

**Report of the Summative Evaluation of the Essential Obstetric  
Care Project  
IN  
Mpongwe, Masaiti and Lufwanyama**

**Implemented with Technical Assistance from UNICEF  
and**

**Financial Assistance from Irish Aid  
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## List of Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
CBOH	Central Board of Health
CSO	Central Statistics Office
DFID	Department for International Development
DHMT	District Health Management Team
EOC	Essential Obstetric Care
FP	Family Planning
HIV	Human Immune Deficiency Virus
MCH	Maternal and Child Health
MMR	Maternal Mortality Rate
MOH	Ministry of Health
MVA	Manual Vacuum Aspiration
NGO	Non Government Organization
SIDA	Swedish International Development Agency
STD	Sexually Transmitted Diseases
TBA	Traditional Birth Attendant
UN	United Nations
UNFPA	United Nations Fund for Population
UNICEF	United Nations Children's Fund
USAID	US Agency for International Development
UTH	University Teaching Hospital
WHO	World Health Organization
ZDHS	Zambia Demographic and Health Survey

## EXECETIVE SUMMARY

In 1997, UNICEF, Zambia Country Program set up the Essential Obstetric Care Project with financial assistance from Irish Aid to demonstrate an approach to reduce maternal morbidity and mortality in rural areas. Three rural districts, Lufwanyama, Mpongwe and Masaiti were selected as the *first phase* project areas. The criteria used to identify the pilot districts included: high maternal mortality rate; large catchment population; willingness and capacity of District and Provincial staff to intervene on MMR reduction; and other confounding factors including the spatial distribution of the population, transport and access problems. The overall goal of the project was to contribute to a reduction of maternal mortality through improving access to, and quality of essential obstetric care at first referral facilities.

More specifically, in the three demonstration districts, the project sought:

- To improve the management of antenatal and delivery care at health center level.
- To ensure that all (100%) health center staff are able to recognize pregnancy complications through the use of the partograph and refer them appropriately to the first referral facility.
- Increase to 100% the number of first level referral facilities providing essential obstetric care services.
- Ensure that all (100%) women referred with pregnancy complications to the first referral facility are managed according to the recommended national guidelines.
- Monitor, assess and document the appropriateness, cost-effectiveness, and sustainability of project strategies.

A mid term evaluation was conducted in November 1999, which showed that major attempts were made to involve the community in project implementation, high quality training was provided to all cadres of staff involved in EOC and there was facilitation for health staff to share experiences. A weakness identified at the time, however, was, that there was inadequate community consultation at the design stage, this resulted in underestimation of the value of privacy, physical accessibility and relative costs to the families and the district health systems. There was also failure to institute an appropriate referral system considering communication, transport and appropriate upgrading of first level facilities. While some of the problems were addressed, such as, developing and promoting links between community and health services, others such as transport and communication services were not possible to address within the life span of the first phase of the project.

The strategy adopted was to improve the quality of obstetric care at primary level health facilities and ensure supportive complementary care at second and tertiary level referral hospitals. In order to achieve this, a 10 days training (in both theory and practice) was designed which was adopted from the WHO draft training modules on:

- The role of midwives.
- Antenatal Care (ANC).
- Management of pre-eclampsia and eclampsia.
- Management of Obstructed Labor.
- Management of post partum hemorrhage (PPH).
- Management of puerperal sepsis.
- Malaria in pregnancy.
- Nutrition.

A joint planning meeting at which UNICEF facilitated a participatory district planning process to mainstream EOC into the overall district health plan was held in February 1998. The implementation and management of the project has been set up and supported by the Central Board of Health and implemented in 41 health centers and 2 hospitals within the three rural districts. The procurement and distribution of equipment has been completed. In each district, the DHMT Director and Manager planning and Development have been responsible for overseeing the implementation of the project.

Although ANC attendance is high, there are fewer deliveries, low postnatal attendance in EOC health facilities and a high number of deliveries supervised by untrained staff. These are

attributed to traditional beliefs and taboos, preference for trained and untrained TBA, late ANC booking and long distances to health facilities. Subsequent to the initial EOC training of 60 (17%) staff, the trained staffs continue orienting other health workers (298) on EOC concept, use of Safe Motherhood formats and EOC protocols.

The most common obstetric complications encountered at EOC health facilities and referred to hospitals include:

- Anemia,
- Late presentation of clients who have had previous surgical delivery by caesarean section.
- Abnormal presentations such as by the breech or face presentation.
- Prolonged labor, in the first or second stage.
- Fetal distress with fresh or prolonged meconium stain.
- Premature labor.
- Retained placenta with consequent, PPH or sepsis
- Antepartum hemorrhage.
- Hypertensive, renal diseases in pregnancy.
- Sepsis.

The incidence of multiple pregnancies is unusually high. In deed it is one of the ways that communities judge good **tba**. Other complications that are primarily medical diseases in pregnancy, such as, cardiac disease, occur rarely but appear to have high case fatality rates.

Of the planned supervisory visits, the districts conducted at least one out of four. Also one joint CBOH and district supervisory visit was conducted in the implementation period. One of the results of the supervisory visits was the recommendation to the neighborhood committees to form *Safe Motherhood Subcommittees* in order to strengthen community mobilization for EOC. Meetings were held with health center and referral hospital staff to monitor performance of health centers. These meetings were facilitated by UNICEF and attended by the CBOH. They helped to expedite implementations and to standardize the procedures.

Overall, significant achievements have been made in this project considering that this is the third year of implementation and that in fact actual activity initiation was delayed by the on going reform procees within the health sector. The first major achievement of this project was the successful facilitation of the situation analysis of the state of obstetric care, by supporting a Safe Motherhood Needs Assessment and providing supplementary funds for the expedient completion of the study on *"Factors Associated with Maternal Mortality in Zambia."* These studies reinforced the formative process in this project which is still the stage at which this project can logically be placed.

From the second study, it is clear that the post natal period in home deliveries contributes to the highest proportion (61%) of maternal deaths. Maternal deaths most commonly occurs in young mothers, with the peak age of death at 25 to 29 years. The largest proportion of death occur on the same day (35%), within 72 hours (62%) or within one week (88%) of delivery. The findings suggest that the causes are therefore mostly problems that can be averted by better management of labor. Looking at the nature of complications, again home deliveries are the biggest contributors, with the problems of obstructed labor, excess bleeding and infections (42.1%), all of which can be prevented.

These findings indicate that with good strategy, the global goal of reduction of Maternal mortality by 50% can be met within the next three years. Some of the required strategy such as improvement of antiseptic techniques during delivery, better management of labor to avoid prolonged labor and subsequent PPH and treatment for malaria and anemia have been suggested an will be soon implemented. In addition to the problems of home delivery, the research reveled causes of delay in referral have been identified at the home and health center

level. The main two are distance from health facility and lack of means of transport or the cost of it which many rural mothers are unable to afford.

