

• Plans for restructuring the pharmacist cadre and improving promotional avenues have been approved. A plan for posting of pharmacists in vacant posts of MPHW(M) has also been approved.

• A capacity building plan has been developed for role optimisation and multi-skilling of laboratory technicians. An efficient laboratory service is a critical element of the accurate diagnosis and cost effective treatment of most health problems, but until recently the service was not accorded the priority it deserved, in terms of budget or representation. Lack of essential equipment and/or mismatching between equipment and skills available and between supply and demand affected the quality of service, particularly at lower level health facilities, where disadvantaged groups are most likely to seek health care. Under the National Rural Health Mission, efforts have focused on integrating the management of various service providers, to ensure more coordinated and efficient services, including strengthening laboratory services under Janani Sishu Surakhsa Karyakram (JSSK), launched on 1st November 2011. Among other reforms, this is expected to support free diagnostic laboratory testing for mothers and their newborns. A framework has been developed for systemic capacity building within the laboratory service, including skills enhancement and improvements in conditions for staff, more reliable supply and maintenance of equipment and more strategic, need based posting of staff.

Impact
As a result of these reforms there has been a perceptible improvement in morale and motivation among doctors, which is expected to lead to reduced absenteeism and improved quality and availability of services. In addition, every district now has a specialist officer for TB, leprosy, disease surveillance and public health. There is evidence of similar positive changes among other staff. Distribution of the workforce is becoming more equitable, with fewer vacancies in underserved districts; for example vacancies for outreach workers have decreased in all KBK+ districts. Even with the same number of staff on the ground, service coverage is improving due to multi-tasking by existing personnel.

Next Steps
• Building on the overall restructuring carried out for allopathic doctors, job descriptions and terms of reference will be reviewed and adjusted to match current and emerging health needs and improve career options.

• Activities are also ongoing to develop a dedicated public health cadre, which would integrate supervisory and administrative positions from various professions and create new public health positions at different levels.

• Plans will be developed for identifying and addressing gaps in laboratory staffing and equipment, including creation of new posts at primary health centre level. Technicians will receive multi-skill training, enabling them to perform a range of additional tasks to meet local needs, thus optimising their usefulness on the ground.

• A gap analysis will be carried out against the Government of India norms for human resources in health, and steps initiated to address any shortfalls for all health cadres.
Nursing Reforms: Strengthening Institutions and Improving Quality of Care

**Highlights**

Noting that severe shortages of nursing staff and inadequate pay and conditions were adversely affecting the quality of care provided in health institutions in Odisha, the Department of Health and Family Welfare is undertaking substantial reforms in the structure and management of the nursing profession. Institutional reforms, such as within the Nursing Management Support Unit, are complemented by proposals that include recruitment of over 6,000 additional nurses; improved pay and conditions; and a clear career path with more promotional opportunities. Steps have also been taken to enhance the quality of nurse education.

**Context**

As part of overall human resource reforms being undertaken under the Government of Odisha Health Sector Plan, 2007-2012, the Department of Health and Family Welfare (DoHFW) recognised the need for specific reforms within the nursing profession. Studies show that nurses and midwives can play a significant role in the reduction of maternal and child mortality, if adequate numbers of well qualified and trained personnel are present in the right places. However, problems such as acute shortfall in numbers, inadequate career paths and lack of regulation of private sector nurse education were seen to be affecting the quality of care provided.

Reforms focused on three major areas:

- Institutional reform, particularly strengthening the Nursing Management Support Unit (NMSU), which was constituted by the DoHFW in 2004 and is guided by the State Task Force on Nursing, created in 2000 to provide advice and monitoring on nurse management. A regulatory framework has been established within which all nursing related activities operate, whether public or private. The NMSU also provides technical and managerial support to the Nursing Council, which is responsible for nurse education, registration of nurses and nurse education institutions and database management, and the Nursing Board, which deals with nursing and midwifery examinations.

- Strengthening service delivery, through reform of nursing career structures and more efficient management of nursing staff.
- Improving quality of care and nurse education.

**Process**

Institutional reforms

The State Human Resource Management Unit (SHRMU) was established by the DoHFW in 2009, to lead human resource reforms within the various health cadres. The SHRMU worked with the State Task Force to advise on and monitor the reforms undertaken, including:
• Strengthening of the Nursing Management Support Unit, to enable it to provide effective technical and managerial support to the Nursing Council, Nursing Board and DoHFW. Specific functions of the NMSU include:
  o a primary role supporting the Nursing Council in its regulation of the quality of education, particularly providing guidance for the management of new nurse education institutions.
  o writing proposals on nursing reforms
  o coordinating the activities of different bodies within nursing
  o supporting inspection and accreditation
  o ensuring efficient management of public and public private partnership projects
  o monitoring
  o facilitating transfer of skills between the various sections of nursing management, ultimately to make the system competent to manage all activities

• Realignment of the authority of the Nursing Council and Nursing Board and strengthening these institutions to make them truly autonomous and effective

• Establishment of effective administrative mechanisms for handling nurse human resource issues and enhancing equity within the nursing profession.

Service delivery reforms

A desk review was undertaken to analyse the existing situation, and meetings were held with nursing staff to discuss their issues. Based on the findings, a Nursing Restructuring Proposal was developed and is currently being reviewed by the DoHFW. This provides for an independent Nursing Directorate under the DoHFW and improved rules for recruitment and employment conditions (salaries, allowances, contracts, maternity leave and retirement age), with more professional development and promotion avenues. Increases in the sanctioned strength of all categories of nurse are proposed, with recruitment of over 6,000 additional staff nurses. Executable plans have been developed for improving the physical infrastructure of nursing schools and colleges and increasing their numbers. To date, skilled birth attendance training has been provided to 7,000 nurses, and frontline providers have received training in medical equipment usage and maintenance.

Improving quality

Systems for regulating the quality of nursing education through the Nursing Council are being upgraded, including vetting of private institutions. Quality of care studies have been undertaken in 32 district hospitals and actions initiated to address the shortcomings found. The DoHFW is working with national and international agencies to develop and promote courses and visits that expose faculty nurses and tutors to the latest trends and techniques, to ensure teaching remains up to date.

Impact

The NMSU is now fully functional in supporting the Nursing Board, Council and Directorate. It prepares three-year micro-plans, which are approved by the department, the latest covering the period 2012 to 2015.

