FINAL REPORT

On

IMR & MMR

AT

ANGUL, GAJAPATI & PURI

For

P&C DEPARTMENT, GOVT. OF ODISHA
ODISHA SECRETARIAT

By

NATIONAL PRODUCTIVITY COUNCIL

A/7, Surya Nagar, Bhubaneswar-751003

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION:

Maternal Mortality Ratio (MMR) is defined as the death of a woman during pregnancy or in the first 42 days after the birth of the child due to causes directly or indirectly linked with pregnancy (Definition: WHO).

Maternal Mortality Rate (MMR) is considered as one of the most sensitive indicators of health status of a community, as the death of a mothers has got a huge impact on the social life of the family as creates a turbulence/ disturbance on the dependent members of her family.

IMR (Infant Mortality Ratio) may be defined as the probability of dying between birth and exactly within one year of age expressed per 1,000 live births.

Similarly the IMR also has equal sensitivity factor in determining health status of a community, as reasons of death not only become an alert for the Researchers, policy makers but also the survived children may survive with lifelong debility.

In India, the proportion of institutional deliveries is low (less than 41 percent as per the National Family Health Survey III [NFHS-III]). Every seven minutes a maternal death occurs, leading to more than **77000 Indian women dying each year.** Most maternal deaths can be prevented if deliveries are attended by Skilled Birth Attendants (SBA) and administration of proper Antenatal Care (ANC) and Post-natal Care (PNC). Furthermore, institutional deliveries are encouraged for women with potential complications since home deliveries lack the time of emergency obstetric care that trained health professional in an institution can provide.

1.1 Maternal and Newborn Health in India:

- Antenatal Care (ANC) refers to pregnancy-related health care provided by a doctor or a health worker in a medical facility or at home.
- The Safe Motherhood Initiative proclaims that all pregnant women must receive basic but professional antenatal care (Harrison, 1990). Antenatal care can contribute significantly to the reduction of maternal morbidity and mortality because it also includes advice on the correct diet and the provision of iron and folic acid tablets to pregnant women, besides medical care.

- Improved nutritional status, coupled with improved antenatal care, can help to reduce the incidence of low birth weight babies and thus reduce pre-natal, neonatal, and infant mortality.
- Thus Govt. of India and the State Govt. have taken several initiatives with its various programmes like Janani Suraksha Yojana, Janani Sishu Suraksha Karyakram, Mamata, Rastriya Bal Suraksha Karyakram etc for addressing the various crucial aspects of reproductive and child health.

Table 1: Rural & Urban Health Indicator during Eleventh Plan (07-12)

Category	Crude Birth Rate (per 1000)	Crude Death Rate (per 1000)	IMR (per 1000 live births)	Prevalence of Anemia in Pregnant Women (%)
Urban	19.1	6.0	40.0	54.6
Rural	25.6	8.1	64.0	59.0
Total	23.8	7.6	58.0	57.9

As part of an effort to reduce the nation's MMR and IMR, the Government of India (GOI) has developed programmes promoting safe and healthy deliveries for pregnant women. In the present study an attempt had been made to understand the service delivery levels and status in Maternal Mortality Ratio (MMR) and Infant Mortality Rate (IMR) at Nimapara Block in Puri District, Chhendipada block of Angul district and Gumma block of Gajapati and the service delivery status by the CHC, PHC and sub centers of the respective block.

The continuing high levels of morbidity associated with pregnancy and child birth present a grim scenario of maternal health in India. It also revealed that the maternal deaths could have been prevented by the provision of early Antenatal Care (ANC), treatment of ill-health during pregnancy, timely availability of medical care and effective transport & referral service.

Post abortion complication was yet another cause of maternal death; are similar to those in several developing countries and they include excessive bleeding, infections, pregnancy related hypertension, obstructed labor and unsafe abortion. However, an overwhelming proportion of deliveries in India are usually being conducted at home, attended by untrained birth attendants. Irrespective of the cause, pregnancy complications pose a serious health risk to the fetus or newborn

as well as for the women's subsequent pregnancies. They also affect women's quality of life, fertility and productivity long after pregnancy and child birth. It therefore becomes necessary to assess and understand the status of maternal heath in the country.

2.0 OBJECTIVE OF THE STUDY:

Maternal and Infant Mortality are useful indicators, not only to capture the reproductive health status of a women & Child, but also to get an idea of the rich and adequacy of maternal health services provided to women under the National Health Mission (NHM). The objective of the study is as follows:

- To identify the issues and gaps in implementation of the schemes/ programmes for addressing the IMR & MMR.
- Identification of the service delivery gap.
- Understand the beneficiary concern and design policy for the improvement of the public service delivery.

3.0 IMR & MMR AT GUMMA, CHHENDIPADA & NIMAPARA BLOCK (BASED ON HMIS):

The trend indicates that Chhendipada block is having highest infant deaths in comparison with other two blocks (Nimapara, Gumma). But Nimapara block is having zero MMR in comparison with other two blocks (Chhendipada, Gumma)

Figure 1: Trend of IMR 2013-2015 (Gumma, Nimapara, Chhendipada)

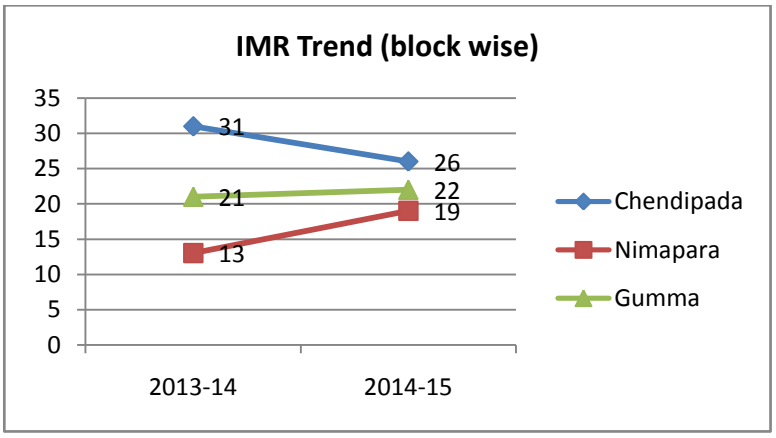
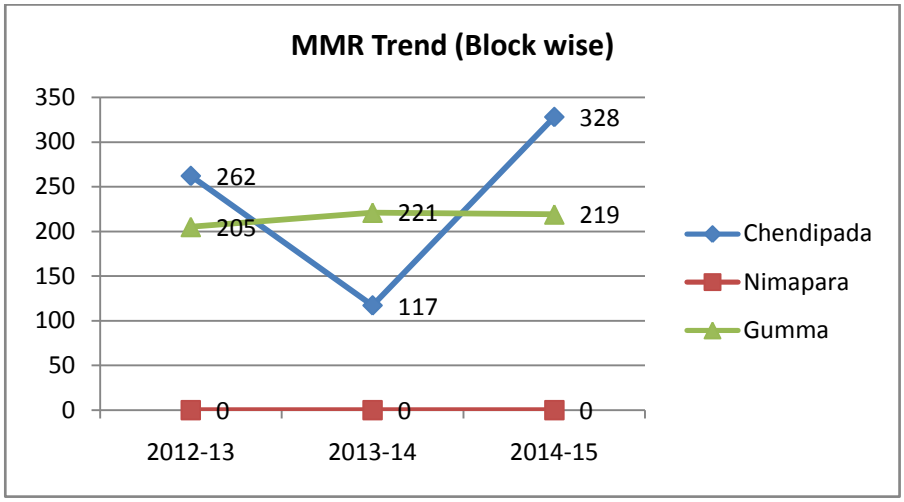


Figure 2: Trend of MMR 2012-15 (Gumma, Chhendipada & Nimapara)



The data available reveals that the level of MMR and IMR is still high. The direct estimate of MMR and IMR for the recent period is available only from Health Management Information System (HMIS).

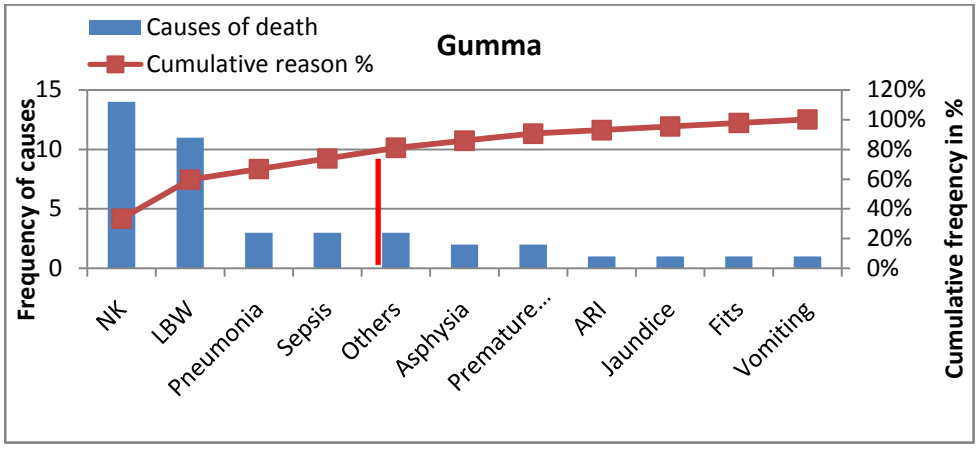
4.0 CAUSES OF IMR & MMR:

4.1 IMR:

Conventionally, it is believed that about half of infant deaths occur in neonatal period (within 28 days of birth), half of which, in turn, occur in early neonatal period (1 week). It is also believed that most health interventions help in bringing down the post neo natal mortality rates. This is because of the common causes of post neo natal deaths are “exogenous” like infections whereas the neonatal deaths are caused by “endogenous” factors. This includes low birth weight, congenital abnormalities, misinformed practices of the parents etc. Therefore, as the IMR goes down, the contribution of neonatal mortality to IMR goes up.

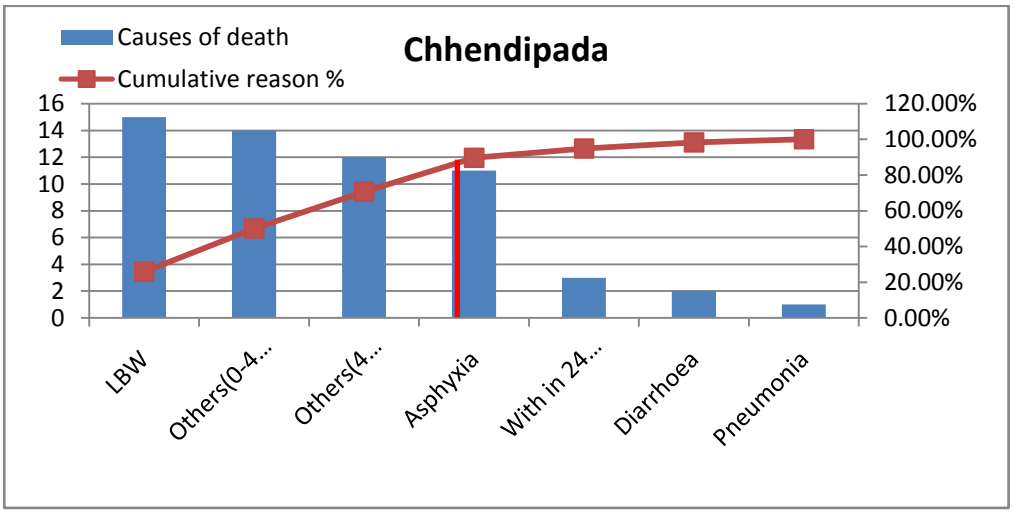
4.1.1 Pareto analysis:

Figure 3: Pareto Analysis of IMR in Gumma



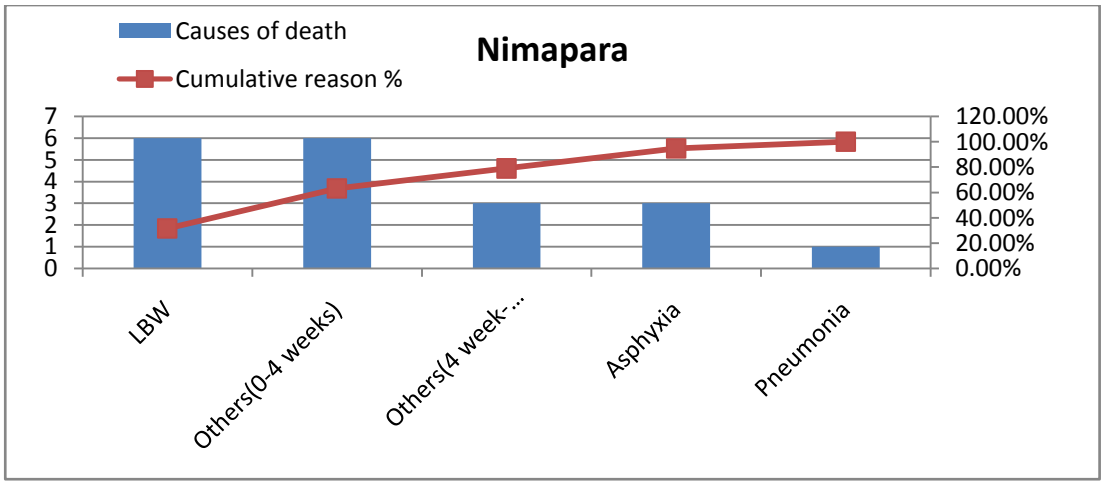
Source: HMIS data of CDMO, Gajapati

Figure 4: Pareto Analysis of IMR in Chhendipada



Source: HMIS data of CDMO, Angul

Figure 5: Figure 9: Pareto Analysis of IMR in Nimapara



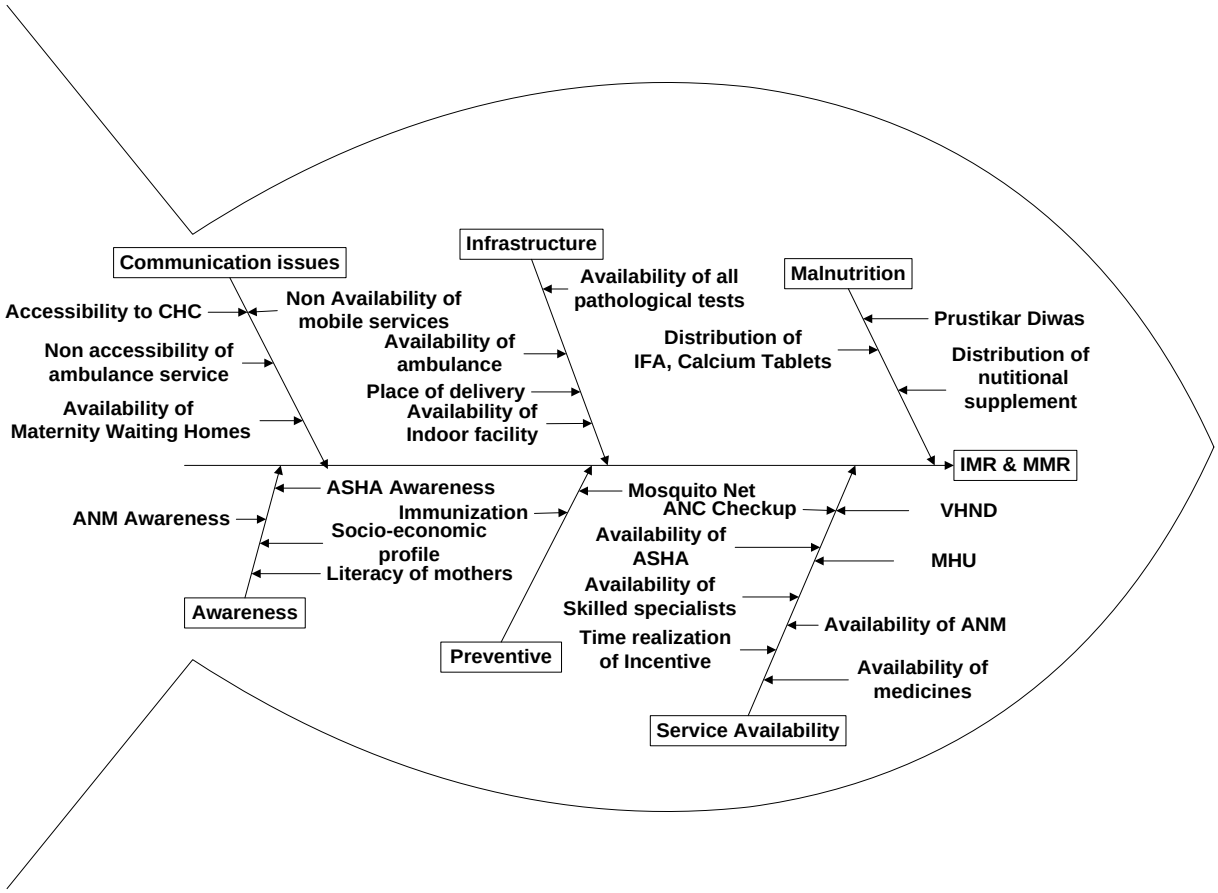
Source: HMIS data of CDMO, Puri

The most important determinant of neonatal mortality is birth weight. One of the possible reasons for infant mortality in the study area could be the high prevalence of underweight births if infants in the area. **The study in Nimapara Block of Puri district, Gumma Block of Gajapati district and Chhendipada Block of Angul district found the prevalence of higher proportion of LBW (Low birth weight) i.e.,<2500 gm as 68%, 40% & 74% respectively out of all the causes of Infant deaths**. Acute respiratory infections (ARI) and diarrhea continue to be the chief causes of post neonatal mortality. It is also possible that some other unidentified factors/ causes are responsible for the high mortality; for example; local cultural belief of bathing a new born child which causes pneumonia, non-availability antenatal and neonatal care to vulnerable locations of Gumma block, Nimapara block, Chhendipada block.

4.2 MMR:

The continuing high levels of morbidity associated with pregnancy and child birth present a grim scenario of maternal health in India. It also revealed that the maternal deaths could have been prevented by the provision of early antenatal care, treatment of ill-health during pregnancy and timely availability of medical care. Post abortion complication was yet another cause maternal death are similar to those in several developing countries and they include excessive bleeding, infections, pregnancy related hypertension, obstructed labor and unsafe abortion.

Figure 6: Cause and effect diagram of IMR & IMR



Anemia is a major factor contributing to the high Maternal Mortality Rate (MMR) as well as prenatal mortality rate (death of fetus after seven months of pregnancy or within seven days of delivery). The two known major reasons for high MMR are high blood pressure (biggest cause) and bleeding before or after delivery. MMR can also be due to Ante Partum Hemorrhage (APH) or bleeding before delivery (from week 28 to just before delivery), or due to the post-partum hemorrhage (PPH), which is bleeding during and after delivery. Unfortunately, APH generally leads to PPH too, and death can result in the absence of blood transfusion or timely treatment, thus accounting for overall high MMR.

4.3 SERVICE DELIVERY CHANNELS/ POINTS:

4.3.1 Nimapara Block:

Nimapara Block has 2 nos. of CHCs, one at the Block Head Quarter i.e. at Nimapara and the other at the Charichhak. At present there are 4 nos. of Primary Health Centers (PHCs) under Charichhak CHC, each catering to about populations of 56,000. Each PHC has eight nos. of sub-centers, each staffed by a male and a female Multipurpose Health Worker (MPHW). Thus each team of MPHW caters to a population of about 7000.

4.3.2 Gumma Block:

At present there is 3 nos. of Primary Health Centers (PHCs) under Gumma CHC each catering for about 27000 populations. Each PHC has six sub- centers, each staffed by one male and one female multipurpose worker. Thus each team of male and female multipurpose health workers (MPHW) caters for a population of about 4500.

4.3.3 Chhendipada Block:

At present there is 4 nos. of Primary Health Centers (PHCs) under Chhendipada CHC each catering for 50000 populations. Each PHC has six sub- centers (SC), each staffed by a male and female multipurpose worker. Thus each team of male and female multipurpose health workers (MPHW) caters for a population of about 8000.

All the houses are visited alternately by the male and female worker every fortnight for the delivery of health care services including maternal and child health activities. These workers are supervised by one health assistant and one medical officer at each of the PHCs. Birth and death registration are a part of the job responsibilities of male worker. Female workers register the women in ante-natal period and follow them up till delivery. Births are registered by male workers during their domiciliary visits. Subsequently the newborn is followed up for immunization.

Similarly, the ASHA and the AWW, carry out the counseling for the pregnant mother to register under the JSY and ensure the carry out of ANC tests regularly.

The ASHA and AWW also emphasize on the institutional delivery by alluring the incentive scheme of Govt. of Odisha for institutional delivery.

The Health workers also promote the Mamata scheme of Govt. of Odisha for payment of financial incentive to the mothers during various stages of pregnancy by ensuring the timely completion of various ante natal/ post natal activities as required for the safe pregnancy of the mother.