As already demonstrated, there was gradual strengthened capacity of the districts to provide EOC services. As shown especially by data from Lufwanyama, the original impression that the rate of attendance of ANC is very high is a misconception due to the fact that health data from urban populations tend to overshadow those from rural areas, which perhaps never reach the data banks. The project has, however, demonstrated that with active community mobilization and demonstration of improvement of care of clients, use of modern health care will be popularised. More over this is at a critical point because popularisation of EOC may be used as entry point to communities for the acceleration and sustenance of uptake of preventive child health and other reproductive health interventions.

Some unexpected positive outcomes were also observed, for example, community involvement through formation of Safe Motherhood Committees (SMC). The SMC worked with the DHMT to sensitise communities to utilize EOC. They were also beginning to adapt innovative ways of overcoming the major obstruction to EOC, such as lack of money for transport to EOC and child spacing, specifically to improve maternal and child health rather than to reduction of family size.

## **Lessons Learned**

### **Best Practices and Outcome**

1. Correct documentation and interpretation of information by health workers at all levels facilitates timely recognition of pregnancy and delivery complications for appropriate referral.
2. Community involvement improves the relationships between staff and community leaders and influential groups help to identify and address factors that reduce access to health services.
3. Regular supportive supervision and review at all levels of planning and implementation improve performance and reporting of health intervention outcomes.
4. The project opened opportunities to integrate child health clinics with postnatal clinics and the two acted symbiotically to promote utilization of preventive MCH services.
5. Community involvement improved the referral system through creation of awareness on EOC services.

### **7.2. Gaps and Constraints**

1. Most health centres lacked delivery rooms or concealed units where mothers could be examined, delivered or counselled in confidence.
2. Poor communication strategy for Safe Motherhood perpetuated lack of awareness on importance of early antenatal care, professional delivery care for all births and importance of postnatal clinics leads to low utilization of ANC care in the first trimester, delivery services and PN clinics in HCs.
3. Lack of infrastructure for delivery rooms and storage of equipment and drugs.
4. Strong cultural beliefs affecting decisions on early ANC and institutional deliveries.
5. Lack of radio communication equipment.
6. Lack of effective referral system.

## **8. Recommendations**

1. It is necessary to ensure that the radio communication equipment currently available in some health centres function at all times. Since the operations of the Flying Doctors Services of Zambia had been scaled down, all units that were served by the

organization should be supplied with motor vehicle ambulances to enable transfer of emergencies which still prefer to go to these centres.

2. Postnatal and child health clinics should be integrated to enhance efficiency.
3. EOC equipment supplied should be reassessed for relevance of the technology required and the type of energy they need to operate in order to rationalize their distribution to the right places or replacement with more appropriate ones.
4. Relationship with local communities should be strengthened to enhance utilization of EOC especially with the current limitation caused by predominance of male nurses in the peripheral health facilities.
5. Documentation of EOC data should be improved between the community and health centre levels. A system should be developed for recording cases from communities that go directly to referral hospitals when complications arise, in order to ensure that the data is not lost to their home health centres and districts particularly when mortality arise.
6. Back referrals from hospitals to health centres should be strengthened especially in cases where the clients did not pass through health centres. This will improve case management by providing feedback education to the health centre staff and TBA/**tba**.
7. Infrastructure for deliveries and storage of drugs i.e. Oxytocics at health centre level should be improved by making use of opportunities provided by micro projects.
8. Activities of TBA/**tba** should be strengthened and they should be given recognition by staff in the referral hospitals who often keep them waiting when they take their clients with obstetric complications, thereby delaying intervention as well as demoralizing the TBA/**tba** and the patients.

## 1. INTRODUCTION AND BACKGROUND

### 1.1. Introduction

In 1990, the CBoH *in tandem with the current thinking adopted the burden of disease approach (BOD) to epidemiological assessment for policy analysis*. This approach identified disorders of pregnancy and childbirth as the second most common contributor to major causes of hospital admissions after malaria for persons aged 15 years and above and the leading contributor to the BOD in Zambia. Available health data indicate increase in pregnancy related conditions and or complications in Zambian health institutions. Services and patient factors constitute the major problems related to the cause of maternal and perinatal mortality. In 1997, UNICEF, Zambia Country Program set up the Essential Obstetric Care Project with financial assistance from Irish Aid to demonstrate an approach to reduce maternal morbidity and mortality in rural areas. Three rural districts, Lufwanyama, Mpongwe and Masaiti were selected as the *first phase* project areas. The criteria used to identify the pilot districts included: high maternal mortality rate; large catchment population; willingness and capacity of District and Provincial staff to intervene on MMR reduction; and other confounding factors including the spatial distribution of the population, transport and access problems. The overall goal of the project was to contribute to a reduction of maternal mortality through improving access to, and quality of essential obstetric care at first referral facilities.

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This is a report of the summative evaluation of the Irish AID funded Essential Obstetric Care (EOC) project that was implemented by UNICEF in three Rural districts in Zambia between 1997 and 2000. It is divided into four chapters. Chapter one is introduction and background information on Maternal health and efforts so far made to improve it in Zambia. The section covers issues related to health and health planning in Zambia. It summarizes government attention to reproductive health care and the contextual issues in the implementation of EOC.

Chapter two is a summary of the methods used in the evaluation. It describes the study type, the sources of data, methods of data collection and the difficulties and limitations that were encountered during the data collection process. The objectives of the study as provided by the terms of reference and as interpreted by the consultants and the project officers at UNICEF and Senior Planning Officers at CBOH are presented in this chapter. It explains the strategy developed to rapidly collect data in wide area with extremely difficult transport problems. The methods used in sampling, and data analysis is also briefly explained.

The results are presented in chapters 3 and 4. Chapter 3 gives the broader picture at the national level. Most of the information is based on review of literature and records obtained from the resource centers at the UNITED Nations Childrens' Fund (UNICEF), World Health Organization (WHO), and Central Board of Health (CBoH) offices in Lusaka. Other sources included the Central Statistical Offices (CSO), the University teaching Hospital (UTH) of the University of Zambia (UNZA). Chapter 4 presents the findings from the districts. The contents are based on interpretation of secondary data obtained from the records of the district health management information system (HMIS), and primary data collected by interview from the health personnel in the three districts and communities own resource people for obstetric care, whom we have called *traditional birth attendants* ( and abbreviated **tba**). It also contains information from health center neighborhood committees (NC), safe motherhood subcommittees of the NC and where these were not found, groups of families that were found in the residential sites.

In reporting, we have as much as possible laid out the qualitative information in such a way that the reader gets the feel of peoples unaltered opinion by quoting them verbatim or paraphrasing several similar answers collated in text boxes to save space. We have also included real life case studies in highlighted text boxes to ensure that the reader gets the feel of our experience during this evaluation. Whenever this involves people, the names used are not those of the real individuals in order to maintain confidentiality.

## **1.2. Background**

Zambia is situated in the southern half of Africa and covers an area of 752,612 square kilometers. It is landlocked and surrounded by eight countries, Angola in the west, Botswana and Zimbabwe in the south, the Democratic Republic of Congo and

Tanzania in the north, Malawi and Mozambique in the east, and Namibia in the southwest. For administrative purposes, it is subdivided into nine provinces, Each with its own provincial headquarters. These provinces are further subdivided into a total of 72 districts. It has a total of 73 different ethnic and cultural groups. According to Central statistical Office estimates, the population of the country in 2000 stands at 10,460,000 having grown from 4,100,000 in 1963 and 5,700,000 in 1980. The current annual growth rate is estimated to be 3.2 per cent. Women of childbearing age constitute 22% of the population. The expected rate of pregnancies is 5.4% of the total population, indicating that there are approximately 565,000 women at risk of complications related to maternal health in Zambia each year.