The immediate impact of the package of reforms is improved quality of care, the result of higher morale and self-esteem amongst nursing staff, due to improved management, more efficient institutional structures and more appropriate regulations. Quality of care will be further improved as more nurses are recruited into health institutions to fill additional sanctioned posts created. Over time it is expected that more educated young women will take up a career in nursing, as conditions and opportunities are seen to have improved. The quality of care they provide will be enhanced as a result of better nursing education and training, particularly in maternal and child health.

Next steps

Plans will be further developed and activities continued under the Nursing Restructuring Proposal, to further enhance the employment conditions of nurses and number of sanctioned posts. A comprehensive database is proposed for all nursing personnel, to support major human resource management functions such as recruitment, training, placement and promotion.
Modernising Public Health Services: An IT Roadmap and e-Governance Plan

Highlights

To improve the delivery of public health services, the Department of Health and Family Welfare has developed an IT roadmap and supported implementation of around 20 IT and e-governance innovations. Areas covered include programme management, construction monitoring, finance, procurement, human resource management, telemedicine, blood bank monitoring and hospital information management. This has increased access to accurate information, resulting in improved planning and decision making, more streamlined systems and increased transparency. Plans are being developed to expand and link the various systems and improve their effectiveness.

Current Status

Specific IT innovations currently being implemented in the health sector are:

- **e-Blood Bank**: Stores data about blood collected and in stock, using a bar code system for efficient handling and use within optimal storage dates. Information about blood stocks is accessible to health facilities and citizens across the state, particularly for rare blood groups.

- **Odisha Health Workforce Information System**: Provides a complete service record of government doctors, with personal and professional profiles, to support rational posting and transfer.

- **Human Resource Management Information System**: Captures all information related to staff working under all types of contract with the National Rural Health Mission, including a GIS facility for employee tracking; it facilitates human resource planning and management, including contract renewal, performance appraisal, leave and remuneration.

- **Mother and Child Tracking System**: Specifically monitors services provided to all pregnant women and children, supporting efforts to reduce maternal and infant mortalities.

- **First Referral Unit Monitoring System**: A web based system that automates recording of obstetric services provided at the units, tracking admissions, discharges, maternal and infant mortalities and generating management information of various types; it has been piloted in one district hospital and will support standardisation of reporting and improved service delivery.

- **Odisha State Malaria Information System**: A web based application for storage, analysis and reporting of epidemiological data for malaria, to support strategic planning; it tracks outbreaks, identifies high risk areas and assesses the status of five malaria surveillance indicators.

Context

The Odisha Modernising Government Initiative was developed in line with the Government of Odisha e-governance plan, with the goal of improving the delivery of public services. The project supports government departments to develop their own IT roadmap and e-governance action plan to enhance the transparency and accountability of activities. As part of its drive to provide equitable access to quality health care services, the Department of Health and Family Welfare (DoHFW) is working on various e-governance and Information Technology (IT) initiatives to strengthen monitoring and evaluation processes, improve decision making and reporting and make health services more client centred and accountable.

In 2009 a scoping study was conducted across all seven directorates of the department and three government medical colleges, to identify areas for IT intervention and assess the scope and potential for scaling up and integration of activities as part of an overall departmental IT strategy. Around 20 IT applications have been developed and implemented, and more are in the pipeline.
• **Routine Immunisation Management System**: Data on immunisation, vaccine supply and storage is entered from the districts and available for monitoring and planning purposes.

• **Odisha Vaccine Logistics Management System**: A cold chain logistics system that supports management of vaccine storage at the required temperatures.

• **Contraceptive Logistics Management Information System**: A mobile phone SMS system for strengthening and streamlining the contraceptives supply chain, to ensure regular supplies as needed and to support effective decision making; no computer is required.

• **Drug Inventory Management System**: Implemented in 30 district headquarter hospitals and three medical colleges as a quality control, warehouse information and order processing system, to facilitate drug forecasting and budget utilisation.

• **Drug Testing and Data Management System**: A software tool that automates the work of the State Drugs Testing and Research Laboratory, from the point of registration of a sample, through testing to generation of the report (available online) and disposal of the remnants.

• **e-Swasthya Nirman**: A web-enabled system that tracks the physical and financial progress of all construction activities, undertaken by the National Rural Health Mission within the state to facilitate regular monitoring and decision making.

• **e–Sanjog**: A GPS based system for tracking the location and movements of Mobile Health Unit vehicles, which has been piloted in one district; it will support faster access to vehicles in an emergency and monitor fuel use, mileage and speeds, to ensure proper deployment of vehicles.

• **e-Attendance**: Introduced in 32 district headquarter hospitals to monitor the attendance of employees at the workplace, absences and leave balance, through attendance logs linked to a central server; there are plans to link this with salaries.

• **Grievance Redressal System for Janani Sishu Suraksha Karyakram (JSSK)**: Enables registration of feedback from citizens related to the scheme, based on a free multi-lingual telephone system with web interface and SMS/ fax modem; numbered records of all grievances registered are stored, directed to the correct place and tracked, and complainants can access information about their status.

• **Integrated Training and Evaluation Management System**: Provides up to date information on staff training, availability of training and reporting materials, technical information and financing for training, supporting good management of training activities across the state.

• **Mission Connect**: Provides post-paid SIM cards for designated field staff, to improve communications and services, especially during emergencies and epidemics.

• **Telemedicine**: Supports delivery of health services in remote inaccessible areas that have no services or very limited services; district and state level hospitals are linked through the state telemedicine network to a national level specialty academic medical institution in Lucknow, enabling patients with complicated problems to access high quality care, as local health workers can discuss diagnosis and treatment regimes with specialists, using computerised records.

• **Health Management Information System**: Captures and stores public health data from health facilities, including utilisation of key services such as antenatal and postnatal care, immunisation, family planning, laboratory testing and deaths.

• **Dashboard Monitoring System**: A web based monitoring tool that captures key Integrated Child Development Service indicators and provides multi-form Management Information System reports; this supports improved monitoring processes and evidence based decision making.

• **Hardware Setup Data Centre**: A server that caters for the needs of IT applications across the department, with over three TB of storage space and high technology facilities.
Impact

The applications listed above have contributed to significant improvements in the accessibility of accurate information at all levels of the health sector, supporting better planning and decision making and increased transparency. There are plans to expand many of these innovations and to increase linkages, thus enhancing their effectiveness and further streamlining systems.