Figure 7: Cause and effect at Nimapara block

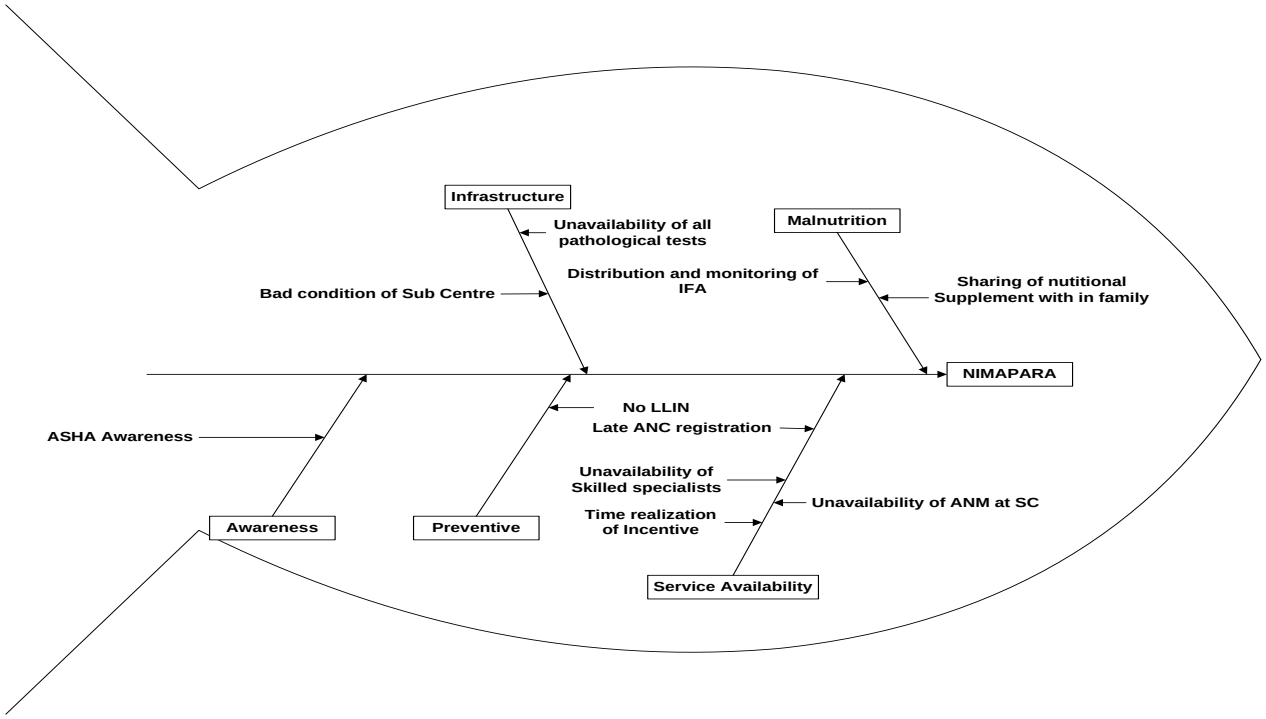


Figure 8: Cause and effect at Chhendipada block

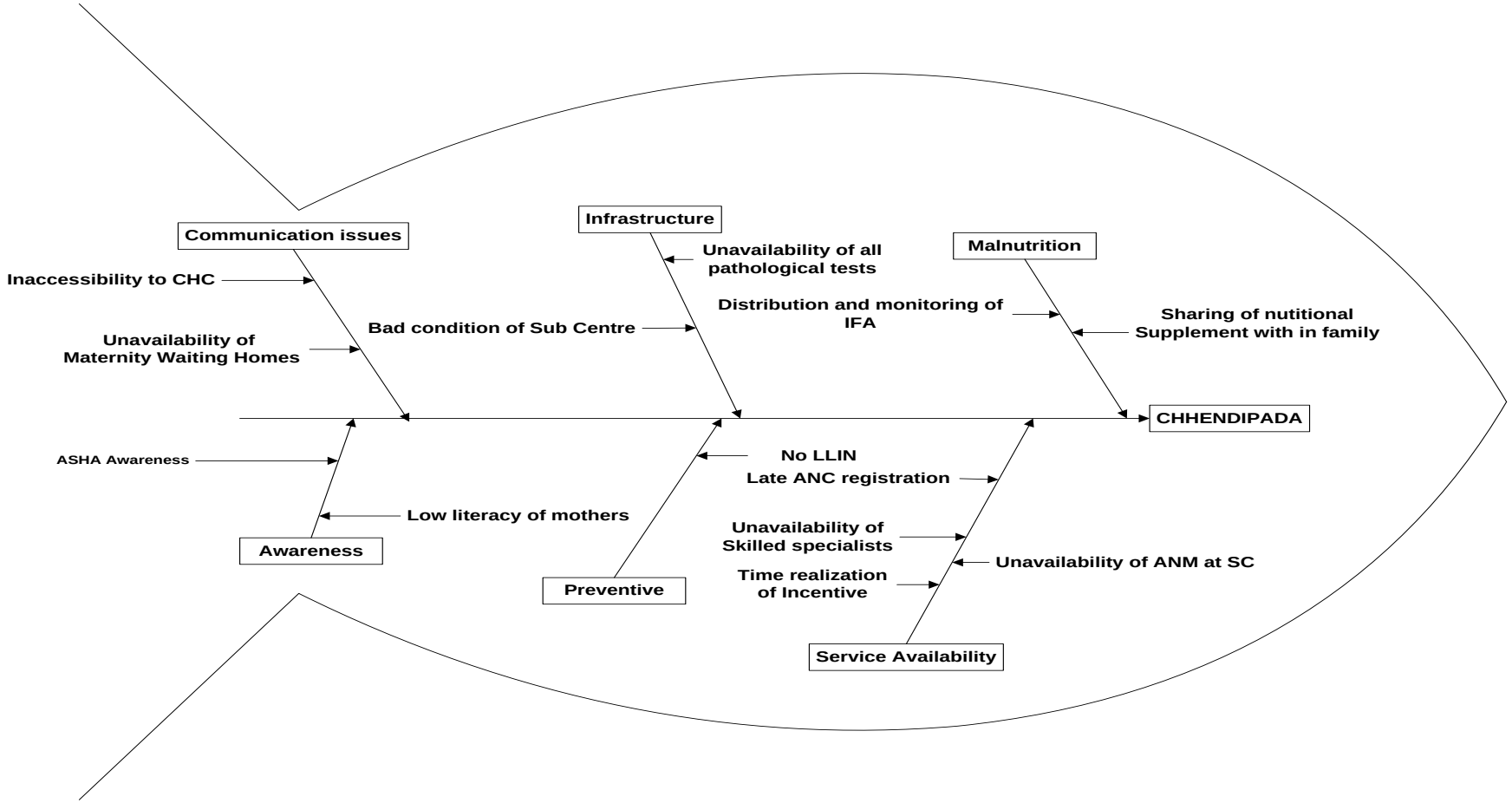
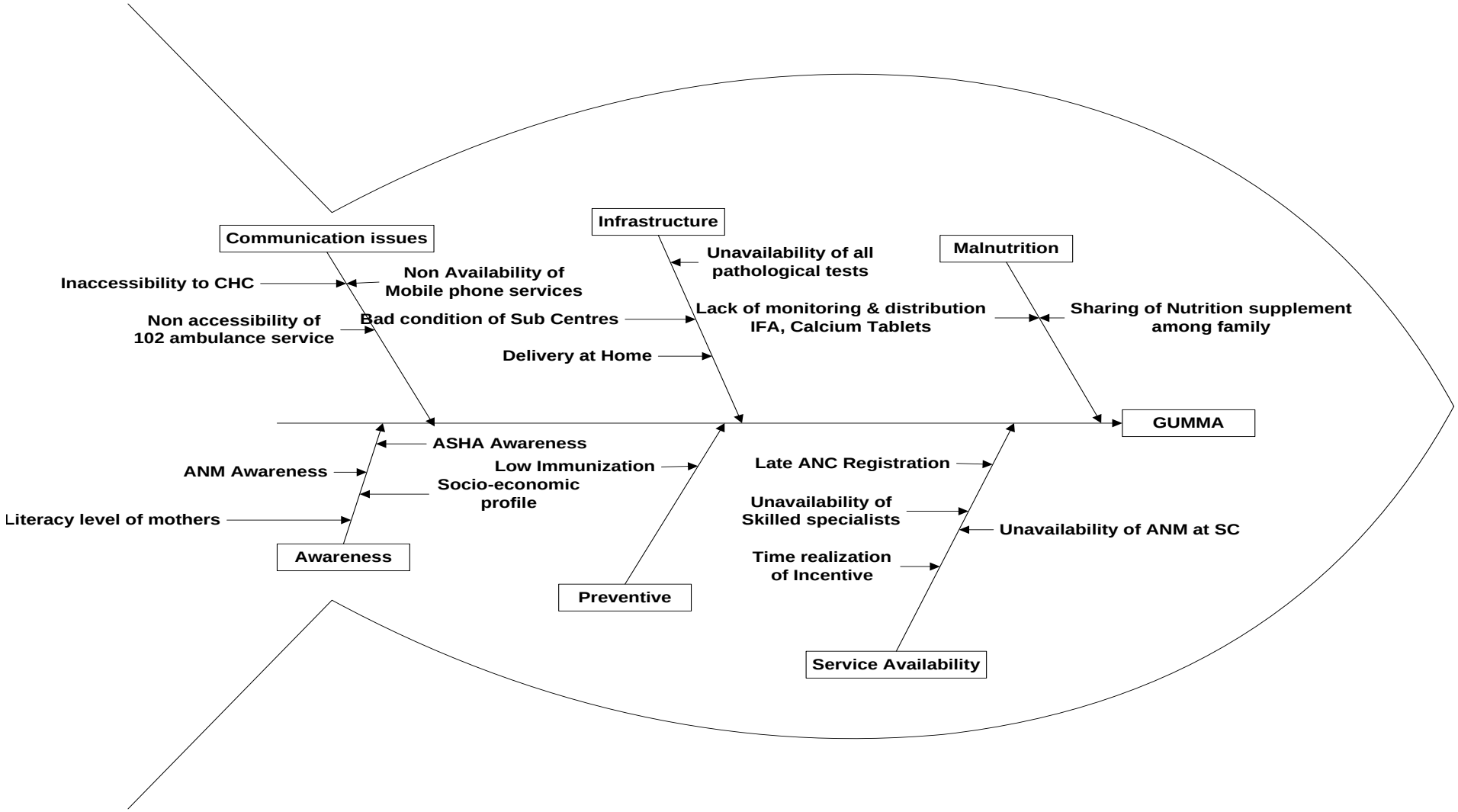
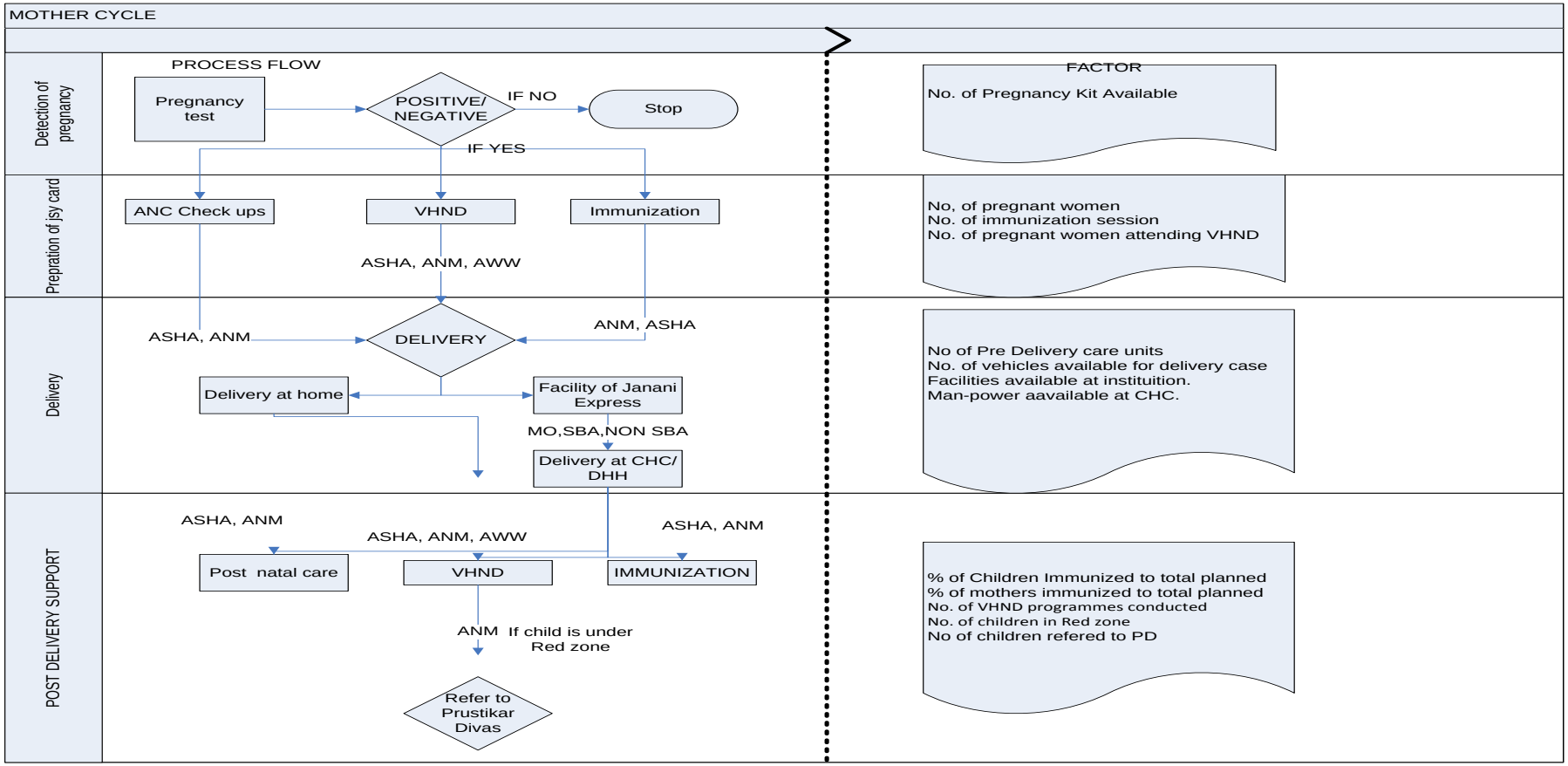


Figure 9: Cause and effect at Gumma block



4.4 SERVICE DELIVERY (PREGNANCY TO POST DELIVERY):

Figure 10: Maternity Cycle



5.0 SERVICE DELIVERY FRAMEWORK TO SCALE DOWN IMR & MMR:

5.1 Registration under Eligible Couple Register, updating of the LMP:

- Every eligible couple is registered by the ASHA and the same is regularly updated. The eligible couple register provides an insight to the ASHA and Anganwadi Worker (AWW) for regular monitoring of the Lost Menstruation Period (LMP) and in turn timely registration of the pregnant mothers under MCTS Card.
- The ASHA and ANM periodically visit every eligible couple and keep track of their menstruation period and update the same. The LMP thus provides the prospects for Pregnancy and also predicts the EDD (Expected Date of Delivery).
- SPECIFIC TO GUMMA BLOCK: Due to lack of education and/ or awareness in this tribal region, it is difficult to estimate/ assess the date of LMP as the same is not regularly informed to the ASHA, which complicates the EDD (Expected Date of Delivery) and thus provides a risk for the mother and the child for safe delivery.
- However no such MIS is regularly updated at the CHC level about the number of eligible couples and/or any such information, this leads to a gap in monitoring of the ASHA and AWW performance.
- There was found a case for conflict of interest and overlapping of effort and time spent between ASHA, ANM and AWW.
- It was observed that ANM act as a supervisor with limited visit while the local service providers, particularly the AWW and the ASHA, were carrying out the health services at ground level.
- There was incidence of ANMs staying quite some distance from the villages they are allotted/ engaged and/or appointed due to lack/ unavailability of accommodation near to the Sub Centre.

Table 2: Infrastructure Status of Sub-Centers of Sample Blocks

Gumma block	Chendipada block	Nimapara block
1 Sub centre out of 19 sub centres do not have own building. 10 sub-centres required repair and maintenance.	8 Sub centre out of 25 sub centres do not have own building, thus rest 17 nos. of sub-centres have govt. facilitated building. 11 out of the 25 SC need to be repaired, which are in dilapidated state,	20 Sub centre out of 34 sub centres do not have own building, else all other have govt. facilitated building, and most of the govt. buildings are in dilapidated state which requires an immediate repair and maintenance.

Source: (Source: Data from District Health Administration)

DILAPITAED CONDITION OF QUARTER (BAGEDIA, CHHENDIPADA)

- In all the three sample blocks under the study, it's observed that the ANM are over loaded with work due to preparation of various MIS, papers and maintenance of records.

5.2 Pregnancy Test:

- Upon identification of the irregularity in the Menstruation cycle, ASHA conduct the pregnancy tests with the pregnancy kit supplied to them.

- However, it's observed that, many of the pregnancy are not timely detected that leads to a delay in detection of pregnancy thus delays the government intervention in extending service/ support to the pregnant mother.
- It's also observed that the positive pregnant cases are tested again at the CHC level for confirmation of pregnancy.

5.3 Registration under MCTS Card/ Janani Surakhya Yojana (JSY):

- Every Pregnant woman is registered under Mother Child Tracking System (MCTS) Card, from the date of detection of pregnancy. The same entitles them to avail various services offered by the Government.
- However, it's observed during the study, due to late detection of the pregnancy, the registration under MCTS card gets delayed substantially.