The Government of the republic of Zambia is 'committed to providing Zambians with equity of access to a cost effective, quality health care as close to the family as possible'. The Zambian health sector has gone through radical and often painful reforms over the past eight years. The role of the Ministry of Health (MoH) has been redefined to concentrate on policy formulation, strategic planning, accessing and distributing financing, and reviewing legislation. The reforms introduced a Central Board of Health (CBoH), which is the executive wing of the MoH and responsible for supporting the district health management and 2<sup>nd</sup> and 3<sup>rd</sup> level referral health facilities. This support includes assistance in developing, implementing and reviewing the health plans and outputs. The district health management teams (DHMTs) develop their own essential health packages and plans with guidance from the national health strategy and the CBoH.

A review of secondary data from the Health Management Information System (HMIS) reveals that Zambia is currently experiencing an epidemiological transition. Preventable health problems are still the predominant causes of morbidity and mortality. Accident related problems, chronic non-infective conditions such cardiovascular, degenerative disorders, cancer, and immune diseases, especially those related to lifestyle are, however, rapidly increasing. Moreover, the acquired immune deficiency syndrome (AIDS) that results from human immunodeficiency virus (HIV) infection has further complicated the epidemiological pattern.

Women and children are still the most commonly affected by the highest preventable diseases. While interventions for childhood diseases have taken root and have been effective in reducing deaths and disability, the same cannot be said about health problems of women. The clearest manifestation of poor women's health status is the high maternal mortality rate. The 1996 DHS indicated a maternal mortality rate (MMR) of 649/100,000 live births. Recent research has found maternal mortality rates of between 800 – 889/100,000 live births in Western Province. This data correlates with the revised WHO/UNICEF Maternal Mortality Rates (MMR) national estimate of 940 / 100,000 live births (WHO/UNICEF, 1996). In addition, more than half of the deliveries take place at home in Zambia. Of these, Trained Birth Attendants (TBA) assists 9% and most of these births are also not recorded in routine health facility data.

In response to the high rates of maternal mortality, Government's major strategies of the past have focused on risk identification: including actions to improve the quality of antenatal care, family planning, nutrition supplementation and appropriate management of pregnancy, labour and delivery (*Report on Safe Motherhood Initiative Project , 199..*). In urban areas, these efforts have been complemented with the upgrading of urban health centers' capacities to provide essential obstetric care services at health center and first referral facilities with the assistance of Irish Aid. This has resulted in a significant increase in access and utilization of safe delivery services. In rural areas, however, these investments have not yet been made and most mothers, living far from an equipped maternity facility, only have access to the services of a traditional birth attendant who is not equipped to deal with serious birth complications.

While the risk approach of the past has helped focus attention on women's health, it is now recognized that most life-threatening complications cannot be prevented or predicted. During pregnancy, delivery and the postpartum period any woman can suddenly develop a serious problem at which point prompt adequate medical care is needed in order to save her life and the life of her baby.

The 1996 national Safe Motherhood needs assessment indicated the need for action, especially in rural areas:

- To equip first referral health facilities to enable their provision of essential obstetric care.
- To train midwives, nurses and doctors in the management of obstetric complications.
- To improve communications and transport access to enable the referral of complicated cases.
- To emphasize on helping pregnant women understand and respond to warning signs of birth complications.

### **1.3. Maternal Health in Zambia**

Since the launching of the Safe Motherhood Initiative in 1987, increased attention has been directed towards the issues surrounding maternal health. A primary goal of this initiative is the reduction of maternal mortality, which is one of the most important indicators in assessing a country's Safe Motherhood performance. Maternal mortality provides the most revealing measure of the status of women, their access to health care, and the ability of the health care system to respond to their needs. Moreover, such mortality indicators reflect the underlying social and economic conditions obtaining in a given country.

Many factors contribute to the low quality of women's reproductive health services in Zambia. The most significant of these are lack of appropriate infrastructure and referral system that is inappropriate to the nature of complications; inadequate supplies, materials, equipment and drugs; lack of skilled staff; gaps in the content of service provided and in the implementation of policy that guide the service operations. The patient factors include: maternal age at first pregnancy; lack of family planning and high parity; lack of knowledge of risk factors and complications; poor access to health facilities due to poor economic status and unaffordable transport to health facilities; harmful traditional practices during labour and delivery. *The success of this project is dependent on a number of factors, the most important ones of which are:*

- *Continued government prioritization of maternal health,*
- *Technical leadership at central and regional levels,*
- *Commitment and cooperation of the DHMTs and Hospital Management Teams (HMT) and health facility staff.*

On a pilot basis, various initiatives and projects are improving the quality of services. Through these experiences, attention is growing for Essential Obstetric Care, STD and HIV/AIDS prevention. Notwithstanding these improvements, the quality of antenatal services is still sub-optimal. Among pregnant women, knowledge on danger signs is limited. Although some districts have worked out adequate systems for monitoring and referral of at-risk pregnancies, this is not the case in others. In general, systematic screening on STDs is limited. Anti-malarial drugs are not systematically given, nor are iron/folic acid. The organization of health services is often not meeting the needs of specific target groups, such as adolescents. According to the 1996 DHS, 40 per cent of women using antenatal care services have received up to the second dose of tetanus toxoid (TT2); another 48 per cent have received TT1, while 12 per cent do not receive any TT immunizations. More than half of all deliveries (DHS – 1996:47 per cent; 1992: 51 per cent) take place at home and are assisted by non-trained family members. It appears that the role of the trained TBA in assisting deliveries (and also in identifying at-risk pregnancies) is limited (5% of deliveries; HMIS, 1999).

Women with higher education make much more use of health services for delivery care. Many health centers are in practice not delivering the appropriate package of care, including assistance to deliveries (already included in the definition of the package of care for a health post). Therefore, a geographical access to health centers with appropriate facilities for delivery care is limited, and contributes to the low coverage of assisted deliveries. This indicates that the referral system is largely inadequate (from community to health center; from health center to district hospital). Lack of communication (radio) and transport seem to seriously undermine the appropriate referral of emergencies; and, hence, the use of health services in the first place. Until now, the 'doctor dependency' in delivery care is high. In the health centers, Clinical Officers do not play a role in managing complicated deliveries, since they are not trained to do so. This may lead to further delays in referral and prompt essential obstetric care.

Quality of maternal services is also affected by a lack of appropriate equipment at all levels, in particular in hospitals. As an example, in many of the operating theatres, basic surgical and sterilization equipment is obsolete and or lacking. In fact, within this difficult environment, health staff still makes commendable effort to provide the best services they can. Furthermore, at the hospital level, there has been a consistent lack of emergency drugs in recent years (Ex-post evaluation of Urban Maternity Centers, 1999, and World Bank).