Next Steps

Building on the hardware and software infrastructure developed, the DoHFW plans to further enhance the provision of citizen centred e-governance services. Additional innovations currently being introduced are:

- Hospital Automation System: Capturing information related to inpatient and outpatient services, such as laboratory testing, diet provision, drugs supply and use; this is being piloted at the District Headquarter Hospital, Puri
- Drugs Warehouse Management Application: To standardise and improve management of drugs storage and supply
- Goan Kalyan Samiti (GKS) Monitoring Systems: Will facilitate sharing of good practices among GKS and identification of gaps and provision of support for those not functioning optimally
- Clinical Establishment Registration and Renewal Monitoring System: Will enable the department to keep track of all registered institutions and monitor standards
- Project Implementation Plan Monitoring System: Providing a standardised monitoring system for planned project activities.
Procurement of Drugs and Equipment: Optimising Use of Public Health Resources

**Highlights**

A comprehensive reform strategy addresses critical issues in the procurement and distribution of drugs and equipment within the public health sector. Reforms include:

- State Equipment Management Unit established and three regional units
- Comprehensive procurement manual, standardised bidding documents, procurement and equipment maintenance guidelines
- Senior procurement professionals hired; facility staff trained in procurement and equipment maintenance
- Improved state and district level warehousing facilities; updated inventory management software
- Budget allocation for drugs increased from Rs.5 per capita to over Rs.24.

**Context**

Under the Odisha Health Sector Plan, a comprehensive reform strategy was developed to address issues affecting procurement and management of drugs and equipment for the public health sector, which were recognised as significant constraints to provision of quality health services and effective use of available resources. Services were affected by frequent breakdown of equipment or lack of the required equipment (which may have been lying unused in another facility), shortages of drugs, shortages of skilled staff and poor infrastructural support. Critical issues are grouped under five categories:

1. Institutional framework: The efficiency of procurement and distribution processes was constrained by the lack of an independent procurement agency for the health sector and absence of any organisational structure or plan for management of medical equipment.

2. Legal framework: Legal provisions had not kept pace with changes in technology, treatment regimes and requirements for transparency and accountability. Generic laws governing public procurement often failed to address specific issues of health system needs or ensure fair, competitive and transparent procurement of quality goods with optimal use of limited resources.

3. Human resources: Lack of personnel with the required specialised training and skills in management of procurement, equipment maintenance and drugs testing was a serious constraint, further exacerbated by high staff turnover.

4. Infrastructure: Inadequate storage facilities at state and district levels compromised the quality of drugs, many of which require specialised and controlled storage environments. Lack of testing facilities made it difficult to monitor the quality and state of preservation of the drugs, and the outdated (1998) IT system for inventory and supply chain management was unable to ensure a consistent supply of the right drugs and equipment where and when needed.

5. Budget: Low budget allocations for public health sector drugs (Rs.5 per capita in 2007/08, compared with around Rs.30 in more progressive states) means client out of pocket spending on drugs in Odisha is among the highest in India, as prescribed drugs are frequently not available in health facilities, forcing patients to purchase them at commercial pharmacies.

**Process**

A holistic procurement and equipment management reform strategy addressed all five categories simultaneously, since it was recognised that addressing one issue alone, however critical, would not lead to the systemic improvements desired.
1. **Institutional framework:** In 2009 the Department of Health and Family Welfare (DoHFW) established the State Equipment Management Unit (SEMU) to improve management of public health equipment (maintenance and quality of procurement). The state level team of 22 staff, is responsible for ensuring efficient functioning of the unit and operation of the central equipment workshop. The SEMU was further strengthened in 2011, when three regional units were set up in the three government medical colleges, each of which has its own maintenance cell. Maintenance committees of primary users and operators at facilities ensure routine preventive maintenance. A proposal for establishment of an independent procurement entity for drugs and equipment has been cleared by the department and is pending for Cabinet approval.

2. **Legal framework:** Bidding documents for various goods and services have been standardised and process standards adopted, based on best practice. A comprehensive procurement manual has been developed, based on best practice (including examples from other states), and the Finance Department has issued procurement guidelines. New comprehensive equipment maintenance guidelines are being implemented through the SEMU. A new and more rigorous quality assurance protocol has been developed.

3. **Human resources:** Senior procurement professionals have been hired to enhance the capacity of the DoHFW and training on quality assurance of drugs provided to more than 70 store pharmacists and drug inspectors across the State. Training in first line maintenance of common equipment has been provided to more than 50 frontline operators.

4. **Infrastructure:** Warehousing has been improved through renovation or reconstruction in all 30 districts, based on standard designs with specified equipment. An extensive central warehouse with advanced facilities is almost completed. An agency has been contracted to upgrade the inventory management software, to include connection with warehouses down to block level.

5. **Budget:** Based on comparison with other states, the budget allocated for drugs has been greatly increased, from Rs.5 per capita to over Rs.24, reducing the need for external supplementation and increasing the sustainability of financial planning.

- Total of 298 complaints attended to, out of 371 registered up to 31st December 2011
- Total of 579 items of equipment repaired on-site and made functional, including X-ray machine, radiant warmer, operation theatre light, blood storage unit, multi-para monitor, phototherapy unit
- Equipment inventory for district headquarter hospitals completed.
- Preventive maintenance guidelines for common hospital equipment developed for end users.
- Training on preventive maintenance conducted in two batches for more than 70 persons involved in operation and maintenance, including bio-medical engineers, operators and senior nurses.

In addition to the specific changes achieved, the reform strategy has been successful in creating an environment for increased buy-in to reform among health authorities, as the benefits of changes have been recognised. In a relatively short period of time, procurement and supply processes have been radically improved, made more rational and better able to support quality health services at facility level.

**Next Steps**

Further initiatives are still ongoing and planned, including additional warehouse construction, currently in process in 70 blocks and planned to cover all blocks within the next three years, and workshop upgrading at central, regional and medical college levels. There are plans to appoint pharmacists at block level to monitor flow of drug supplies at this level. Further training will be provided for facility level staff to carry out our routine preventive maintenance. Online web-enabled equipment inventory software is planned to facilitate more efficient management.