5.4 ANC Checkup:

- Ante Natal Checkup (ANC) is an important preventive / periodic checkup measure for ensuring the healthiness of mother and child.
- The JSY necessitates having a minimum of 3 ANC checkups before delivery for ensuring the good health of mother and child.
- But the prerequisite for ANC checkup is the registration under JSY scheme and having the MCTS card, thus any delay in the registration there may cause irregularity in the ANC checkup of mother.
- The completion of all there ANC checkup status are 91% for Gumma Block, 95% for Nimapara Block and 100% for Chhendipada Block. **But out of which 57.12%, 74.47% & 78.81 % are registered within first trimester**. These delays in the registration cause irregularity in the ANC check up of mother. (Source: Data from District Health Administration)

5.5 Immunization to Mother:

- The pregnant mothers are immunized with the tetanus during every 3 months of their pregnancy; the same is administered during the ANC checkup.

- It has been observed that **92%, 98% and 96 %** of the mothers are immunized with TT1 from **Gumma Block, Nimapara Block and Chhendipada block** respectively. (Source: Data from District Health Administration)
- The major reason for the poor immunization is the non awareness of the mother and their unavailability at the immunization center during the day of immunization. Many of the times it's also observed that the mothers were also not aware of the immunization schedule and date.
- Also due to late / delay in the registration of the mother, certain scheduled immunization activity may skip.
- The 100% immunization is **trailing in certain parts of the Gumma block due to lack of awareness, geographical constraints and working family members**.

5.6 Distribution of IFA Tablets:

- Iron & Folic Acid (IFA) Tablet is the major supplement towards mitigation against the iron deficiency and/or anemic proneness in pregnant mothers.
- The IFA is freely distributed to the pregnant mothers and Kishori Balika by the ASHA and ANM workers.
- It has been observed during the study that IFA is regularly being distributed to every Pregnant Mother and Kishori Balika by the ASHA worker, but due to illiteracy amongst the mothers, the consumption of the same varies across region to region.
- No such MIS and/or monitoring mechanism exist to assess the distribution and consumption of the IFA by the beneficiaries in all the blocks.
- In Chhendipada block, the same is being promoted and distributed under various social schemes sponsored by the local industries.

5.7 Distribution of Calcium Tablets:

- Calcium tablets are being distributed to the pregnant women by the ASHA as part of the JSY scheme; however the same is not abundantly available either at CHC or at ASHA level.

- There is an acute shortage of Calcium Tablets to be distributed to the pregnant mothers as the stock of Calcium Tablets is stocked out for 10 months in Gumma CHC. No such issue exists in other two blocks.
- No MIS is being maintained to monitor the supply and distribution of Calcium tablets to the beneficiaries.

5.8 Distribution of Chatua and Egg: (THR)

- Distribution of Take Home Ration (THR) i.e. Chatua and Egg are primarily the responsible of the Anganwadi Worker, as per the entitlement of the mother and the child.
- It's observed that the same in being distributed to the beneficiaries as per their entitlement in line with the schedule.
- However, it's reported by the beneficiary during the study that sometimes the quality of the chatua are very poor. The same is analyzed in the **section 8.1** of the report.

5.9 Diagnosis and Tests:

- Each pregnant mother has to undergo various medical tests during the course of her pregnancy which is mandated for the better health of the mother and the child.
- Various test are also made mandated as part of the MAMATA scheme for providing financial assistance to the pregnant mothers on successful completion of the requirement under the JSY card.

5.9.1 Nimapara Block:

- Each pregnant mother has to undergo various medical tests during the course of pregnancy.
- There is provision of pathology facility at Nimapara CHC with the availability of testing laboratory conducting all tests (hemoglobin test, serum VDRL test, THPA test, HBAG CICT test, TAXO test, URINE test, Widal test).

- In most of the complicated cases the mothers had to visit the private clinics at Nimapara as the ultrasound facility is unavailable at CHC which incurs cost of Rs 700-800.
- Many mothers considered the same as a financial burden as this incurs cost towards travel and tests which varies from Rs. 2000 to 3000.

5.9.2 Gumma Block:

- Gumma CHC also do not have the necessary testing facility to carry out the tests prescribed for the pregnant mothers, and the mothers has to visit to the DHH for the same.
- Due to expenditure involved in the conveyance and transport for visiting the DHH, the family members discourage the mother to carry out the tests.
- Many tribal mothers considered the same as a financial burden as this incurs cost towards travel and tests which varies from Rs. 2000 to 3000.
- Thus the pathology tests which are mandatory for the mother to be carried out during each 3 months of pregnancy are not well appreciated by the mothers in Gumma CHC.

5.9.3 Chhendipada Block:

- However there is pathology facility available at Chhendipada CHC other than the Blood Test including HIV test, which is not charged to the mothers.
- In complicated cases, the mothers had to visit to the Private Clinic at Chhendipada and Angul to do the Ultrasound which incurs cost of Rs 500-1000 as no ultrasound facilities is available at CHC.

5.10 Delivery (Home/ Institutional):

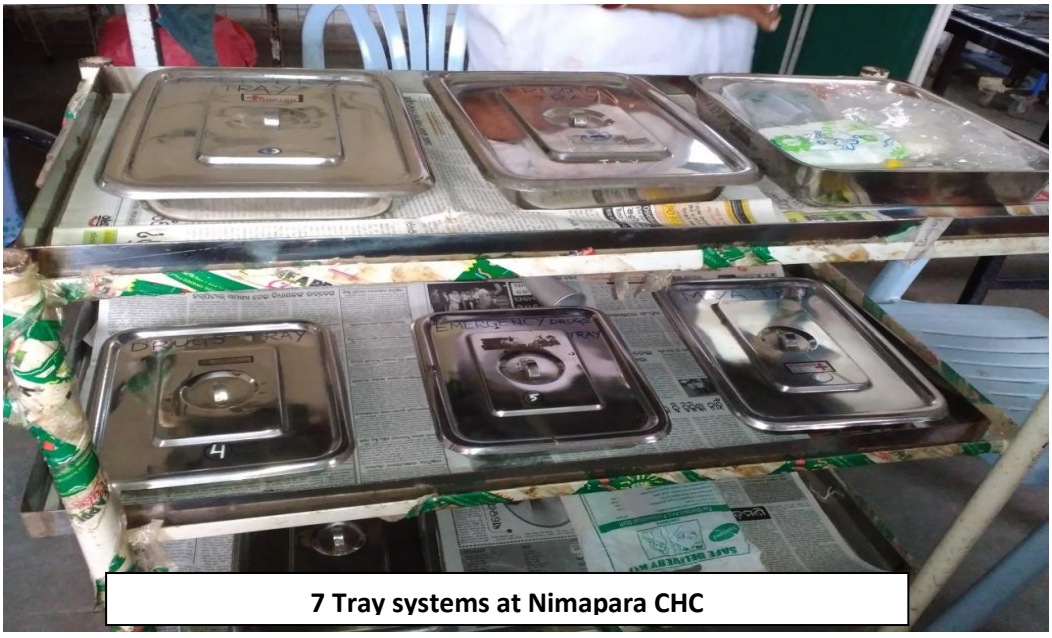
- Institutional delivery has been considered as the safest mode of delivery over the home delivery as the latter mode does not have skilled personnel or provision for emergency aid during the time of pregnancy.
- It has been seen that the risk is relatively high in home delivery as compared to the institutional delivery, so thus to promote the institutional

delivery, Govt. of Odisha has also taken initiative in introducing a financial incentive for institutional delivery both at Urban and Rural level.

- The low penetration of institutional deliveries was considered as one of the causes for the high maternal and infant mortality rates. Social norms and a range of cultural factors influence the decision on childbirth and childcare practices.

5.10.1 Nimapara Block:

- The institutional delivery is quite appreciating at Nimapara Block as 98.45% of deliveries are through institutional mode where as only 1.5% of delivery are conducted at home with the aid of non-skilled birth attendant. **(Refer: Figure 11)**
- The high incidence of institutional delivery, reportedly due to cash incentive, however there are still numbers of home delivery reported by ASHA.
- Nimapara CHC has air conditioned labor room with all equipment in systematic order. They are following a very organized process which is called 7-TRAY process. The trays are Delivery tray (for caesarean cases), Epitome tray, Baby tray (towel), Drugs tray, Emergency drugs tray, MVA tray, Safe delivery kit.



7 Tray systems at Nimapara CHC

5.10.3 Chhendipada Block:

- Institutional delivery has been considered as the safest mode of delivery over the home delivery as the earlier mode does not have skilled personnel or provision for emergency aid during the time of pregnancy.
- The institutional delivery at Chhendipada Block is also appreciating as like Nimapara Block 97 % of the delivery are though institutional mode whereas rest 3 % are done at Home with the aid of Non Skilled Birth attendant. **(Refer: Figure 11)**

Post Partum Room at Kosala CHC, Chhendipada

New Maternity ward at Jarapada PHC, Chhendipada

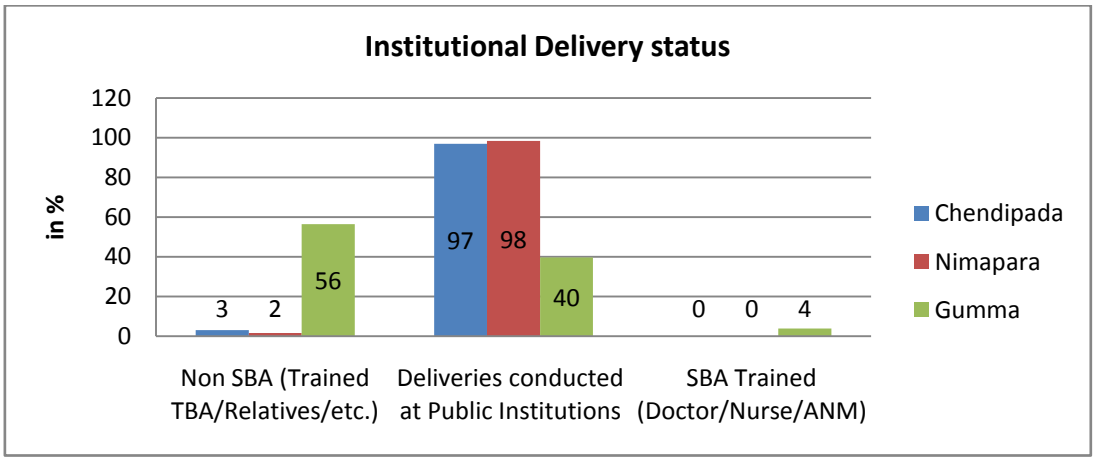
-
- The generic trend was that women with lower economic profile tends to favour having deliveries at government facilities as against those who belonged to better off households could afford private treatment.
- Chhendipada CHC and Kosala CHC have limited infrastructure and specialist. So the critical cases and caesarian deliveries are referred to the DHH due to lack of blood bank and anaethesist. Similarly, only Jarapada PHC and Nuagaon SC act as the delivery Point for facilitating child birth, but other PHCs and SCs never carry out any delivery and thus refer all the cases to CHC and/or DHH.

CORDINATED DISCUSSIONS WITH ASHA AND AWW AT NUAGAON.CHHENDIPADA

5.10.2 Gumma Block:

- Home delivery is preferred over institutional deliveries in rural areas and pregnancy is looked upon as a condition that does not require medical attention.
- The decision to seek medical advice during delivery is often delayed by the family and many times results in maternal mortality. The institutional delivery or delivery by skilled personnel plays major role in reducing MMR and IMR.
- The institutional delivery is not so appreciating at Gumma Block as only 39.73% of the delivery are though institutional mode whereas rest 61.2% are done at Home with the aid of Non Skilled Birth attendant; thus making prone to risk during delivery and post-delivery. **(Refer: Figure 11)**
- Gumma CHC also has neither infrastructure nor specialist to handle critical cases and cases pertained to caesarian delivery. The critical cases are referred to the DHH. Similarly, PHCs which are also the delivery Point for facilitating child birth have never carry out any delivery due to non availability of proper infrastructure and resources and thus refer the same to CHC and/or to DHH.

Figure 11: Home vs. Institutional delivery (Chendipada, Nimapara, Gumma)



(Source: Data from District Health Administration)

6.0 OTHER VARIABLES AFFECTING IMR AND MMR

The death of the pregnant mother is due to a combination of important factors like, poverty, ineffective or unaffordable health services, lack of political, managerial and administrative will. All this culminates in a high proportion of home deliveries by unskilled relatives/ family members and delays in seeking care and in turn adds to the maternal mortality ratios.

6.1 Institutional Stay:

Most of the pregnant women do not wish to stay in institution after delivery for a minimum period of 48 hours. The reason for not staying during the post pregnancy period is due to following causes:

6.1.1 Gumma Block:

- Most of the family members accompanying the pregnant women are working as daily wage worker, so they hesitate to stay in hospital after pregnancy. The non-availability of waiting room and food facilities are also contributing factors for non- stay.
- Even the CHC does not have proper infrastructure which discourage the pregnant mothers for the necessary period of post pregnancy stay.
- No food facility (as they are supplied with one packet of bread and one glass of milk).