While Zambia has one of the most liberal abortion laws in sub-Saharan Africa, most women and health care providers are not widely aware of the legality and availability of abortion services. The 1972 Termination of Pregnancy Act allows for access to safe

abortion on medical and social grounds (and requires the approval and signature of three physicians). However, this law is marked by the following restrictive conditions. Firstly, that the operation should be performed in hospitals. Secondly, that the three physicians must authorize and clearly state the grounds on which the termination is permitted. A major problem with these restrictions, especially in rural health facilities, is that one hardly finds even a single physician present in remote areas. Post-abortion care, as basic part of essential obstetric care, includes emergency treatment for abortion complications, post-abortion family planning counseling and services, and links to other reproductive health services. In Zambia today, post-abortion care services are not yet fully developed and are not integrated with family planning or other reproductive health services.

Knowledge of contraception among women is high. Yet, disapproval of family planning by husbands appears to be widespread. The 1996 DHS showed that there was an important and growing Unmet need for family planning services. However, after 1996, several initiatives were taken to address this issue, such as social marketing of contraceptives (through community based distribution and through other outlets, such as shops).

UNICEF's support for the MCH programmed over the period 1991– 1996 focused on trying to provide antenatal and post natal care as part of an integrated health package; to strengthen the capacities to diagnose, treat and prevent STD's, especially syphilis; and the training of TBAs (3,000) and MCH staff (1,000) at hospital and health center levels. From this experience, it has been learnt that while investments in antenatal care have resulted in improvements in the health status of pregnant women; investments in the "risk approach" and TBA training have not been successful in reducing maternal mortality.

Zambia is one of the most urbanized countries in Africa; hence improvement of urban maternity services was seen as the first priority. It is estimated that 40 per cent of Zambian population is urban, while 60 per cent live in rural areas. In spite of efforts to provide women with good quality maternity delivery services within easy reach of their homes in rural areas, the impact remains insignificant. Most women have access to a traditional birth attendant who is not equipped to deal with serious birth complications. This is one of the causes of high maternal mortality rates.

A positive development has been the introduction in many health centers of the partogram. In urban areas (Lusaka and the Copper belt), maternal care has been improved by introducing new and well-equipped urban health centers. These health centers have decreased the overburdening of 2<sup>nd</sup> and 3<sup>rd</sup> level hospital with 'normal' deliveries. The utilization of post-natal is much lower than antenatal care (HMIS, 1999: 21%). Yet, recent studies have shown the importance of adequate post-natal services to further reduce maternal mortality (MoH/CBoH/UNFPA/UNZA, 1998).

Given the Irish Aid's experience in and commitment to MCH care, it is appropriate to now expand this involvement by supporting the upgrading of obstetric care services at

health center level and first referral facilities (District Hospitals) in rural areas. The Ministry and Central Board of Health recognize Safe Motherhood as a priority area in the provision of reproductive health services. In following up on this new approach a Safe Motherhood needs assessment was undertaken in 1996 with UNICEF and WHO assistance, which identified a number of serious gaps in almost all components of service delivery for maternal and new born care. In summary the needs assessment indicated the need for action, especially in rural areas to: (a) adequately equip first referral health facilities to enable their provision of essential obstetric care; (b) to train midwives, nurses and doctors in the management of obstetric complications; (c) to improve communications and transport access to enable the referral of complicated cases; and (d) more emphasis on helping pregnant women understand and respond to warning signs of birth complications.

The project under review, which seeks to demonstrate an approach to responding to these needs was initially implemented (1997–98) on a pilot basis in three districts (Lufwanyama, Masaiti and Mpongwe), selected by the Ministry and Central Board of Health. If successful, the project could be replicated nationally. This project offers an excellent opportunity to build new expertise, deepen our involvement in MCH in this country and share our own experiences. The project operated within the Zambian Government structures, with some technical guidance and limited financial assistance, provided by UNICEF Zambia. The aim is to commit government funding for EOC services at district level. The rationale for the development of EOC Policy was based on the fact that although Safe Motherhood had been provided in the past, there has been no significant impact on health indicators of the mother and the newborn. Meanwhile, Safe Motherhood Policy is one of the specific component policies within the series of policies under the umbrella of the Reproductive Health Policy. It addresses service delivery for improvement of the health of the mother and the new born. Therefore, the Safe Motherhood package has been defined to include antenatal care, clean and safe delivery, postnatal care, family planning, and prevention and management of STD / HIV / AIDS and these services should be provided in an integrated manner at all levels of the health care system. Maternal health is one of the 6 major priorities (for health thrusts), which provides great potential for ensuring the sustainability of the project, as the activities will be integrated in to the existing activities of the health institutions.

It is the intention of GRZ to take scale up the project in terms of national coverage. Before doing so, consideration needs to be given to the major lessons learned and their implications for cost effective implementation of EOC in rural areas. This evaluation was carried out between May and July 2000 to document the actual achievement of the project, the inputs, outputs and the key lessons learnt for before any attempts to scale the process by the Government and other willing stakeholders. The evaluation will consist of an examination of the relevant documentation from the MoH and the projects to review secondary information and actual visit to project sites to collect primary data, collate and analyse the data to tease out the main achievements and the major lessons learned in order to use them to improve obstetric care in the first phase districts and the project plans for other similar projects in the future especially in case the project is scaled up to include other districts.

In line with both the Health Reform Programme initiated in 1992 and the Programme of Action of the 1994 Cairo International Conference on Population and Development (ICPD), Zambia developed the Reproductive Health sub Programme with Safe Motherhood as a priority initiative. One of the challenges of the Programme was to understand the structural and cultural factors that influence the accessibility and quality of appropriate reproductive health services. The Safe Motherhood policy and technical guidelines will ensure that the activities at district level currently being supported by UNICEF and Irish Aid are adopted nationally. So far, close to 90 per cent of pregnant women do attend antenatal services (DHS, 1996 and HMIS, returns 1999). According to routine HMIS data, the average number of visits per woman has increased over the years and was 3.5 visits per pregnant woman during 1999. This indicator can be considered as 'proxy' for quality improvement.

#### 1.4. The Project Area

The Study Area is what used to be Ndola Rural, it covers 23,574sqkm. It lies on a plateau, which rises gradually to an altitude of 1200 to 1300 meters above the sea level. It has good precipitation with subtropical warm humid climate in summer, and cold dry winters. The vegetation is typical subtropical, alternating between brush bush, savannah forest and large expanse of grassland. The soil is loam, sandy loam or black cotton, with few areas of volcanic red coffee soil.

The area comprises three rural districts, namely Mpongwe, Masaiti and Lufwanyama. In 1994, the population of the area was estimated to be approximately 200,700 people distributed in patches of concentrations. In Masaiti, the concentration is high around Kambowa. In Mpongwe, they are in Masaiti, Mpongwe and Kasamba, the latter cut out in the far west of the district. In Lufwanyama, the population is sparsely distributed but most are to the west of the forest cut out by the Kafue river from the nearest urban areas.