The reforms to central systems and legal and institutional frameworks provide a foundation for further improvements. Creation of a proposed independent procurement entity (if approved by Cabinet), of which the SEMU and the State Drugs Management Unit will ultimately become part, will act as a major impetus for improved health care and reduction of out of pocket expenditure for the poor and marginalised populations.
Nutrition Operation Plan: A Strategic Approach

Highlights

In 2010 the Department of Women and Child Development began implementing a Nutrition Operational Plan to address the high levels of under-nutrition among children across the State, particularly in 15 high burden districts. Strategies include strengthening of state systems and nutrition service delivery, decentralised planning, community participation, result based monitoring, interdepartmental convergence and integrated BCC. Progress can be seen against key indicators, such as levels of immediate and exclusive breast feeding, complementary feeding at six months and immunisation, attributable to NOP inputs complementing other interventions.

Table 1 : Key Child Nutrition Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>NFHS 2 Odisha</th>
<th>NFHS 3 Odisha</th>
<th>NFHS 3 India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-35 months Underweight</td>
<td>50.3</td>
<td>39.5</td>
<td>40.4</td>
</tr>
<tr>
<td>0-35 months Stunted</td>
<td>49.1</td>
<td>43.9</td>
<td>44.9</td>
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<tr>
<td>0-35 months Wasted</td>
<td>29.7</td>
<td>23.7</td>
<td>22.9</td>
</tr>
<tr>
<td>6-35 months Exclusively Breastfed</td>
<td>20.7</td>
<td>42.6</td>
<td>NA</td>
</tr>
<tr>
<td>12-23 months received all basic vaccination</td>
<td>43.7</td>
<td>51.8</td>
<td>43.5</td>
</tr>
<tr>
<td>6-35 months have any Anaemia</td>
<td>72.3</td>
<td>74.1</td>
<td>78.9</td>
</tr>
<tr>
<td>12 -35 months received Vitamin A (last 6 months)</td>
<td>26.4</td>
<td>29.5</td>
<td>24.8</td>
</tr>
</tbody>
</table>

Context

Despite improvements in overall child nutrition status in Odisha in the last seven years, still 40% and 44% of children below age three years are underweight and stunted respectively. Under-nutrition is a key factor in child development, maternal health and productivity, with effects spreading into future generations, as under nourished mothers give birth to underweight babies who become underweight adults who in turn have underweight babies. The inter-related effects of poverty, insufficient access to the required quantity and quality of food, inadequate breastfeeding and complementary feeding practices, and exposure and vulnerability to infectious disease often lead to nutrient deficiencies, retarded growth, delayed development, illness and even death, particularly during the first two years of life.

Data from NFHS-3 indicated that numerous schemes to address high infant and under-five mortalities, by increasing outreach coverage through Anganwadi Centres, had not achieved the results expected. It was decided that an innovative strategy was needed to address major factors contributing to preventable deaths of children under two years old, as this was increasingly recognised as a particularly vulnerable and important period in a child’s life.

“Pregnancy to age 24 months is the critical window of opportunity for delivery of nutrition interventions. If proper nutrition interventions are not delivered to children before the age of 24 months, they could suffer irreversible damage into their adult life and into subsequent generations” - The Lancet Series on Maternal and Child Under-nutrition.
Process

To improve nutritional outcomes for children below six years, especially from the poorest and most disadvantaged families, the Department of Women and Child Development (DWCD) launched an integrated Nutrition Operational Plan (NOP), based on evidence from desk reviews, field study and consultations with key government officials, external experts and development partners. The plan was reviewed by a high level Nutrition Advisory Committee and approved by Government of Odisha. Implementation began in 2010 to strengthen state systems and undertake intensive activities in 15 high burden districts, specifically targeting children under two years, adolescent girls and pregnant women.

The NOP goal is to achieve maximum nutritional health for all children below six years of age, especially from the poorest and most disadvantaged groups, through effective inter-sectoral coordination.

The objective is to reduce malnutrition among children, with particular focus on scheduled tribes, by decreasing the number of:

- Children who are underweight: from 41% to 25%, with a reduction of 3.5% every year
- Children who are stunted: from 45% to 35% with a reduction of 2.5% every year
- Children who are wasted: from 20% to 10% with a reduction of 2.5% every year.

Five Principles of the NOP

1. Targeting the most vulnerable
2. Flexibility in developing plans based on area specific needs
3. Evidence and outcome based plan
4. Stronger convergence with line departments, especially health
5. Strong monitoring and result based framework.

The NOP has eight strategies:

1. Strengthening institutional arrangements for improved access and utilisation of Integrated Child Development Services (ICDS)
2. Decentralised planning at district level, based on identified block priorities
3. Ensuring community participation in planning, implementation and monitoring
4. Strengthening service delivery for nutrition
5. Result based monitoring and evaluation
6. Early childhood education
7. Interdepartmental convergence

A Nutrition Baseline Survey was conducted between September 2010 to March 2011 in 15 high burden and five non-high burden districts, to set targets and benchmarks.
Management: Four thematic managers (nutrition, training, BCC, monitoring and evaluation) were placed in each of the 15 high burden districts and at state level to support and review interventions, with priority accorded to observation of Mamata Diwas, Pustikar Diwas (with improved guidelines), and fixed immunisation days. A state level task force meets regularly to review programmes and plan further actions, and common programmes are discussed at regular state level convergence meetings of the Department of Health and Family Welfare (DoHPW) and DWCD. A state Level Monitoring and Review Committee, chaired by the Chief Secretary, and a separate State Nutrition Council, chaired by the Chief Minister carry out periodic reviews.

Evidence: To identify any changes needed, assessments were carried out to review the effectiveness of mothers’ committees and levels of community involvement supporting the Anganwadi Workers (AWW) to increase programme coverage and implementation of the Adolescent Anaemia Control Programme. Concurrent Monitoring has been carried out through an independent agency, to provide independent feedback on health, nutrition and sanitation service provision, utilisation and outcomes. A Malaria and Malnutrition Workshop was organised to review available evidence on the causal role of malaria in childhood malnutrition. Interventions related to children under two years are mapped locally to assist tracking.

Communications: Activities include message telecasting (in Doordarshan and All India Radio), newspaper articles, village rallies, wall paintings, recipes, quizzes, slogan competitions and exhibitions to increase awareness among communities about hygiene and nutrition. Events such as Breast Feeding Week, Nutrition Week and ICDS Week are celebrated locally to further increase knowledge about healthy feeding practices. Supplementary feeding activities through AWWs also involve members and local councillors as joint account holders.