- No rest facility for the escorts as they had to stay in the verandah for sleep during the night.
- The CHC also has no uninterrupted power supply and sometimes the late night interruption of power supply causes a big concern amongst the patients and escorts.
- It's also understood during the study that, there is not so hygienic environment across the CHC, thus there is always a risk of mosquito and other insect bite.
- Out of total number of registered deliveries at public institutions, 62 % mothers discharge before 48 hours after delivery.
- Women especially the daughters in laws have no say in the decision making of the family and mostly the male members/ other family members are the decision makers thus decides on the provision of health care facility to be rendered to the mother and child. So many of the times, due to poor economic status and other engagements, they ignore to provide medical facility to the mother and child.

6.1.2 Nimapara Block:

- There is no accommodation facility for the family members accompanying pregnant women.
- Nimapara CHC has good accommodation facility & hygienic environment for pregnant woman and their family members.
- As the residents are in a radius of 20-25 kilometers they prefer to return to their residents before 48 hours after delivery.
- Out of total no of registered deliveries at public institutions 93% of mothers discharge after 48 hours of delivery

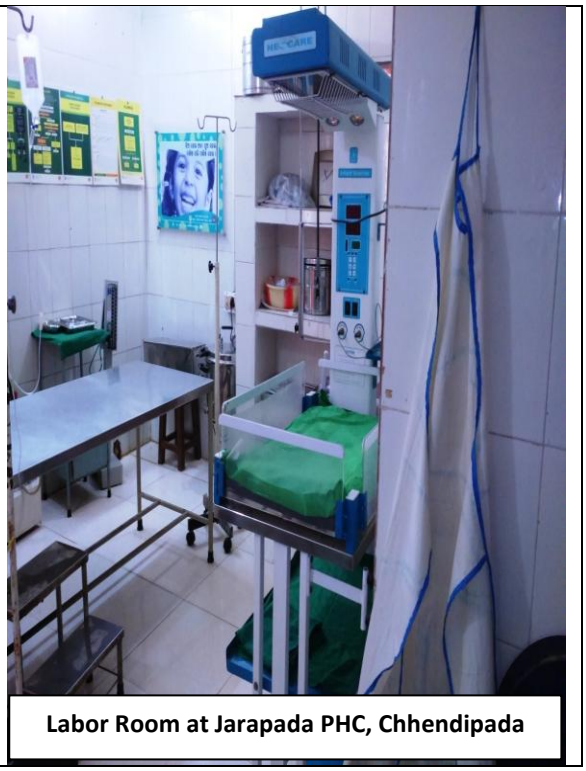
Neo-Natal care unit at Nimapara CHC

Labor room Charichacck, Nimapara

6.1.3 Chhendipada Block:

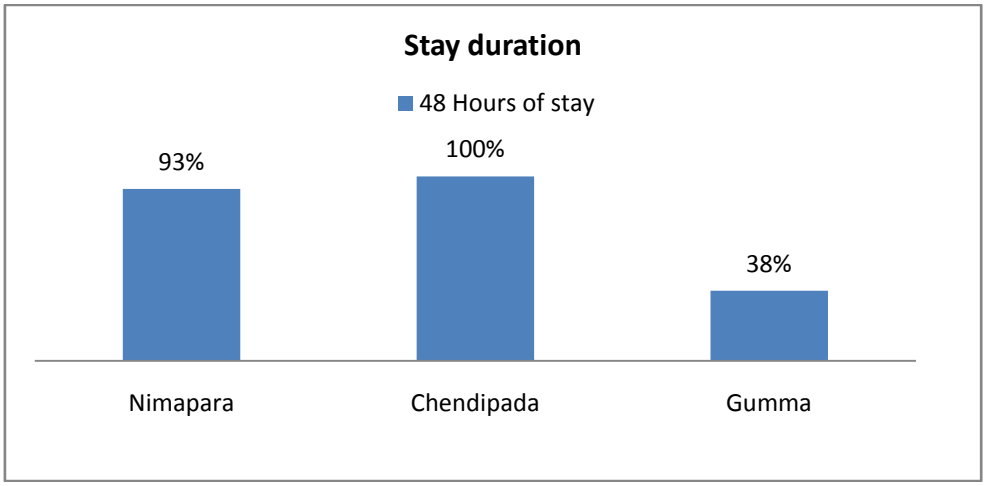
- 100% registered deliveries reside for minimum of 48 hours after delivery.
- There is no accommodation facility for the family members accompanying pregnant women.
- Chhendipada CHC has good accommodation facility & hygienic environment for pregnant woman and their family members.

Labor Room at Bagedia, Chhendipada



Labor Room at Jarapada PHC, Chhendipada

Figure 12: Stay duration of Institutional delivery



(Source: Data from District Health Administration)

6.2 Regular Immunization:

6.2.1 Nimapara Block:

- Nimapara Block shows an epic consciousness towards immunization as a result of 91.86% immunization recorded in the year 2014-15. **(Refer Figure: 13)**
- Rest 8.14% shortfall due to non awareness and lack of infrastructure in interior areas like (Villisasan, Haripur, Ratilo, Ansalo) where sub-centers are arranged at either community club houses or at school campus.

6.2.2 Gumma Block:

- Tribal regions do have more morbidity due to withholding vaccinations given by ANM; there were also many instances of non-immunization of children because there was no one in the family to take the child to the health center/immunization point for vaccination.
- The traditional temporary migration of pregnant women for delivery, and the consequent non-availability of their records, results in missing out on services at either of the residences thus reflect the lower level of immunization.
- The **Figure 13** reveals 70% of the children are fully immunized.

Discussion with the beneficiary at Gumma block

6.2.3 Chhendipada Block:

- Chhendipada block do have more morbidity due to withholding vaccinations given by ANM; there were also many instances of non-immunization of children because there was no one in the family to take the child to the health centre/immunization point for vaccination.
- The traditional temporary migration of pregnant women for delivery, and the consequent non-availability of their records, results in missing out on services at either of the residences.
- The **Figure 13** reveals 89% of the children are fully immunized in Chhendipada block.

Figure 13: Children Immunization Status

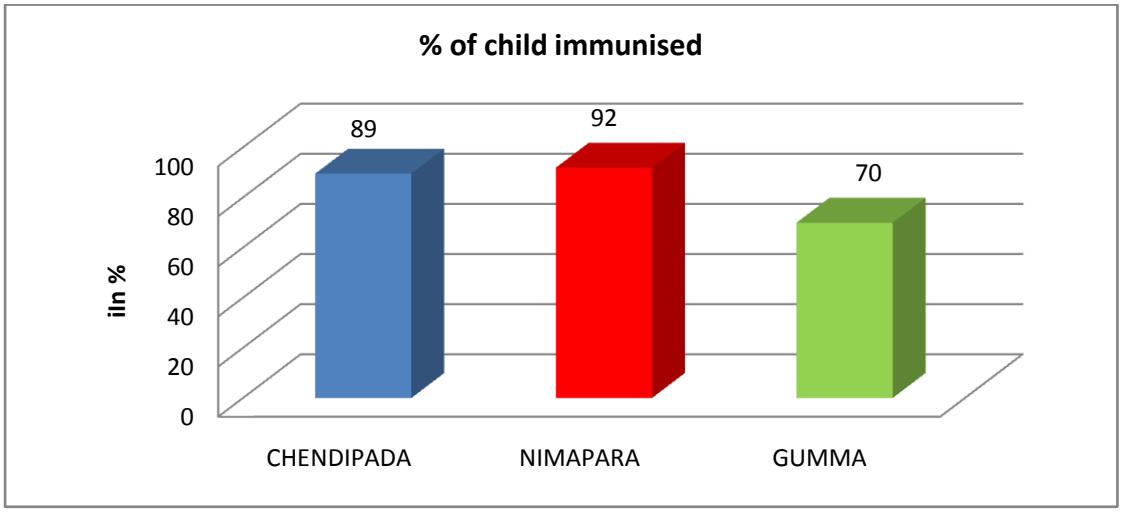
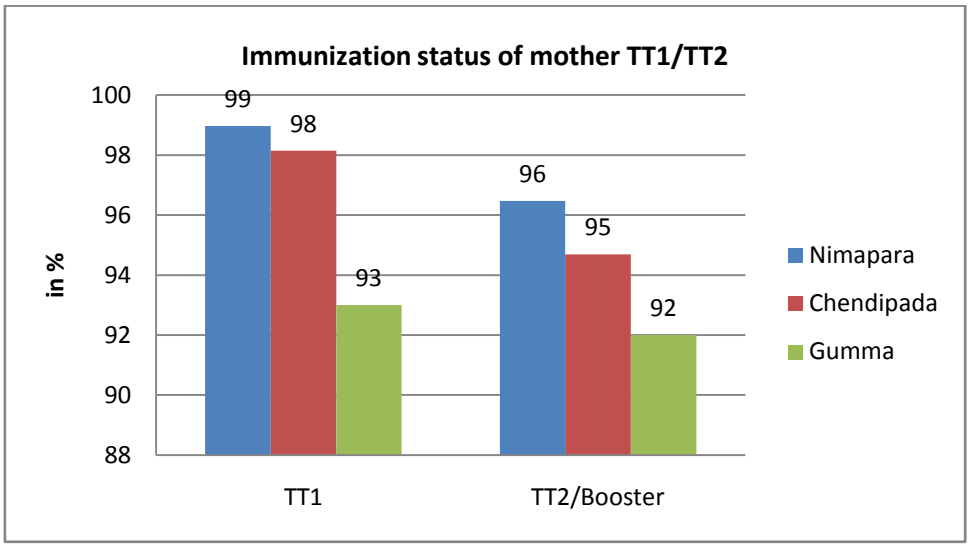


Figure 14: Mother Immunization Status

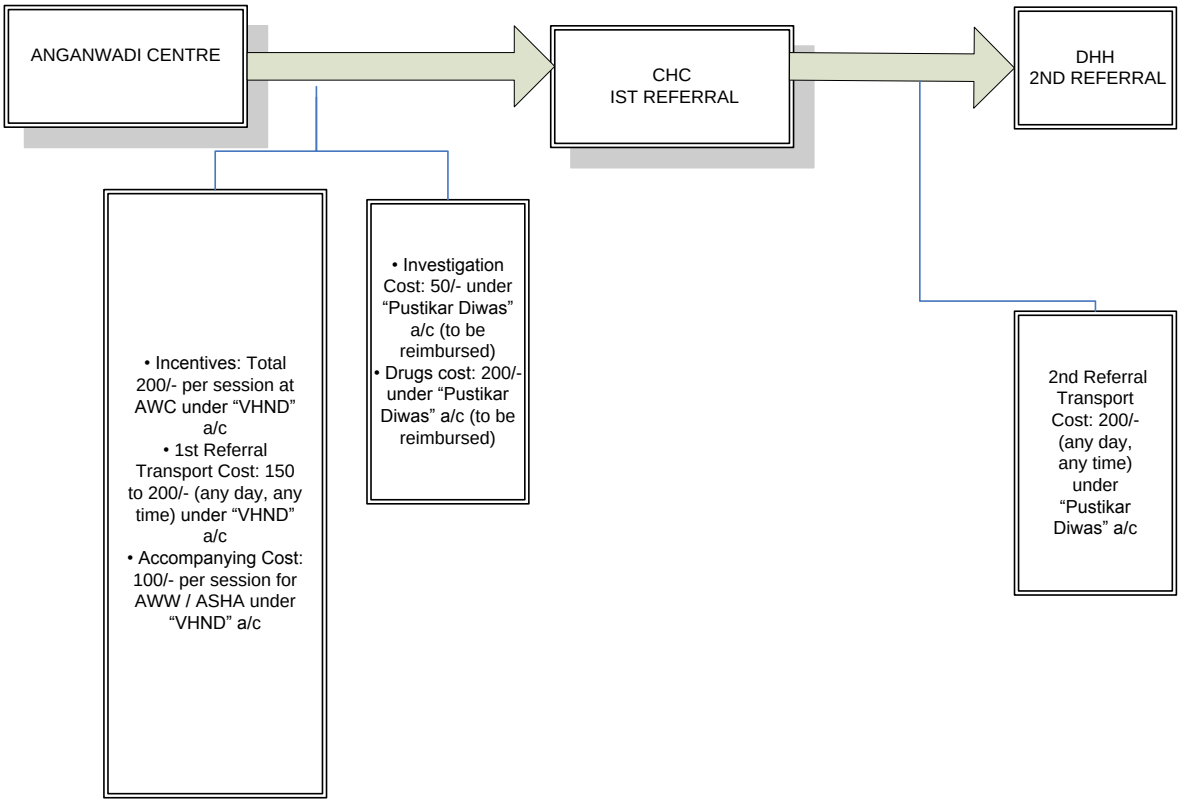


6.3 Village Health & Nutrition Day (VHND)/ Mamata Diwas:

The monthly Village Health and Nutrition Day (VHND) are planned as a day where health services will be made available to all the residents including the pregnant/ lactating mother and child. The VHND provides an opportunity of creating an environment of community togetherness and fun filled activities in addition to service delivery to mothers, new born babies and other stakeholders.