##### Box 1: Summary of Demographic Features

• Population: Approximately	<b>270,000</b>
• Women of child bearing age	<b>23%</b>
• Rate of expected pregnancies	<b>5.4%</b>
• Women at risk of pregnancy related complications	<b>13,500</b>
• Crude birth rate	<b>5.0%</b>
• Fertility rate	<b>6.2%</b>
• Crude death rate	<b>1.3%</b>
• Under five mortality ratio (per 1000 live births)	<b>144</b>
• Maternal mortality ratio (per 100,000 live births)*	<b>414</b>

*\*Kafulafuta 1994.*

The communication infrastructure is poor with seasonal gravel roads, most of which are not passable during rainy seasons and very few rivers or streams have any reasonable bridges across them. In many areas only footpaths or bicycle tracks are found. The only rapid means of travel available to most people are bicycles, oxcarts and canoes, which form basic ambulance system.

##### 1.4.1. Mpongwe District

Mpongwe, which used to be the central zone, lies between the Kafue River and the Ndola-Lusaka Road. The main sources of livelihood are: smallholder farming, fishing, informal forest based trade, labor in the mines, labor in the large scale privately owned farms which also draws a large migrant population mostly from western province during the farming season.

Mpongwe district has an area 8000 square kilometers. But the actual health district catchment area is approximately 12,000 square kilometers. It has a typical subtropical savannah climate with severely cold winters and hot summers. The vegetation alters from brush bush and wide expanse of grassland depending on the altitude and geological factors. The area is predominantly agricultural land even though it is close to the major mining districts of Kabwe, Ndola and Luanshya and Kitwe. Agriculture, Fishing, Livestock production and forestry are the major sources of revenue and form the main occupation in the productive sectors. The mean per capita income in the district is K1800.00. (but realistically estimated to be.....).

The official population of Mpongwe district is currently estimated to be 53,000, based on projections from the 1990 national census. Members of the DHMT, however, estimate the actual population of Mpongwe district to be 110,000 based on a head count carried out in conjunction with central statistics office in 1996. In addition there are migrant laborers who immigrate temporarily into the district mostly from Western Province, to provide cheap labor in the local commercial farms. These are estimated to comprise % of the district population during the heavy farming seasons. The catchment population of Mpongwe Health District also include a large proportion of people who are settled on the bank of river Luswishi, a tributary of river Kafue, which forms the northern border of Central Province. This more than doubles the estimated catchment population. This is primarily because Mushiwe Health Center is situated by bank of a river and was run by the Zambia Flying Doctor Service (ZFDS) and had an Airlift Services for the critically ill. This service has since been reduced to mere radio call service, which was even not in efficient use by the time of this evaluation.

Women of fertility age comprise 22% of the population as in the rest of Zambia. The estimated expected number of pregnancies is 5,490, based on a pregnancy to population ratio of 5.4%, while the expected number of deliveries is 5200. The actual numbers are closer to 10,000.

There are 17 health facilities in Mpongwe, of which two are Mission Hospitals, one of which functions as the district Hospital, 12 government health centers, two missionary health centers and one company sponsored health center. One of the clinics, Mushiwe, was run by the Zambia Flying Doctor Service (ZFDS) as indicated above but was handed over to the government in 1996. The most senior member of staff who is also in charge of services is an unclassified cadre known as "*clinical assistant*" a title given to a community health worker that was trained by the Zambia Flying Doctor Service (ZFDS) to provide simple first aid care as patients awaited airlifting, but later were trained in community based health promotion. A TBA who was later given some training in EOC assists him.

#### **1.4.2. Lufwanyama District**

Lufwanyama, which used to be the western zone covers nearly half the district because it has very large and sparsely populated forest zone. Two or more all season tributaries of the Kafue River cross it. The main sources of livelihood are, labor in the privately owned forest, labor in some of the surviving mines in Ndola Urban, smallholder subsistence farming and animal production, the informal forest based labor of charcoal production and fishing.

Lufwanyama district has an area of approximately 8,774 square kilometers. The actual health district catchment area is approximately 23,072 square kilometers. It has a typical tropical savannah climate and the vegetation is a mixture of trees, tall grass and woodlands with three distinct seasons: the cool and dry winter, the hot and dry season, and the warm and wet season. The vegetation alters from brush bush and wide expanse of grassland depending on the altitude and geological factors.

The official population of Lufwanyama district is currently estimated to be, 56,706 based on Central Statistics Office projections from the 1990 national census. Members of the DHMT, however, estimate the actual population of Lufwanyama district to be 60,715 based on district head counts carried out in conjunction with Central Statistics Office. The catchment population of Lufwanyama Health District also includes a large proportion of small-scale emerald miners.

Women of fertility age comprise 22% of the population as in the rest of Zambia. The expected number of women of child bearing age is therefore 13,357. The estimated expected number of pregnancies is 3, 278 based on the standard pregnancy to population ratio of 5.4%, while the expected number of deliveries is 3,005.

The area is predominantly agricultural land even though it is close to the major mining districts of Luanshya, Ndola and Kitwe. Agriculture, Fishing, Hunting, Small-scale mining, Forestry and Livestock production are the major sources of revenue and form the main occupation in the productive sectors. The mean per capita income in the district is K 750.00

There are 13 health facilities in Lufwanyama, two have overnight facilities and two are classified as mission mini hospitals (even though they do not have surgical theatre and laboratory facilities for safe blood transfusion) and 7 health posts. All government facilities have neighborhood health committees. All the health facilities have at least two midwives trained in EOC. A total of 26 staff has had training in EOC while 30 are yet to be trained.

### **1.4.3. Masaiti District**

Masaiti, which used to be the eastern zone lies between Ndola Lusaka road and the boarder with the DR Congo. The main sources of livelihood are,

smallholder farming, some informal forest product based trade, and labor in the local mines and middle person trade in distributing products from the farming communities.

Masaiti district has **an area of approximately 6,800 square kilometers**. The actual health district catchment area is approximately 15,000 square kilometers. It has a typical sub tropical savannah climate with severely cold winters and very hot summers. The land consists of a plateau whose vegetation alters from brush bush and wide expanse of grassland depending on the altitude and geological factors like the other two Ndola rural districts. The district receives an average of 1,300mm of rainfall and has both seasonal and perennial streams, which provide a source of drinking water, fishing and vegetable farming. The area is predominantly agricultural land with good arable land, which ranges from sandy loamy to clay soils even though it is close to the major mining districts of Kabwe, Luanshya, Ndola and Kitwe. Agriculture, Fishing, Hunting, Forestry and livestock production are the major sources of revenue and form the main occupation in the productive sectors. The mean per capita income in the district is **K 780.00**.

The official population of Masaiti district is currently estimated to be 92,838 based on Central Statistics Office projections from the 1990 national census. Members of the DHMT, however, estimate the actual population of Masaiti district to be 99,265 based on district head counts carried out in conjunction with Central Statistics Office. The catchment population of Masaiti Health District also includes a large proportion of small-scale emerald miners.

Women of fertility age comprise 22% of the population as in the rest of Zambia. The expected number of women of child bearing age is therefore 21,838. The estimated expected number of pregnancies is 5,360 based on the standard pregnancy to population ratio of 5.4%, while the expected number of deliveries is 5,162.