Capacity building: Various training programmes have been initiated, including computer training for district and project staff; WHO Growth Standard Training for AWWs; Adolescent Anaemia Control Programme training for AWWs, supervisors and Child Development Project officers; training for self help groups on preparation of quality take home rations and morning snacks.

Impact

The Nutrition Baseline Survey report shows early positive trends against some of the major indicators, as shown in Table 2. This supports the importance of continuing and building on NOP activities, complementing other nutrition interventions.

### Next Steps

- Strengthening the Programme Management Unit, with additional human resources for Mahila Vikas Samabaya Nigam (MVSN)
- Strengthening procurement and finance management
- Strengthening human resource management and increasing promotional avenues for staff
- Upgrading the Home Economics Training Centre (HETC) as a State Institute of Nutrition and Training Policy
- Generating evidence for programme planning
- Piloting community based management of children with Severely Acute Malnutrition (SAM).

### Indicators

<table>
<thead>
<tr>
<th>INDICATORS</th>
<th>HBD</th>
<th>NHBD</th>
<th>DLHS III Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast Feeding within 1 hour</td>
<td>71.3</td>
<td>70.7</td>
<td>63.7</td>
</tr>
<tr>
<td>Exclusive Breast Feeding</td>
<td>57.8</td>
<td>64.9</td>
<td>42.3</td>
</tr>
<tr>
<td>Fed Codostrum</td>
<td>78.6</td>
<td>83.4</td>
<td></td>
</tr>
<tr>
<td>Initiation of Complementary Feeding by 6 moths</td>
<td>84.5</td>
<td>78.9</td>
<td>59.9</td>
</tr>
<tr>
<td>Fully Immunized</td>
<td>65.9</td>
<td>69.7</td>
<td>61</td>
</tr>
<tr>
<td>Reporting at least 1 dose of Vitamin A</td>
<td>83.6</td>
<td>79.5</td>
<td>71.2</td>
</tr>
</tbody>
</table>
Communications: An Integrated Approach to Promoting Positive Health

Highlights
As part of restructuring and reform under OHSP, health communication adopted a three-pronged integrated BCC strategy based on: institutional strengthening, evidence based planning and innovative campaigns to improve health seeking behaviour.

- Formation of a Centre of Excellence for Communication within the SIHFW, as a model communication management institute, and district level BCC cells in all 30 districts
- Formative research, such as the Information Need Assessment in Tribal Districts
- Consultative message and material development workshops
- Development of clear guidelines for implementation and monitoring
- Establishment of a web based information materials warehouse and e-training repository
- Provision of training and sensitisation at community level
- Engagement with traditional folk media troupes and partnerships with other media divisions
- Various innovative BCC campaigns

Context
Improving health outcomes, especially among the marginalised and vulnerable groups who form more than 60% of the total population, depends on people knowing about the services to which they are entitled and where they can access them. Effective health communication will increase demand for services and encourage the health seeking behaviour (preventive and curative) of individuals and communities.

Recognising this, the Government of Odisha established the State Institute of Health and Family Welfare (SIHFW) as a directorate within the Department of Health and Family Welfare (DoHFW) and a node for Behaviour Change Communication (BCC) initiatives and training.

Communication initiatives in Odisha need to be designed to overcome the particular challenges of reaching populations in remote and underserved areas, where education levels may be low and access to the media and transport linkages are limited. To assist development of the clear and targeted communications strategies required, a programme of institutional strengthening was begun. As part of this, under the Odisha Health Sector Plan (OHSP) and with assistance from the DFID Technical Management and Support Team, a Centre of Excellence for Communications was established within SIHFW in 2008/09, to take the lead in enhancing the quality of communication initiatives, promote a more integrated approach and foster collaboration between DoHFW and other key departments, such as Women and Child Development and Rural Development.

Process
BCC programme planning in Odisha is evidence based, using formative research, tracking indicators and programme consultation. Standardised messages and materials are developed with programme managers and a creative team at consultative workshops, and are then pre-tested. The process is managed by the Centre of Excellence at SIHFW, including collaboration with development partners, communication institutes, media houses and other stakeholders. Careful and comprehensive planning is an essential aspect of the implementation of BCC activities, involving BCC task managers at different levels and programme management units set up under the National Rural Health Mission (NRHM). District level activities are supplemented by mass media initiatives undertaken at the state level. Of particular importance has been the development of integrated BCC programmes at both state and district levels, as an efficient and effective way of creating awareness among communities about different health issues and services, and promoting a more holistic understanding of appropriate health seeking behaviours.

Examples of key activities undertaken in the period 2010 to 2012 are:

- **Swasthya Kantha Campaign**: A health wall set aside in every GKS village functions as an information notice board, with the objective of improving health practices and knowledge about entitlement to services among communities. A state wide, integrated 52-week multimedia BCC campaign through radio, television, interpersonal communication and community media was jointly organised by NRHM and SIHFW, launched by the Hon’ble Chief Minister in January 2011.
Suno Bhouni - Listen Sisters: This campaign empowers self-help groups in all 47,000 villages across the State to deliver health and nutrition related messages. An interpersonal communication kit is supplied, comprising leaflets, flipbooks, flashcards and other materials, complementing existing radio and television programmes and posters available from the Swasthya Kantha Campaign.

Swasthya Samachar: A Panchayati Raj newsletter is sent to Panchayati Raj Institution members, with content planned and designed by DoHFW and printing and distribution handled by the Panchayati Raj Department.

Village Contact Drive: This social mobilisation campaign supplements Swasthya Kantha in “media dark” areas, which have limited or no access to mainstream media. It is a public private partnership between local NGOs and Mobile Health Units and consists of a day-long activity with different traditional/folk performances, centred in areas where target populations are more numerous.

Launch of Janani-Shishu Suraksha Karyakram (JSSK): This state wide media campaign was launched in November 2011 using multi-media channels to sensitize service providers and communities on health rights and entitlements under the JSSK programme, which provides free services to pregnant women, including normal deliveries and caesarean sections, and for sick newborns (up to 30 days after birth) in Government health institutions in rural areas.

Malaria Campaign: To help reduce malaria prevalence, which is high in Odisha, a strategic BCC campaign was organised in conjunction with the distribution of long lasting insecticidal bed nets, to promote their use and maintenance. The month-long BCC campaign used Nidhi Mausa (a character from the school book) as a brand ambassador, depicting him through folk show receiving and using his bed net and emphasising its importance in reducing malaria incidence. This model of combined distribution and BCC was recognised at national level as a best practice. Evaluation is ongoing to measure the impact.