The VHND is to be organized once in every month (preferably on Wednesdays, and for those villages that have been left out, on any other day of the same month) at the Anganwadi Center (AWC) in the village.

Figure 15: VHND Incentive Framework

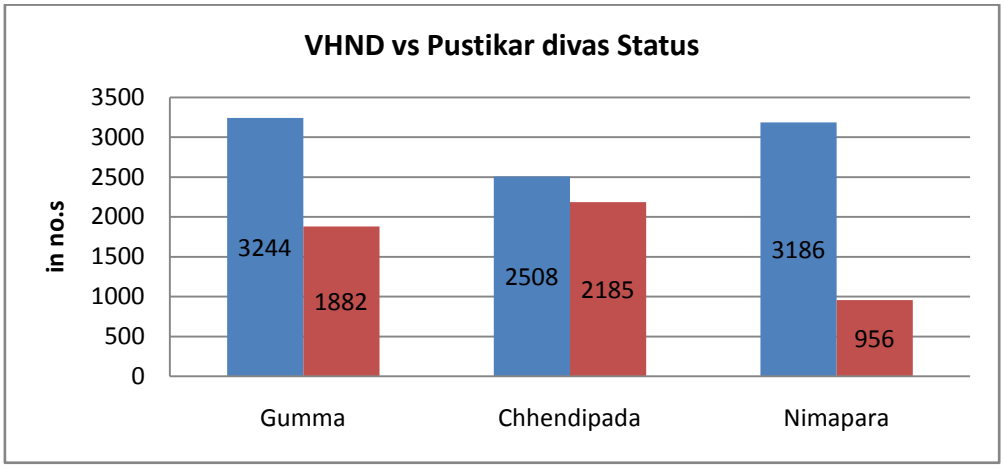


The objective of the VHND day is:

- To provide an effective platform for interaction of service providers and the community (through Gaon Kalyan Samiti or the mothers group)
- To provide information to families on care of mothers and children at the household and community level through discussion of various health topics (as envisaged in the Health Calendar); and
- To ensure establishment of linkage between health & ICDS as to promote & child survival programmes.
- To ensure early registration, identification and referral of high risk children and pregnant women.
- To provide essential and comprehensive health & nutrition services to pregnant women, lactating mothers, children (0-5 yrs) and adolescent girls.

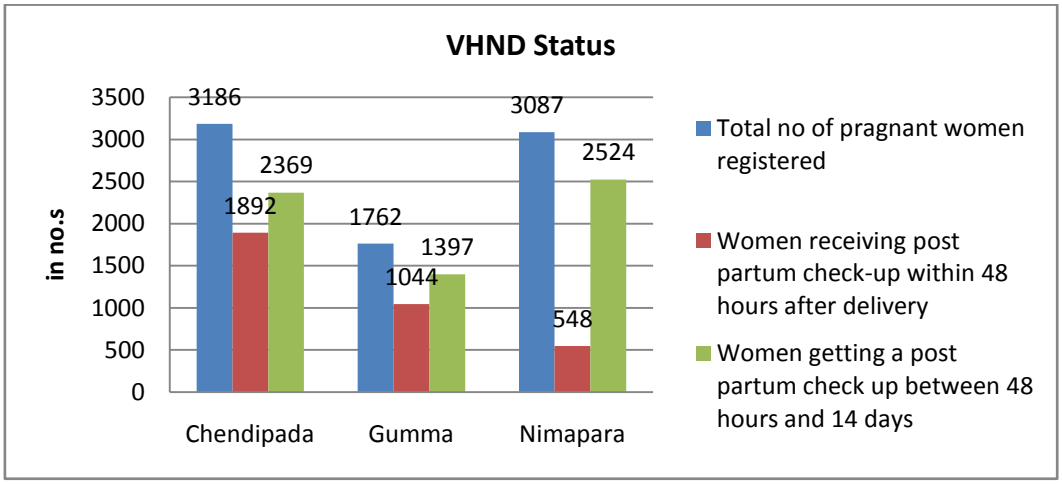
The children detected under RED ZONE category under VHND day of the preceding month are referred to Prustikar Divas held at CHC in the next month for referral and diagnosis.

Figure 16: VHND vs Pustikar divas Status at Sample Blocks



(Source: Data from District Health Administration)

Figure 17: Status Received Post Natal Care by mothers

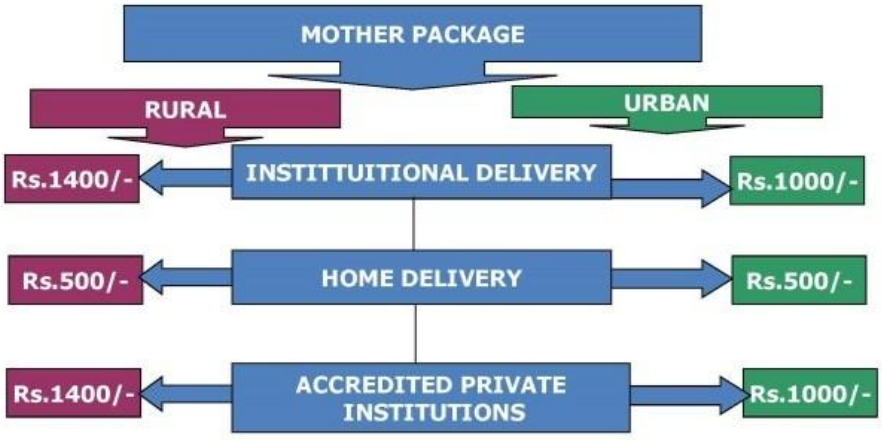


(Source: Data from District Health Administration)

7.0 INITIATIVES AND MEASURES BY GOVT.:

7.1 JSY (Janani Surakhya Yojana):

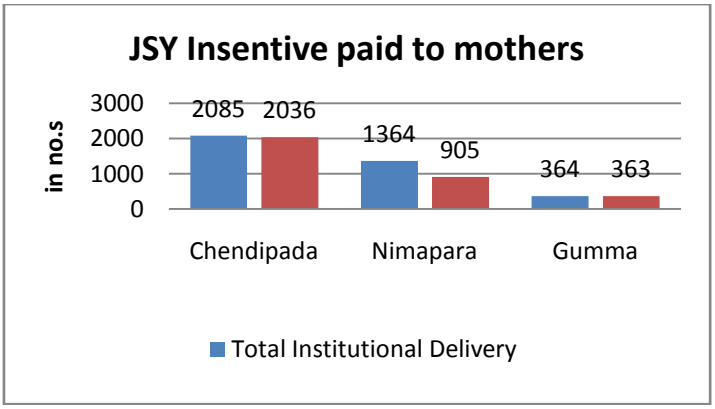
Figure 18: JSY Financial Incentive Scheme



Home delivery by unskilled persons is a major cause of high infant mortality and morbidity. To promote Institutional delivery cash assistance was provided to beneficiaries to reach the health facility for delivery.

After implementation of Janani Surakhya Yojana (JSY) in 2005 under NRHM which provided the same support, the cash assistance. The major objectives of JSY were to reduce maternal mortality ratio and infant mortality rate by encouraging institutional deliveries and focusing on institutional care among women, particularly those belonging to families below the poverty line and SC/ST people. This will compliment JSY and cover 3 most vital stages of maternal and neonatal care. The cash incentive is 1,000 rupees for women from urban areas and 1,400 rupees for women from rural areas. JSY is being implemented through community-level health workers (called accredited social health activists [ASHAs]), who identify pregnant women and motivate them for antenatal care, institutional deliveries, and postnatal care. ASHAs receive payments of 200 rupees in urban areas and 600 rupees in rural areas per delivery assisted by them in high-focus states. The study acknowledges that the cash assistance provided has provided certain support in health expenditure of the families of the beneficiaries. After the implementation of JSY scheme, ASHA's have been successful in promoting institutional deliveries. Family members and mothers are convinced to go for institutional deliveries, so effective promotion among pregnant women and their family members played a role for rise in institutional deliveries. In present study, 100% pregnancy registration was done in all the three blocks.

Figure 19: JSY incentive paid to mother status



(Source: Data from District Health Administration)

7.2 JSSK (Janani Shishu Suraksha Karyakram):

- The entitlements include free drugs and consumables, free diet up to 3 days during normal delivery and up to 7 days for C-section, free diagnostics, and free blood wherever required. This initiative also provides for free transport from home to institution or between institutional facilities in case of a referral and drop back home. Similar entitlements have been put in place for all sick newborns accessing public health institutions for treatment till 30 days after birth.
- The scheme aims to eliminate out of pocket expenses incurred by the pregnant women and sick new born while accessing services at Government health facilities.
- Around 30% of all women need emergency care during delivery and more than 90% of maternal deaths in India are preventable. Delay in providing safe delivery raises the risk and increase the chances of maternal death
- There is provision of 102 ambulances for pregnant women and sick new born at Chhendipada block (PHC Bagedia, CHC Kosala) and Nimapara block (CHC Nimapara, CHC Charichhack) only.
- There is no provision of 102 service at Gumma block, instead there is Janani Express (JE: Mahindra Marshall) available at CHC, Gumma managed by Anjali Shakti dal, Ukhura. There is no facility of oxygen cylinder and paramedical staff with the vehicle, only one driver and stretcher available for service. As the assessment reveals, on an average, the JE is made available for attending delivery cases within one hour of making call or contacting the responsible person/driver.

7.3 BEST PRACTICES:

7.3.1 Provision of Maa Gruha at Gumma Block (Surakhya at Burdig, Gumma):

It is a temporary shelter for expectant mothers, where the mothers from inaccessible areas stay at MAA GRUHA (managed by a NGO, supported by Govt. of Odisha) which is nearby to CHC Gumma.

On onset of labour pain, they are to be referred to nearby health facility (CHC/PHC) having facilities for delivery. No post-partum cases are entertained to stay at this Home.

Salient Features

- Accommodation facilities for expectant mothers & her escorts. Maximum 2 escorts are allowed to accompany the mother.
- Provision of food for expectant mothers, dependents& escorts.
- Skilled Lady Health Assistant for periodic check and maternity care.
- Telephone facility for communicating the nearby health care center in case of emergency.
- Regular health check-up by doctor.
- Health education sessions through IPC & Audiovisual aids.
- Recreation facilities at Maternity Waiting Home like TV, CD player etc.

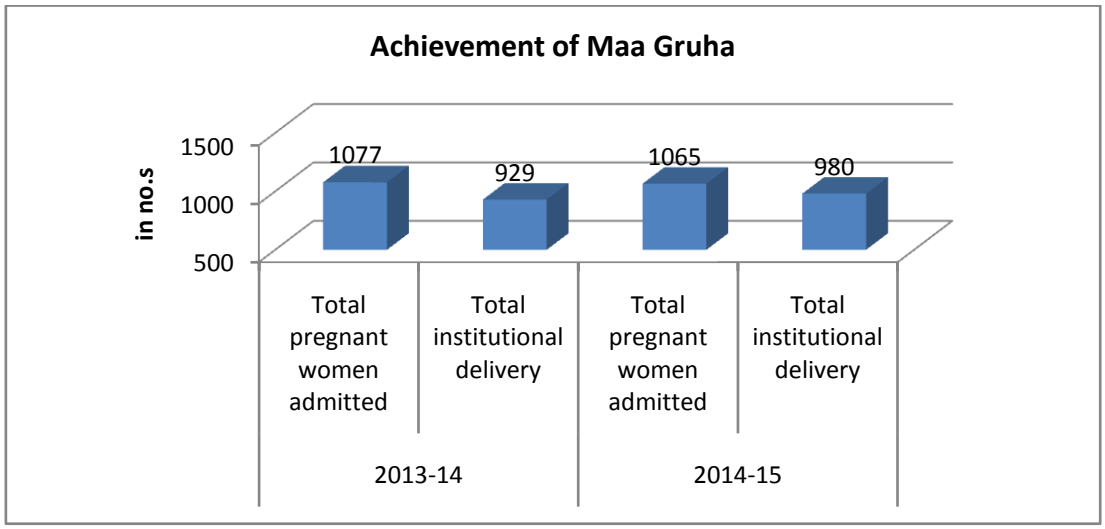
Maa Gruha,Burdig,Gumma

Table 3: Total Number of Beneficiaries Stay at Maa Gruha

MONTH	0-3 DAYS	3-7 DAYS	7-15 DAYS	>15 DAYS	TOTAL
OCTOBER 13	8	4	1	0	13
NOVEMBER 13	12	8	1	2	23
DECEMBER 13	17	4	2	0	23
JANUARY 14	10	8	3	0	21
FEBRUARY14	10	10	5	0	25
MARCH14	16	2	4	0	22
APRIL14	10	2	2	0	14
TOTAL					141

(Source: Data from District Health Administration)

Figure 20: Achievement of Maa Gruha



(Source: Data from District Health Administration)

Sensitization Programme at Gumma block and discussion with the beneficiary

7.3.2 Mo Mashari Scheme

Malaria is highly endemic in Odisha and the same is also in Gajapati/ Gumma, 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.