There are 18 health facilities in Masaiti two of which are mission sponsored. All of them are health centers, even though one mission facility is classified as a hospital because of its size. It however does not have a surgical theatre and has a laboratory, which could offer safe blood trans fusion, but is none functional due to lack of staff. A total of 21 staff has had training in EOC. Geographically, St Mary's Hospital, which is located in Mpongwe district, is actually in Masaiti District. In addition, the district is much closer and has good communication access to Hospitals in Luwansia and Ndola.

## 2. THE EVALUATION OF THE ESSENTIAL OBSTETRIC PROJECT

### 2.1. Method

This was a descriptive study conducted between 30<sup>th</sup> May and 21<sup>st</sup> July 2000 by an external consultant conversant with strategic planning for health and two local consultants: a specialist in obstetric and gynecology and a health information system specialist from the CBoH. The design of the study and the methods of this evaluation were based on the in the terms of reference provided by UNICEF as spelt out verbatim in the objectives stated below. Members of the

evaluation team recognize that the project activities are have so far lasted less than three years. It is therefore only in its formative phase and therefore put greater emphasis of the evaluation on process

indicators. To assess effectiveness, outcome indicators were used to assess performance. The strategy adopted in this evaluation was a systematic appraisal of the implementation process using both quantitative methods in collation and analysis of secondary data; and qualitative methods in collection and analysis of primary data.

#### **Box2: The focus of the exercise was:**

- *Ownership of the project by the beneficiaries due to felt need.*
- *Conceptualization of the project in terms of origin of the idea and ensuring and appropriate targeting of the core root of the problem.*
- *The formative activities including basic research and periodic evaluation using pragmatic methods to fully analyse the problem and develop strategies to solve them.*
- *The process of mobilization of all actors through formation of appropriate intersectoral linkages and coordination to develop solutions.*
- *Development of an effectiveness management information system using appropriate indicators to assess effectiveness and keep the project on the right track.*

### 2.3. Study Population and Data Sources

A three-tier approach was used to gather data, first a survey and review of secondary literature, was carried out to document any independent assessment of achievement in the Strengthening of Essential Obstetric Care (EOC) Project in the three districts. This was followed by collection, summary and analysis of quantitative data from records, reports and any minutes of consultative meetings to derive process and impact related indicators already identified in the proposal document and project plans. These consisted of data that were collected daily by staff at the ANC clinics, summarized quarterly by the DHMT officer responsible, before being forwarded to the CBOH and UNICEF office. The already computerized data was extracted, but historical data that had not been computerized was extracted from the registers and records in the clinics and labor wards. The variables were selected based on the indicators identified in the project proposal document and other information requested in the TOR, and are listed in the Appendix

Cost related data were derived from project proposal documents, accounts and supplies records from UNICEF; and from records and minutes of consultative meeting with clarification from the Project Officer where necessary. Other costs from Government and CBoH budgetary estimates and expenditure extracted from reports or as explained by members of the DHMT.

Secondary data was collected from literature, records at the CBOH, HMT, UNICEF offices and the two Hospitals in the project area. HMIS reports the clinics and the DHMTs were reviewed. Primary data was collected from health facilities in the four identified districts and communities served by a sample of local health facilities and focused on the quality of implementation of project activities and the levels. The project sites were visited to carry out the following:

- Key informant interviews using guidelines agreed upon and administered as neutrally as possible by the evaluation team members. They targeted program personnel at UNICEF, Irish AID, Ministry of Health (MoH), Central Board of Health (CBoH), the three District Health Management Team (DHMT), MCH, ANC and labor ward clinical staff and selected members of health facility neighborhood committees.
- Observations and interviews were carried out at ANC clinics, labor ward, pharmacies, laboratories, stores and HMIS records offices.
- Focus Group Discussions were carried out in the selected communities around the sampled health facilities and targeted women of fertility age group, men and adolescents.
- Further interviews were held with other stakeholders involved in either Safe Motherhood or Family Planning programmes where necessary. Where they were illustrious, anecdotal case studies of health facilities or individual clients were used whenever the opportunity arose to give a real life meaning to the whole exercise and to identify best practices or important gaps.

The study population comprised all women of childbearing age in the study area during the period January 1995 to 1999. The direct study population included expectant mothers and deliveries in the three project districts from 1995 to 1999.

**Box 3:**

**2.2. The Objectives**

**2.2.1. Overall Objective:**

*To examine the extent to which project activities have met planned goals, purposes and outputs as agreed in the project documents. To make recommendations for future implementation, scaling up and integration routine health services.*

**2.2.2. Specific objectives:**

1. *To examine the extent to which the project is consistent with the Health Sector Reform process in Zambia.*
2. *To assess and comment on the level of technical and management capacity within CBoH, DHMT structures a degree to which this can ensure sustainability.*
3. *To examine the actual costs of inputs as compared to the initial estimates.*
4. *To present an analysis of government financial inputs and comment on issues relating to financial sustainability.*
5. *To comment on the usefulness of the recommended national guidelines in managing pregnancy complications.*
6. *To determine the impact of training on essential obstetric care.*
7. *To examine the client's accessibility to primary level essential obstetric care services, referral to complementary secondary level of care at the primary referral centers.*
8. *To assess factors, such as distance, transport, cost of travel, cost of services, attitudes of service providers, privacy and cultural practices, which influence the client's satisfaction with the services.*
9. *To assess the degree to which recommendations from the mid-term review of the project have been implemented by the various stakeholders.*
10. *To comment on the impact that HIV / AIDS epidemic might have had on the project.*
11. *To examine the nature and magnitude of constraints which affected the project.*
12. *To comment on the availability and quality of the data for monitoring and reporting; use of nurses, clinical officers and other health workers to diagnose, manage and treat pregnancy complications, the level and nature of community participation in the project.*
13. *The role of CBoH, DHMT and UNICEF in managing this project.*
14. *To give an outline of Government's view on the relative success or otherwise of the project;*
15. *To identify best practices, gaps and the major lessons learnt in the course of implementation of this project.*

**2.2. Sampling**

For secondary information and data, all available secondary literature was reviewed and secondary administrative data from the existing HIS was examined. Raw secondary data was collected from the records of a block one-third 33% of all health centers and all first level referral facilities in each district were included.

For primary data collection, a systematic purposive sampling was used, in which all health facilities were listed and their estimated distance from the district health office recorded. The nearest, and the furthest and were selected and entered into the study. The nearest and furthest health centers from the district health office were confirmed by *reconnaissance transect drive*. At least one "mid distance" health center from areas with specific differences, for example dense or thin population density, other unique spatial distribution of settlement, difficult terrain, communication difficulties or *centers with history of referral of bad cases* were purposively included. From the sampled centers,

randomly selected 8 to 12 members of the following target groups were recruited to participate in FGD or respond to KII:

- ANC clients and expectant mothers in “*mothers’ waiting homes*”. To ensure validity, at least 600 clients were included in the discussions.
- Members of neighborhood committees.
- Health staff.
- Communities own resource persons for health service provision, specifically Safe Motherhood Sub-committees of the neighborhood committees or TBA.
- and management and targeted community members including adolescent girls, boys, *tba* and TBA from around the sampled centers during the period of the evaluation were also interviewed.