Special Drive for Dengue: An awareness drive on prevention and treatment of dengue fever was carried out using extensive mass media and social mobilisation programmes in collaboration with various stakeholders. Partnerships with municipal corporations and businesses helped strengthen the drive.

Swine Flu: Mass media and mid-media were used to increase awareness among the general public about the prevention and treatment of swine flu. Local NGOs and community based organisations were involved to increase the effectiveness and coverage of information dissemination.

Gramsat Programme: This interactive programme is organised monthly through Orissa Remote Sensing Centre (satellite television) to sensitize people about BCC activities and monitor their effectiveness. A pilot of interpersonal communication training for auxiliary nurse midwives was introduced in Ganjam using SATCOM, using audio-visual interpersonal communication tools in role play, following the training of public health educator officers.

Impact
There are clear indications of improved quality of communications initiatives and materials and a wider reach, especially among underserved communities in “media dark” areas. Health issues are observed to be receiving more attention in the media and there is greater awareness about specific campaigns and interest in the issues. Specific evaluations and monitoring exercises will provide further information about the behavioural and health impacts. This has led to:
• Greater convergence between departments in planning BCC initiatives for health and health determinants
• Increased capacity of communication service providers for better communication management
• Need based, strategic communication service providers for better

NextSteps
Successful approaches will be further developed and scaled up, specifically:
• Further integration of BCC interventions on health, nutrition and hygiene practices
• Identification of key themes and messages from research evidence, such as Knowledge Attitudes and Practice studies
• Development of an integrated 52-week multi-media calendar addressing key behaviours and themes related to seasonal variations in climate and activities
• Enhancement of standard messages and materials to more effectively attract public attention, promote recall and avoid confusion
• Use of Swasthya Kantha (health information wall) in every village as a backdrop for multi-media campaigns
• Work with community led institutions to promote knowledge of entitlements and services
• Building the interpersonal communication skills of frontline workers.
Equity in Health: A Strategy for Positive Change

Highlights
To address inequities in access to and use of services by vulnerable and marginal groups in Odisha, a focused Health Equity Strategy with three-year action plan was developed, through a consultative process involving government officials, service providers, civil society organisations, development partners and marginalised groups. Following its approval in 2008/09, implementation of the strategy has significantly increased the attention to equity in planning, and institutional changes have been put in place, such as the creation of a Gender and Equity Cell in the DoHFW and appointment of a Gender and Equity Manager. As a result, equity gradients in a number of key indicators, such as under-five mortality, institutional delivery and immunisation are observed to be decreasing.

Context
Whilst Odisha has made impressive health gains over the last few years, the Infant Mortality Rate remains high, at 61 per 1,000 live births, compared with the national average of 47 in 2010 (SRS Bulletin December 2011), and the Maternal Mortality Ratio is 258 per 100,000 live births, against the all India figure of 212 for the period 2007-09 (SRS 7th July 2011). This highlights the need for continuing efforts to improve health outcomes, with attention to enhanced and equitable utilisation of quality health services. Health equity is integral to Odisha’s vision for positive health and essential to achievement of the Millennium Development Goals and the 11th Five-Year Plan goals.

Despite a range of initiatives by the Department of Health and Family Welfare (DoHFW), health seeking behaviour amongst socially and economically marginalised groups does not match that of the rest of the population, particularly in terms of utilisation of health services. Addressing this requires a focused and comprehensive approach to identify vulnerable groups and their health needs and to put measures in place to reach them.

Five guiding principles of an equity strategy to accelerate demand for and utilisation of health services and to reduce health disparities between the most disadvantaged people and rest of the population are:

1. An approach based on social determinants of health and the pursuit of convergence.
2. Putting equity at the centre of health policy and systems development.
3. Pursuing universal coverage through better targeting and greater flexibility.
4. Increased transparency and accountability.
5. Evidence and outcome based planning.

Process
To concentrate on addressing health inequities among vulnerable sections of the population a strategic framework was developed, including important new initiatives and actions to strengthen ongoing interventions, increase impact, deliver more equitable access to and use of services and improve convergence among line departments. The six thematic areas of the framework are:

1. Strengthening leadership and oversight of health equity and pursuing convergence
2. Institutionalising equity into health sector management systems
3. Delivering responsive, quality health care for women, the poor and socially excluded
4. Increasing the accountability of the health service to the poor and socially excluded
5. Strengthening the capacity of poor and excluded people to make informed choices about prevention, treatment and care, and increasing their access to services
6. Accelerating reduction in health inequity in the KBK+ districts
The Health Equity Strategy was developed through a consultative process involving different marginalised groups across the State, service providers, key government officials, representatives of civil society organisations and development partners. Evidence was sourced from reports, assessments and reviews, such as NFHS II and III, DLHS III, NSSO 61st Round, Odisha HDR 2004, RCH II MTR on Gender and Social Equity. Four additional studies were undertaken to further inform the strategy design:

1. Review of health equity
2. Analysis of health status of Odisha with specific reference to health equity
3. Study on perceptions of marginalised people about health equity in Odisha
4. Study on perceptions of service providers about health equity in Odisha

The strategy received government approval in 2008/09.

Impact

Following approval of the Health Equity Strategy, equity has become a standard part of discussions in all state level health planning and review meetings. Some of the positive outcomes are:

- The Chief Minister’s decision to fund the Mamata Scheme from the Chief Minister’s Fund, reflecting greatly increased government commitment to enhancing attention to gender and social equity
- A Gender and Equity Cell functioning within the DoHFW, with funding from the National Rural Health Mission (NRHM)
- A separate committee constituted for developing specific plans to ensure equity is fully addressed in the NRHM Programme Implementation Plan for 2011-12
- More systematic review of social and gender equity within the NRHM Programme Implementation Plan 2011-12, with a separate committee constituted for developing a specific plan to ensure equity is fully addressed
- Appointment of an Equity Advocacy Manager to provide strategic direction and facilitate interdepartmental coordination and allied activities on equity
- Completion of a series of two-day Sensitisation and Planning Workshops on Gender and Equity for district and block level service providers from health, Integrated Child Development Services and PRI representatives in all eight KBK districts.

Overall, the equity initiatives in the State, combined with health system reforms and service strengthening, have accelerated the improvement in trends of health and nutrition outcomes, with only a few exceptions.