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.

Auxiliary Nurse Midwives (ANM) ensured they were issued to pregnant women during Village Health and Nutrition Days (VHND), immunization days, antenatal check-ups or other appropriate events. Distribution was accompanied by health education activities to ensure regular use and maintenance of the LLINs.

Table 4: LLIN Supply Status at Gumma Block

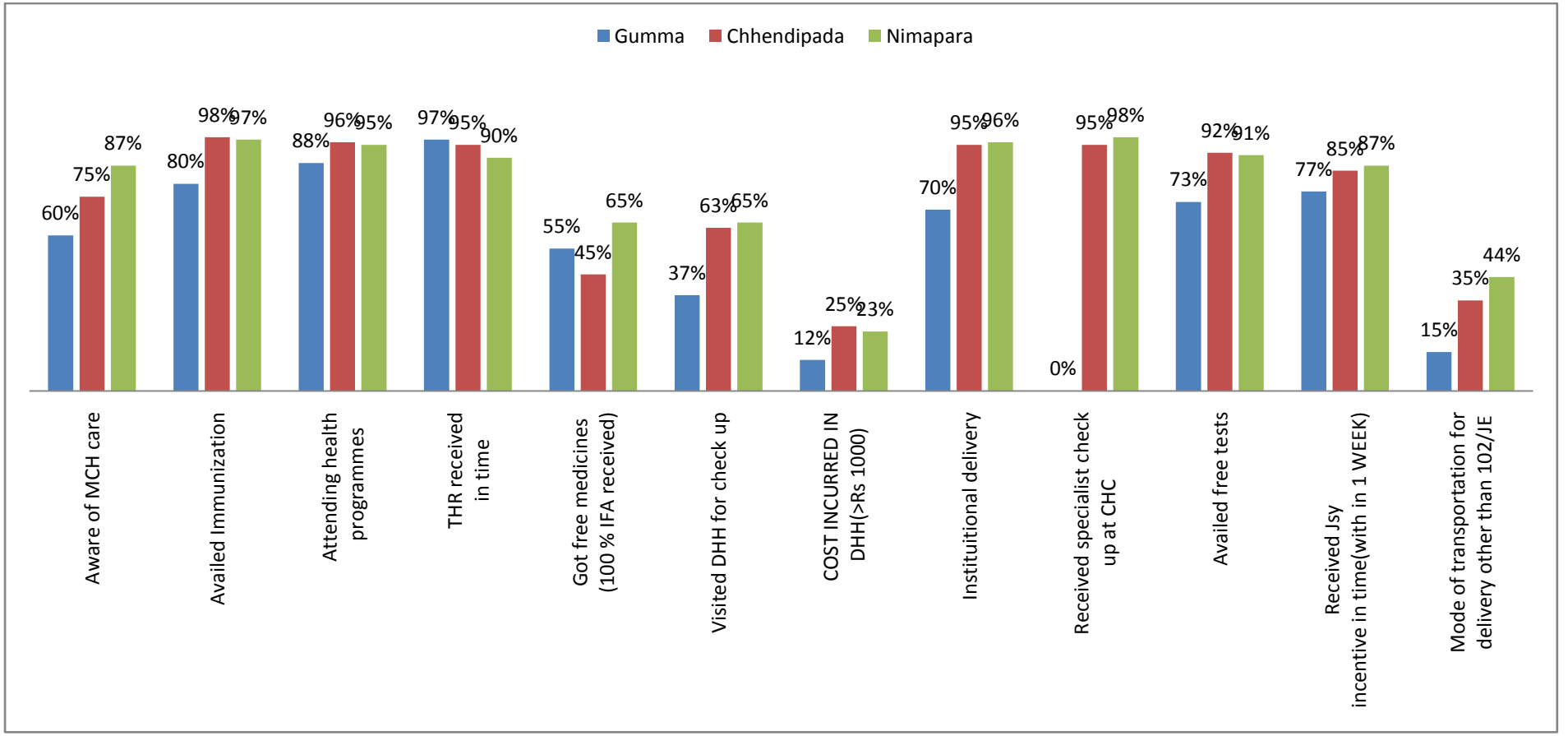
	NO. OF ANTE NATAL MOTHER	SUPPLIED LLIN
QUANTITY	1782	1500

(Source: Data from District Health Administration)

8.0 QUALITY OF SERVICE BY SERVICE PROVIDERS:

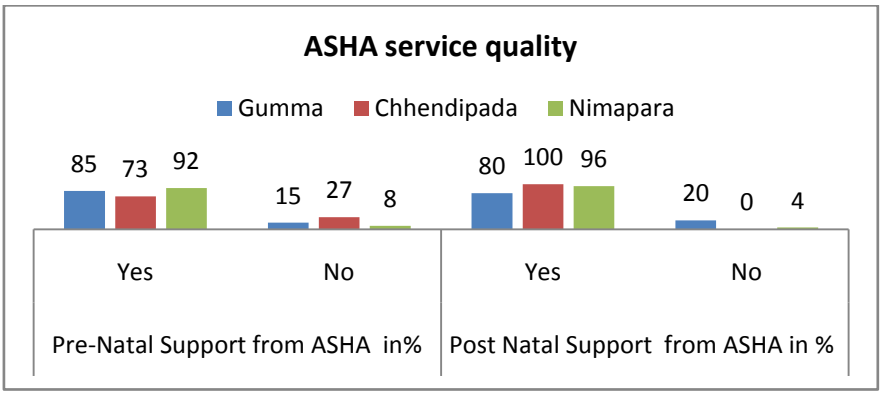
8.1 Response of Mother on Quality of Service:

Figure 21: Mother response (Source: FGD of Beneficiary mothers)



8.2 ASHA service quality:

Figure 22: ASHA service Quality

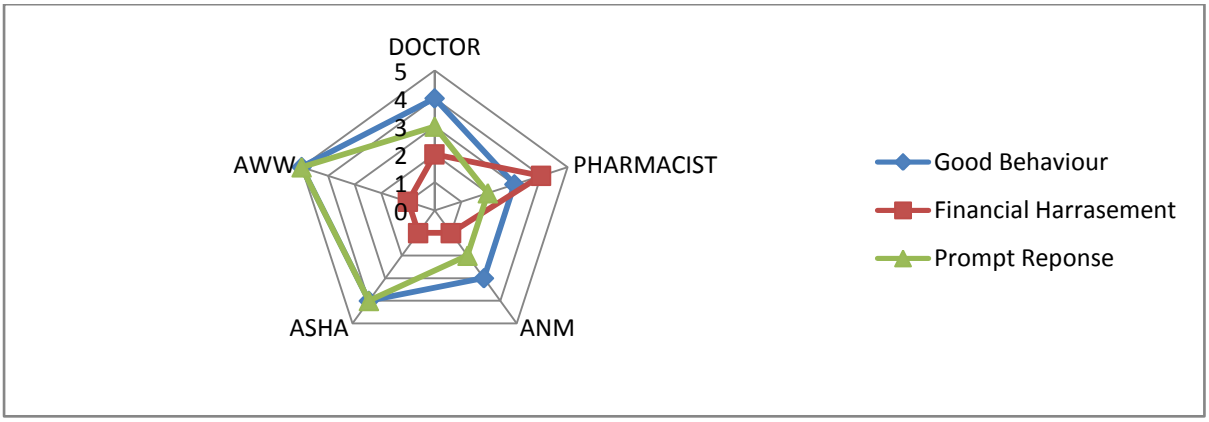


(Source: FGD of Beneficiary mothers)

Block Level ASHA Review Meeting at Chhendipada

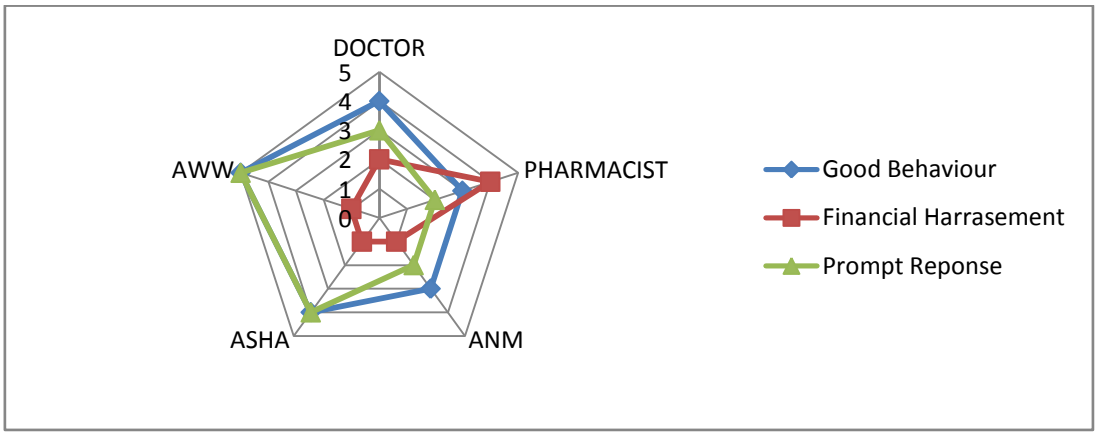
8.3 Service Providers Service Quality:

Figure 23: Evaluation of Service Provider Service Quality (Gumma Block)



(Source: FGD of Beneficiary mothers)

Figure 24: Evaluation of Service Provider Service Quality (Nimapara Block)



(Source: FGD of Beneficiary mothers)

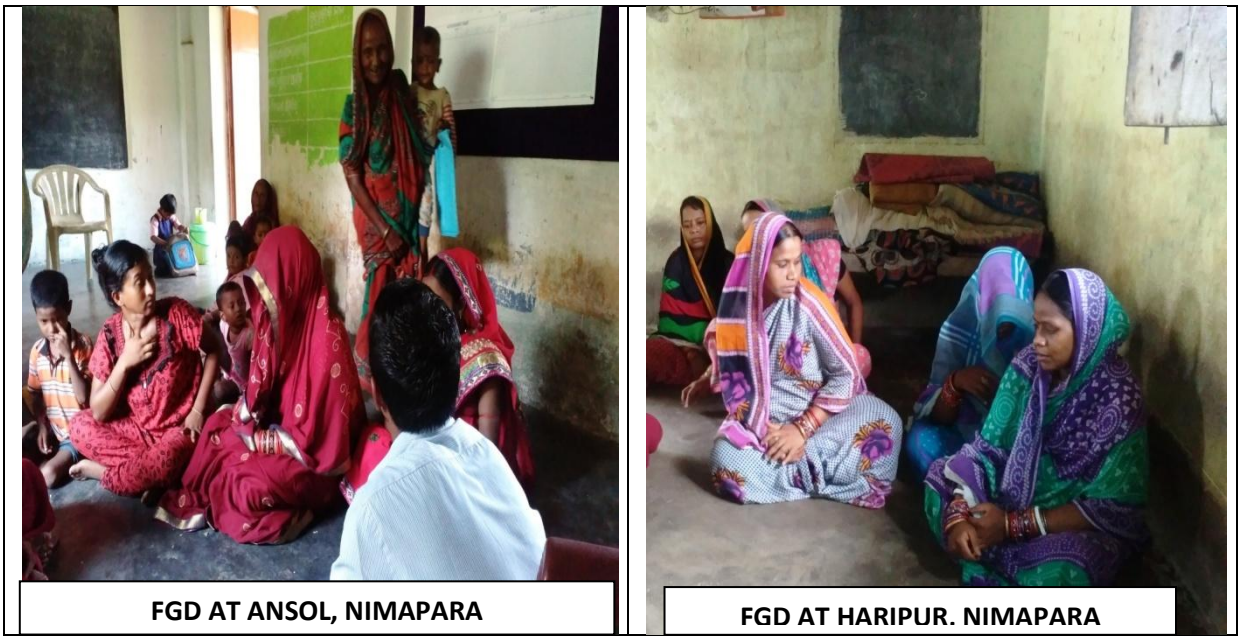
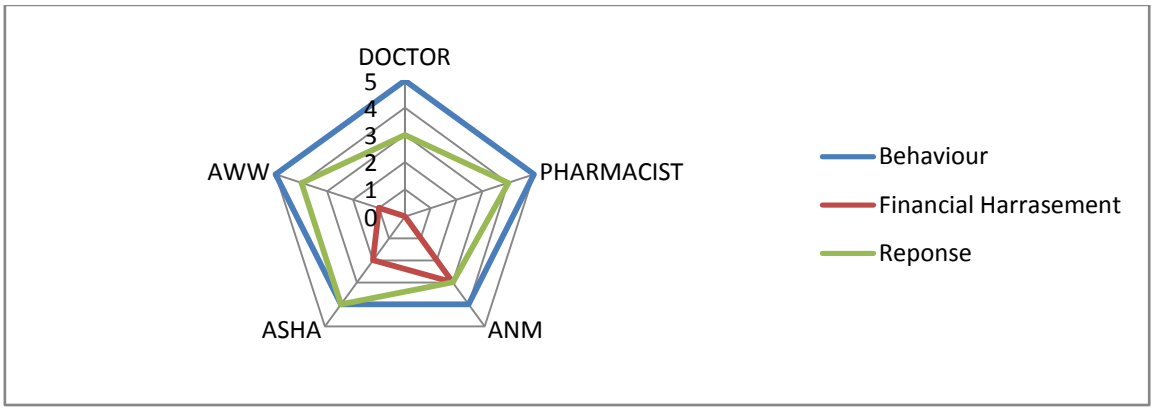


Figure 25: Evaluation of Service Provider Service Quality (Chendipada Block)



(Source: FGD of Beneficiary mothers)

FGD AT KHAMAR, CHHENDIPADA

FGD at KOMPSALA, CHHENDIPADA

MOTHER BENEFICIARRY AT BARMANCH, CHHENDIPADA

9.0 SWOT ANALYSIS:

9.1 STRENGHTS:

- Better accessibility in terms of distance and timing due to distribution of sub centres at primary level.
- Performance-based incentives for staff (ASHA).
- Most of the services including referral transportation, blood, medicine, diagnosis and test are free of cost for mother and infants at facilities.
- Provision of financial incentive for promoting institutional delivery.
- Generous supply of Vaccine and TT injections for MCH care.