### **2.4.3. Work Plan and Strategy**

A Health Programming Consultant with experience in strategic planning and project development in health programs led the evaluation team. He was assisted by an Obstetric consultant with wide experience in rural obstetric care and first hand experience in Maternal Health in the Zambia, having also participated in the review of other maternal health programs in the country. Also assisting was a Management Information System specialist who had first hand experience in the CBoH Information system. Experienced research assistants with experience in quantitative and qualitative research methods were recruited from outside the districts for the purpose of objectivity.

The three consultants debriefed with project officers at UNICEF to build consensus on the overall plan and strategies and establish all the tasks, activities and activity schedules. Having agreed on the terms of reference, the consultants reviewed literature and documents that were made available to them and others that were obtained from UNICEF and WHO, UTH and other secondary sources such as the Central Statistical Office. From the information, they developed a proposal for the evaluation and presented it to UNICEF project officers in the health section and the country office monitoring and evaluation officer. The respective officers agreed with the proposal and it was then shared with a group of peers from CBoH, UTH, and MoH in Lusaka. After discussion a suggestion was made that the qualitative survey of community be expanded to include an assessment of obstruction to utilisation of EOC at community level. Methods and tools for the evaluation study were therefore modified to ensure that good quality data was collected from the communities.

During the drive to the district, the team leader familiarised the research assistants with techniques for judging distance between villages and centres. At the district level, a reconnaissance and transect drive through the three project districts and the research assistants practised judging distances, they familiarised with the FGD tool and also practised review of documents and statistical data at the health facilities. They also started to familiarise with local abbreviations used by the medical fraternity in Zambia. Data was collected over a period of two weeks with the modifications to ensure that accurate data on community access to EOC activities at district level was captured. Information on strategies developed by some innovative health staff to ensure in remote areas was particularly looked for. Quantitative data was collected from 16 out of 42 health facilities that were directly involved in the project and analysed using MS Excel software. Qualitative data has been as far as possible presented verbatim or paraphrased to collate several similar answers to avoid changing what communities said.

Data was analyzed according to the impact *indicators stated in the log frame in the project proposal document* based on the terms of reference spelled by

UNICEF and additional indicators identified out by the peers at the presentation of the methods to the stakeholders.

### 3. FINDINGS

#### 3.1. Consistency with the Health Sector Reform Process in Zambia.

The overall strategy adopted in the project was in conformity with the policy of making health services as close to the family as possible. The health centers and health posts are the closest institutions to the population; therefore training of clinical staff in these institutions in EOC was consistent with the policy. It had two major limitations; the first was that average distance to peripheral rural health facilities is still over 30 kilometers. Secondly, male clinical personnel whom communities do not culturally accept to provide obstetric care in Zambia often staff the facilities. The referral chain was also in conformity with the health reforms, which emphasizes use of the existing referral centers more effectively. For example, Ndola Central Hospital was used both as a first level referral for the local rural districts of Masaiti, but also functioned as a tertiary referral health facility to the neighboring provinces.

The strategy was also in conformity with the overall national *Reproductive Health Policy*. It helped to better focus on a health problem for which appropriate intervention and technology has been developed. It further improved on the Safe motherhood Initiative of 1987, by recognition of the limitations of only risk approach management. The strategy was also in tandem with the resolutions of the Cairo conference on Population and Development Program of action of 1994 including, promotion of women's health to achieve a substantive reduction in maternal mortality and improvement of nutritional status of women especially of pregnant mothers.

In the view of the health policy monitors at the Ministry of Health (MoH), there needs to be a clear stipulation that the EOC policy is a component of an overall comprehensive reproductive health policy. This can only be achieved if the Ministry owns the EOC strategy. The current district plans of actions, however, indicate that not enough attention is given to ensure that they are in conformity with the policy objectives. In prioritization of health problems, the traditional epidemiological approach of relative morbidity rates at health facilities are used. With this approach, pregnancy related health needs only appear to be rated between the fourth and sixth on the priority list.

In the 1994 plan of action of the Ndola Rural DHMT from which the three DHMT were formed, Maternal Health was identified as one of the top five health priorities. In addition, discussions with the

#### Box 4

##### Origin of the idea of EOC.

1. *Maternal health services heavily contribute to the workload in the hospital and therefore more staff is deployed in the MCH.*
2. *There is insufficient number of health professionals to cope with the extra load of EOC.*
3. *Equipment and supplies were insufficient*
4. *This delayed systematic implementation of EOC for 1 year.*
5. *The idea more or less originated from outside.*
6. *But the idea helped us to focus better on maternal health.*
7. *Equipment and supplies come from donors.*
8. *UNICEF in some cases imposed some activity and equipment on the*

members of the DHMT from Mpongwe and Lufwanyama DHMT, we observed that the burden of disease approach to health planning was not used to prioritize health interventions; rather, the relative morbidity rates were used as the important indicators of health status. When the question: “Currently the Government of Republic of Zambia (GRZ) reflects pregnancy related conditions as the leading cause of burden of disease (BOD). To what extent is this true in your district, or is it merely guesswork, considering that over 50 per cent of deliveries occur away from health facilities and there are no statistics of their outcome?” was presented to the DHMT, the response was slow and lacked confidence (box 4). The priority given to pregnancy related health requirement was not clear, while it was clear that Malaria therefore considered a big threat and was the first priority. But, the need for quality obstetric care has been recognized for a long time in Mpongwe. The Baptist Mission Hospital, which now operates as the *de facto* district hospital was actually started as a facility to provide obstetric care. More over, the concern for maternal deaths led to local study on maternal deaths in Kafulafuta in 1994. The study revealed a maternal mortality ratio of 414 per 100,000 live births in the area.

Traditionally, communities in Mpongwe have always considered obstetric care as important. This became clear during focus group discussions with all the four target groups in the communities. The responsibility for care of expectant mothers is left to older, women who have had a long and successful experience with their own deliveries to start with and secondarily have successfully delivered other women *in the family* (box 5). The family circle in this case is small. It

**Box 5: Who takes care of expectant mothers at home?**

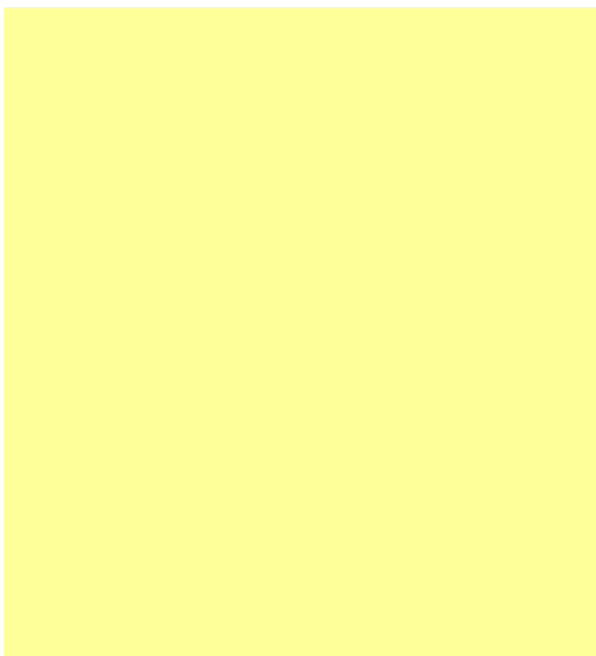
1. The expectant woman herself.
2. Grand mothers, elderly aunties and mothers.
3. TBA<sup>\*</sup>, but they are not always available.