Next Steps

- As a means of addressing the first thematic area “strengthening leadership and oversight of health equity and pursuing convergence”, a state level meeting was held to establish a cross-sector equity task force, comprising state and district level representatives from line departments, civil society organisations and development partners.
- A six month action plan has been developed by the Gender, Equity and Advocacy Cell.
- Orientations have been carried out at state level and for district health officials on postpartum care, equity advocacy and pre-conception and prenatal diagnostic techniques.

### SIGN OF DECLINING SOCIAL GRADIENT - SOME FACTS AND FIGURES

<table>
<thead>
<tr>
<th>Source</th>
<th>Under 5 Mortality</th>
<th>Infant Mortality</th>
<th>Full Immunization</th>
<th>Institutional Delivery</th>
<th>3 + ANC</th>
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<td>Boys</td>
<td>Girls</td>
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<td>ST</td>
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<td>84</td>
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<tr>
<td>Con current Monitoring</td>
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</table>
Out of Pocket Spending on Health in Odisha

**Highlights**

Out Of Pocket Spending (OOPS) on health care, which is rising in Odisha, has major poverty and equity implications, impacting disproportionately on the poorest and often causing vulnerable families to fall into acute poverty as a result of illness. Research shows that the major part of OOPS is on drugs, inpatient care in higher tier hospitals and outpatient care for chronic illness. Policy options for addressing the situation include making medicines more affordable; using RKS resources for locally controlled social protection measures, such as vouchers; further developing national social protection schemes similar to the RSBY; and improving management and oversight of existing schemes, such as regulation of drug prescription and supply.

**Context**

Globally, an estimated 100 million people are plunged into poverty every year because they have to pay directly for the health services they use at the point of delivery, including purchase of drugs and cost of transport and food, as Out Of Pocket Spending (OOPS). The situation is particularly serious in India, where market regulation and social protection measures are inadequate. In the state of Odisha, despite the dominant role of the public sector in health care provision, the total OOPS on all types of medical care is even higher than the national average.

Existing evidence shows that currently in Odisha:

- The total estimated OOPS on health care amounts to approximately 80% of total health expenditure by the state (compared with a national average of 71%)
- Medicines account for the major share of OOPS in public hospitals (73% in rural and 77% in urban areas), again higher than the national average of over 67% and 62% respectively
- About two thirds (65%) of OOPS is attributable to outpatient care, 27% to inpatient care and 3% to childbirth.

A recent study undertaken in eight districts of Odisha showed that a hospital stay entails OOPS of more than INR 1,000 per day, an outpatient visit costs around INR 180 and delivery care around INR 800.

Key issues emerging from recent evidence (PHBS 2010) are:

- The OOPS burden is disproportionately higher on users of higher tier facilities (such as district hospitals) compared with community and primary health centres for the same ailments, and on those with non-communicable diseases, which often entail regular repeat outpatient visits.
- OOPS on drugs is very high, despite increasing public subsidies. This is often due to medicines not being available at health facilities, forcing patients to purchase from a private pharmacy outside, or because doctors prescribe branded and more expensive drugs.
- OOPS on health has significant poverty and equity implications. For hospital and outpatient treatment, all users pay the same, creating a greater burden for the poor as a percentage of their incomes. This can be disastrous when major illness strikes a marginal household which has no social protection. Conversely, the burden of OOPS on childbirth is now less for poor people, as a result of targeted interventions such as the Janani Suraksha Yojana – a centrally sponsored conditional cash transfer scheme promoting institutional deliveries.
- The cumulative shocks due to chronic illness or repeated acute episodes requiring outpatient treatment are often even more catastrophic than a one-off hospital stay, even though inpatient costs are higher.

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2) Public Health Beneficiary Survey (PHBS), 2010, conducted by the Technical and Management Support Team, Odisha Health Sector Plan as part of the project titled “Review of the Public Expenditure on Health in Odisha”.
Policy Options

The 2002 State Health Policy identified serious concerns about the rising level of OOPS, which has not been stemmed by reform measures introduced to strengthen public health service delivery and provide financial protection from catastrophic spending. Apart from cash transfer schemes for delivery, the only protection of any kind against OOPS on general health care is Rastriya Swasthya Bima Yojana (RSBY), a centrally sponsored insurance scheme for poor families implemented by the Department of Labour.

The policy options available to address the situation, some of which are already being implemented on a small scale, can be grouped into five main categories:

• Make medicines more affordable for clients at public health facilities, though state sponsored or supported commercial pharmacies; streamlining governance of drug procurement and distribution (as demonstrated by the Tamil Nadu Medical Services Corporation Ltd., which aims to ensure reliable availability of essential drugs at all public health facilities); and establishing pharmacies under public private partnerships with civil society groups and cooperatives.

• Use financial resources available through the Rogi Kalyan Samities (RKS) more effectively for social protection initiatives, such as locally administered vouchers for the poor, which can be responsive to immediate needs.

• Develop social protection measures for the poor, complementing and expanding the coverage of RSBY to ensure that all those who need it can access support. This could also include launch of a state health insurance scheme.

• Improve oversight of existing schemes, to correct systemic deficiencies and ensure the schemes function as intended and are sustainable. This may be more cost effective than creating new schemes. Develop appropriate regulatory mechanisms to control irrational drug prescribing (including over-use of antibiotics) based on data collected at facilities and pharmacies.

• Treat critical ailments through the Odisha State Treatment Fund, which was established to provide financial assistance to poor patients suffering from life threatening disorders and diseases. Up to INR.3 lakh can be released as a one-time grant to the public health institution in which treatment has been/is being received.

Impact

This paper highlights the negative impact OOPS on health has on poverty and equity. The fact that this is rising, with more vulnerable families falling into poverty as a result of catastrophic health incidents, further increases the overall economic and social effects. The success of conditional cash transfer schemes, like JSY, in reducing the burden of OOPS on childbirth for poor families to less than those who are better off demonstrates how such an approach could be effectively used to reduce the negative economic and equity impacts of wider health care needs. Regulation of the cost of drugs at public health facilities and broadening available social protection measures are further potential options.