9.2 WEAKNESSES:

- Lacks of full fledge diagnosis and testing facilities at CHC level.
- Low motivation among women and their families.
- Demographic & Socioeconomic indicators: insufficient disaggregating of available data
- Service providers in the rural areas who are unqualified/untrained and not supervised.
- Fragmentations of services, different levels of service providers from SC to CHC.
- Human resource related issues such as recruitment and retention of skilled paramedical staff are major operational problem area for most of primary sector facilities.
- Lack of information on outcome data and service practice makes it difficult to judge quality of care and monitor it at lower level.
- Irrational practices, lower quality of care, compromise patient safety and increase the cost of care.

9.3 OPPURTUNITIES:

- Mainstreaming contractual Health workers by training and accreditation of them as “Independent Health workers” would exploit available resource in rural area to increase access to quality of primary care and preventive and primitive services.
- Investment in staff training and capacity building in at sector level would improve quality of care.
- Public private partnership can be forged to improve access where public health facilities are not available.

9.4 THREATS:

- Patients who are not satisfied with services they are willing to go to private clinics as evidenced by rapid growth of private sector.
- Higher cost of services at private sector.
- Cultural, attitudes and ethical issues at different blocks.
- Financial and infrastructural resource at SC level and PHCs
- Approach in the facility for secondary and tertiary level care
- Lack of transport facility in village and CHCs
- Poor quality of services

10.0 POLICY RECCOMENDATION:

- AWARENESS AND PROMOTION

  Mostly women recognized the importance of MCH care services, but when asked specifically about the advantages of ANC and services they rarely acknowledged it. A number of women opined that they knew it is beneficial for mother and child but against what ailments and diseases it prevents, they hardly recognized. *So event based specific awareness and sensitization should be organized with programme and objective driven rather wholesome oriented by ASHA/AWW at grass root level.* Capacity building and training must be provided to both ASHA and AWW. ***Wide spread awareness about the programmes among groups of beneficiaries and other stakeholders including voluntary agencies, etc. would be desirable***. ***mothers-to-mothers education and women's groups' demonstration to be of the most effective applications of peer-to-peer education which should be promoted by ASHA AND AWW.*** Mothers should be trained to advise other mothers and pregnant women on healthy living and care-seeking. (Refer 8.1)

- IMPROVING TRANSACTION OF INCENTIVES:

  Due to Cash benefits of institutional delivery many women inspire to deliver at CHC just to have Rs. 1400 as compensation but they do not have any obligation for effective utilization of the service, as many of the patients hardly stay for 48 hours after pregnancy. The other issues

being the delay in opening of the bank account for the beneficiary mother for transferring of the financial incentive under JSY. ***Thus provision may be made for proper monitoring of the JSY scheme***, so that the distribution of incentive should be successful and timely amongst the mothers. (Refer 7.1 & 8.1).

- MONITORING OF ESSENTIAL DRUGS:

  Though all the MCH care services are offered free of cost but indirect and informal payments such as travel cost to and from the hospital and/or health care institution, constraints the daily worker to visit health care, and paying for prescribed medicines (as most of women reported that prescribed medicine were not available free of cost) were reported as considerable barriers to accessing care and treatment. ***So, monitoring the stock and availability of the prescribed medicine at CHC level may address the issue of medicine to the beneficiary.*** (Refer 8.1, 8.3)

- SENSITIZATION AND AWARNESS:

  Location of the beneficiary and its environment are significant determinants for availing any MCH care either it is just a visit to village sub centre, preference of place of delivery or immunization of children. Awareness and education are an important factor which is the major determinant for the success of MCH care services at Gumma block compared to other two blocks. ***Sensitization on MCH care and educating people against bad beliefs and superstitions would help to eradicate the problem.*** (Refer 5.1, 5.2, 5.3, 5.10, 6.1, and 6.2)

- ACCESS TO PROFESSIONAL DELIVERY CARE

  Most of the respondents agree that type of services provided at government health facilities are not adequate. Some of the providers pointed out that due to lack of ultra-sound facilities it has become very difficult to chase population for ANC care. Similarly all major/ critical cases in pregnancy are forwarded/ referred to DHH due to non-availability of Professional specialist doctors which not only overburdens the DHH but also financially discourages the poor tribal/ BPL patients to

avail the service. There must be provision of specialists' doctors and blood bank at block CHC level.

There is current need to upgrade the CHCs, PHCs and SCs, so that mothers will no longer dependant on DHH other than the major critical cases. Here, up gradation refers to infrastructural, specialist manpower, equipments and provision of blood bank. **102 services is more needed in Gumma block, as there is more dependency on the govt. transport due to lack of other mode of private transport facilities.** Develop effective referral (transport and communication) systems to link the birth attendant at the first level with trained staff at the emergency care facility. (Refer 5.9, 8.1, and 8.3)

- PROVISION OF VOUCHERS:

  Introducing vouchers that can be used in place of cash to obtain services in health facilities contracted by the implementing organization. Removing financial barriers to health services: private service providers may redeem vouchers used by women to pay for antenatal and maternal services (expenses paid by the government). (Refer 5.9, 5.10, 6.1, 8.1, and 8.3)

- PROVISION OF TBA IN HARD TO REACH LOCATIONS:

  It has long been recognised that women should not give birth without the aid of Trained Birth Attendant (TBA). As it was not deemed feasible to provide access to professional medical care for all women, and as women throughout the developing world were already giving birth in the presence of TBAs, the training of such attendants appeared to be an attractive option at SC levels, which are interior and lag communication to CHCs and PHCs. ***Sub centers should be provided with better infrastructure and other supplies to provide round the clock services and to avoid unnecessary referrals and out of pocket expenses by beneficiaries. Increase the number of skilled birth attendants in villages and birthing facilities embedded in a strong referral network will help a***

lot in reducing delivery at home in interior locations of Gumma block. (Refer 5.10)

- LINKING ELIGIBLE COUPLES TO MCTS:

  Antenatal care clearly has a positive impact in detection and treatment of pregnancy-related complications (i.e., malaria, severe anemia, urinary infections, and hypertensive diseases) and the prevention of potential problems (i.e., HIV, malaria). It is utmost important to improve the timeliness of ANC registration within 1st trimester itself, which solely depends on effective monitoring of eligible couple and MCTS registration. (Refer 4.0, 5.1, 5.3, and 5.4). *Thus provision may be made for timely registration under MCTS by creating awareness amongst the mother and providing financial incentive to ASHA and ANM.*

- INCREASED ACESS TO HEALTH SERVICES:

  Up to 80 per cent of deaths result from five well-understood and relatively common obstetric complications: bleeding, infection, complications of abortion, high blood pressure associated with pregnancy and prolonged or obstructed labour (WHO). These are the 'direct' causes of maternal death. All can be readily treated with existing, inexpensive medical or surgical technologies. As life threatening obstetric complications often cannot be prevented, averting most maternal deaths requires access to curative clinical care. Most maternal deaths are preventable using affordable health-care solutions to prevent or manage pregnancy, delivery, and postpartum complications, for example, administering magnesium sulfate for pre-eclampsia to lower the risk of developing eclampsia, or an injection of oxytocin to reduce the risk of hemorrhage after delivery. *Govt. should make provision for the increasing access, use and quality of health services that ensure access to a skilled attendant at birth and an effective referral system that is able to deal with life threatening complications.* Invest in human resources, particularly midwifery but also referral level skills such as obstetric surgery and anaesthesia. (Refer 4.0)

- AVOID DELAYS IN MEDICAL CARE:
    - delay associated with the decision to seek care;
    - delay in arrival at the point of care; and
    - delay in the provision of adequate care

  Delays are interrelated and occur for a wide variety of economic, social, cultural and political reasons. Each must be addressed if death or severe illness is to be averted. For example, improving access to care without improving health service responsiveness and ability to manage life threatening complications will not reduce maternal deaths. However, many of the poorest women may have no contact with formal health services. There is a need to better understand their needs and the barriers they face in using services. These barriers can be within the household as well as at the point of care. ***This can be addressed by regular counselling of the mother and other family members by the ASHA and AWW.***

- COMMUNITY-BASED NEWBORN CARE PACKAGE:

  The package consists of service delivery component, home visit as well as community mobilization to enhance skills on Community case management of infection, home-based care of LBW, and birth asphyxia as well as orientation to mothers' group, traditional healer and traditional birth attendant about the programme. ***Creating awareness on the essential nutritional supplements at the village level is required for the infant and making provision for the addressal of the malnutrition cases could help prevent low birth weight cases, which are the most common factor for IMR. (Refer 4.1.4)***

- INCENTIVES TO ASHA :

  Accredited social health activist (ASHA)/Anganwadi worker (AWWs) are the main motivator for JSY which has significant impact on institutional delivery. If incentives are give properly and timely to ASHA than work performance increase under JSY. Lack of JSY knowledge and

documentation problems were the most important because of which there was delay or no benefit to mother under JSY. The implementation of JSY scheme will surely have an impact on indicators like MMR, IMR due to the rise of institutional delivery. Refresher training to ASHA with payment of proper incentive may be made for making the JSY more fruitful. (Refer7.1, 7.2)

Deaths due to ARI and diarrhea: these cases are likely to be serious or complicated cases that would need admission in hospitals. These are unlikely to be manageable at domiciliary level. Further reduction of these deaths would need early admissions especially for diarrhea. However, even then all deaths would not be prevented. The scope for further reduction in these deaths is limited. Fluid supplementation in the form of fluid (WHO formulated ORS) to the children with diarrhea are found in the study area. Similarly recognition of pneumonia by mothers on the basis of test results sought an early treatment from CHC. Thus, any further decrease in the post neonatal mortality attributable to ARI and diarrhea may be difficult unless the incidence of the disease is brought down. Mortality and morbidity due to childhood pneumonia and diarrhea are preventable through appropriate measures, including newborn care protocols, adequate nutrition, vaccinations, proper hygiene and sanitation, and access to safe drinking water (Refer 4.1.4)

- REPLICATION OF MAA GRUHA & MO MASHARI IN OTHER BLOCKs:

  Providing more maternity homes similar to Surakhya, Gumma for pre delivery support and care, as in this case, we have found 6 bedded surakhya for Gumma block. ***Similar practice can be replicated by Govt. in all in accessible blocks/ districts. Mo Mashari scheme can be replicated in Puri district, which is probably a mosquito prone area.*** (Refer 7.3.1, 7.3.2)

- TRANSPARENCY IN JSSK:

  After implementation of JSSK, number of institutional deliveries has significantly increased. This may be due to better public awareness, no charges for normal deliveries, caesarean section, transfer of mother home

to health care facilities, primary health facilities to tertiary health facilities, hospital to home. But from beneficiary point, there is lot of disparity in free services entitlement. Most of the beneficiary expressed that there were financial harassment during delivery at hospital and during the availing of the Cash Assistance for institutional delivery. **Thus the same may be addressed by creating proper awareness amongst the beneficiary and bringing transparency in the disbursement of the money.** (Refer 7.2, 8.1, and 8.3)

- **STRENGHTHENING IMMUNIZATION:**

  Immunization which is quite negligent at certain parts of Gajapati, Angul because of the non-awareness and pre- occupancy of the mothers/ other family members for their livelihood. Thus provisions may be made with financial assistance to ASHA/ beneficiary for coverage of 100% immunization could encourage the immunization level. (Refer 6.2)

11.0 CONCLUSION

The current study has been able to provide a much needed comprehensive status of implementation of important schemes related to maternal and newborn health care. There seems to have been improvements in making the public health system accessible to the community for delivery services, however, gaps still remains especially with respect to quality of services and out of pocket expenditure. Moreover, many people are getting excluded from utilizing these services and schemes due to barriers that need to be addressed urgently.