Steps Towards an Action Plan

The options outlined need to be fully discussed among key stakeholders as the basis for a tentative action plan with recommendations. This can be disseminated and debated at a state level workshop to which key persons associated with the state health sector and renowned policy analysts are invited, in order to further develop the initial paper and identify feasible options for a final action plan. This would be further refined by the Department of Health and Family Welfare, with timeline and details of support required.
Concurrent Monitoring of Village Level Health and Nutrition Services: Analysis and Feedback

**Highlights**
Concurrent monitoring was carried out in all blocks of the State over a one-year period, to supplement existing internal monitoring data available. Analysis of the findings has provided detailed information on impact indicators (maternal mortality and under-five nutrition status), service utilisation (institutional delivery, antenatal and postnatal care and immunisation); standards of care at village health facilities (AWCs and sub-centres); health awareness and behaviours among women and girls; and new WASH information. Top line findings have been shared with the DoHFW and DWCD to support decision making on further programme actions needed.

**Context**
Existing internal monitoring systems are not able to provide the high quality, objective, regularly generated data about how services are delivered; good practices and service failures, required to inform local and state level management decision making, understand the effects of new interventions and check the performance of systems. The Departments of Health and Family Welfare (DoHFW) and Women and Child Development (DWCD) therefore agreed to initiate a system of Concurrent Monitoring (CCM) in the form of regular independent feedback on service quality, utilisation and outcomes. An external agency was contracted by the Technical and Management Support Team (TMST) for the Odisha Health and Nutrition Sector Plan to carry out concurrent monitoring of village level health and nutrition services.

**Process**
A mix of quantitative and qualitative techniques was used, covering 30 blocks randomly selected each month from the total 314 blocks in the State. Within these blocks Anganwadi Centres (AWC), sub-centres and households were randomly sampled. Over a 12-month period all blocks in the state were covered, with a cumulative sample size of 41,391, including pregnant and lactating women, mothers of children aged six months to six years and adolescent girls. A range of village level health workers were interviewed and observed as they provided regular services and at health events.

**Findings**
Highlights from the detailed analysis provided are given below.

**Impact analysis**
The opportunity provided by the household interviews was used to calculate the Maternal Mortality Ratio (MMR), using the sisterhood method. Although there are limitations to this indirect method, the result of 286 deaths per 100,000 live births is close to the SRS 2007-09 estimate of 258, supporting the SRS trend of a declining MMR. Among the children aged under five years covered during the study, 39.2% were found underweight and 13.2% were severely underweight, a decline of almost 14 percentage points from the figure of 42.3% underweight found by NFHS-3. The proportion of severely underweight children was little changed. Malnutrition among scheduled tribe children was noticeably higher (48.9% underweight and 17.7% severely underweight), but reduced from earlier levels.

**Equity analysis**: CCM provided disaggregated data not available through existing internal monitoring systems, enabling equity analysis based on socio-economic characteristics. This shows evidence of progress since NFHS-3 in service utilisation by the most vulnerable scheduled caste and scheduled tribe groups, indicating that the 2009 Odisha Health Equity Strategy adopted is on the right track. The gap between utilisation of maternal and child health services by scheduled tribe women compared with all women was shown to have narrowed for four key services: antenatal care, institutional delivery, postnatal care and full immunisation. However, more detailed analysis shows wide variations between districts and even blocks within the same district, and block level maps prepared using CCM results have proved useful as a tool for discussion of vulnerable blocks, giving “red alerts” for those doing consistently less well across a number of indicators.

**KBK+ districts**: Analysis of the wealth index of the 11 KBK+ districts in the south of the State, recognised as the poorest and most vulnerable (with high levels of poverty, high proportion of scheduled tribe communities and high burdens of malaria and malnutrition) provides further evidence of the relative poverty of people in these districts. The percentage of households falling in the low wealth index (quintiles 1 and 2) is double that in other districts. However, CCM provided evidence of impressive improvements in institutional deliveries, an increase of 165% since DLHS-3, compared with 77% in non-KBK+ districts. Progress in other indicators, such as exclusive breastfeeding up to six months, has been slower, indicating a need for a greater focus on these.
Gender: Nutrition and immunisation indicators show little difference between girls and boys, which is consistent with the 2011 Nutrition Baseline Survey. The 2011 Annual Health Survey and SRS suggest gender differences are greater among urban populations, and CCM has been a mainly rural survey.

Information on WASH: CCM has provided important new baseline information on Water, Sanitation and Hygiene (WASH) indicators, which will be important for new WASH programming. For example only 17% of households are using improved sanitation, and there are stark geographic disparities (KBK+ and non KBK+). Access to an improved water source is higher, but again there are large disparities, for example only 1% of scheduled tribe households have piped water.

Public or private service: Utilisation of private sector facilities was found to be only 6%, confirming that the quality of public sector services largely determines the safety of childbirth in Odisha.

Village health facilities: Detailed information was provided about the facilities; highlights include the fact that only a quarter of AWCs have a toilet, of which only half were clean (a concern), and only 7% have piped water, which may impact on the cleanliness of toilets (90% have a tube well supply). Two thirds of women said they found the sub-centres inadequate, which is confirmed by the finding that drug supplies are unreliable, with decreased availability through the year. Formation of Gaon Kalyan Samiti (GKS), or Village Health and Sanitation Committees was good, but only a quarter of mothers were aware of their activities, suggesting the need for greater involvement of these women.

Discussion

The findings of the CCM have proved very useful in highlighting important issues related to the effectiveness of new programmes and areas that need further or different inputs. Top line findings have been shared with the departments to feed into programming decisions.

There are limitations to the methodology. The sample size is not adequate to provide statistically reliable estimates at block level on a number of indicators, and thus these results need to be interpreted with caution, however, they do act as a “red alert” if a block appears to be performing poorly across a range of indicators, indicating a need for further investigation. The sampling of blocks at different times of the year means that seasonal effects in, say births and diarrhoea episodes, may make true comparison across blocks difficult.

The findings on awareness and behaviour do not show the same social gradients as factual information, such as service utilisation, due to the greater difficulty of eliciting valid information about these issues. This has led to discussion about how to generate fuller understanding about more complex issues, such as breastfeeding and complementary feeding, for example, how to get beyond people reporting what they know to be “correct” behaviour, or being afraid to say what they really think about services, through detailed observation and careful phrasing of questions.

Way Forward

The intention is to continue CCM for the next few years, with adjustments to improve accuracy and rigor, until the internal management information systems generate regular, reliable data across all key indicators. Both the DoHFW Health Management Information System and the DWCD Monthly Progress Reports continue to be strengthened.