\* Of note here is that the term TBA was regarded as

is restricted to daughter in law, daughter, niece and granddaughter. The mother, grandmother and aunts are therefore the true *traditional birth attendants (tba)*. This restriction has strong emotional attachment. While it is accepted that a *traditional birth attendant* may provide assistance to people outside the family, this has to be done guardedly. The assisted

person in return *should reward the tba with a bag of grain and a chicken*. Folklore has it that a *tba* who goes assisting many women (outside the immediate family circle) and who is not usually rewarded “*will soon go blind*”. This indicates a strongly felt need for expert and cautious obstetric care.

In the community, the need for EOC is urgent and has remained so for long. The traditional system that relied upon *tba* was in place from time immemorial to cope with health needs during pregnancy and childbirth. In the last two decades, attempts were made to “*improve on*” the traditional approach by introduction of Trained Birth Attendants (TBA). TBA were selected by health professionals from the existing *tba* using some criteria set by the professionals. Such criteria appear to have satisfied the health professionals rather than the communities. They failed to provide lasting solutions to the problem of lack of access to safe motherhood interventions (reports of Evaluations of TBA Programs, Safe motherhood needs assessment report, ...). ***Velevi, please insert the correct reference.*** Where the birth attendants have been selected according to community criteria without external influence, they have remained fairly effective, accounting for the observed wide variation in effectiveness between projects. Other strong intervening factors are to do with the time for revealing a pregnancy. Traditionally most



women, (even educated professional ones) would not announce their pregnancy before the end of the third month, for fear that it may *disintegrate*. The emotional attachment given to reproduction and the diverse reasons for possible disintegration of a pregnancy shrouds it with mystery and strong feelings come into play. This heightens the fear of *witchcraft*. All however agreed that an expectant woman needs care right from the time the pregnancy has been detected (box 6).

<b><u>Box 6:</u></b>	
<b><u>Community Opinion on Care Needed by Expectant Women</u></b>	
<b><u>Women and Girls</u></b>	<b><u>Men and Boys</u></b>
<i>Pads, gloves, clothes.</i>	<i>Lighter work.</i>
<i>Money, K6000.</i>	<i>Different foods.</i>
<i>Antenatal care (ANC)</i>	<i>Demanding/Understanding.</i>
<i>Laboratory test.</i>	<i>Bathing well (good hygiene)</i>
<i>Cleanliness.</i>	<i>Funds</i>
<i>Good diet.</i>	<i>At home she needs</i>
<i>Light work.</i>	<i>Advice to attend clinic.</i>
<i>Exercise.</i>	<i>Advise from mothers,</i>
<i>Other requirements as specified</i>	<i>grandmothers.</i>
<i>by the person providing ANC</i>	<i>Money for care at hospital.</i>
<i>Assistance</i>	

Communities believe that women need high quality care during gestation and delivery. They would like only persons that they trust to provide this care. Such trust goes well beyond mere training of an individual, it given to those with proven ability to care, those with known *clean background in terms of witchcraft* or other such beliefs. One of the major problems is that clinical staff in most of the health centers is males, whom the communities don't quite trust with obstetric care, as opposed to women in health

profession who are. The TBA appears a misfit when all these criteria are applied. Firstly, they *don't have medicines*. Contrast this with the fact that *tba* use herbs! And may provide traditional advise on diet and other modes of self care. According to adolescent boys, the first person who should provide care to an expectant mother is *the expectant mother* herself.

The need for EOC is perceived, felt and highly prioritized by communities and health workers in peripheral health clinics. Even though these are mostly males, they have keen interest and sympathize with the community sentiments that the care should be provided by women. In many centers visited however, they provided the care to the best of their ability and the extent that communities acceptance, this was much better the younger the health staff was. Most of the male nurses and clinical officers interviewed were keen to provide the care and had gone to great lengths to mobilize communities and promote the care. Support from the DHMT has however been weak. Therefore over 50% deliveries still occur at home. The need for EOC is perceived by the DHMT, but their health plans indicate that it is given a lower priority. The district plans are therefore not in tandem with the national health policy intention of "*availing high quality care as close to the community as possible*", with regard to EOC. This has affected the implementation process since it affects many aspects of health service management such as the mode of posting of health staff to peripheral facilities.

Many mothers already prefer to deliver at health facilities that offer comprehensive EOC. Most young mothers save money, travel to and wait to deliver at distant hospitals. Most large health centers and first level

**Box 7: Case Study: “Leonida”**

*Leonida is a thirty year old mother of two. She delivered her first two children at St. Mary’s Hospital without any complications. She has now delivered her third baby at the same hospital. Leonida traveled to St. Mary’s Hospital Three weeks ago, two days before her expected date of delivery, Leonida traveled nearly to St*

**Box7: “Leonida” Case Study continued from page14...**

*Following a normal delivery of her third baby, Loenida stayed five days at the hospital to ensure no immediate complications arose. She then walked back to the junction on the main road carrying her baby. When we met her on the road with others waiting for transport, she was reluctant to board our bus since it would travel straight ahead past her junction . She would rather wait for the bus that branches towards her home so because she had the exact fare. But this would not be enough for a broken journey! Thus, Loenida was quite delighted to know that we were in fact offering her a free lift to wherever she would alight with her baby. So she in fact saved some of her fare!*

*Ordinarily Loenida would have come with her tba, an aunt, mother, or grand mother to assist her. But as an experienced mother, this was no longer very necessary and they could save some money by her coming on alone. Ordinarily too, her husband should come to receive her and the baby from the hospital, but, again since she is experienced it saves costs if she just comes back home. In case of any complication, the husband would have received the information from one of the traders from her home who comes to sell their farm produce at the mission.*

*St. Mary’s Mission Hospital is named so because of its bed capacity. It has no surgical theater, nor laboratory facilities for safe blood transfusion. If a complication arose that required surgical intervention or blood transfusion, then Leonida would have been transferred to Kitwe hospital, some 120 kilometers down the earth road, which gets muddy and impassable during the rainy season. Under such circumstances, Leonida would be transferred, word would be sent to her husband at home some 110 odd kilometers in the opposite direction and he would be required to*

*This involved traveling from Manyama district, close to forty south west of the main road. It is served by a few vehicles, which visits the district headquarters at morning and back once in the way to St. Mary’s Hospital, she boarded one of the buses and traveled without any delay (first the 40km up to the*

referral hospitals have waiting dormitories for expectant mothers and their close relatives. This has helped those that live far from health facilities and is a good approach in reducing maternal mortality.

**3.2. The Technical and Management Capacity at National and District Level to Sustain EOC.**

Within the CBOH, there is an officer responsible for the coordination of reproductive health activities, in which EOC falls. The project is also monitored by the HMIS Unit, which has incorporated additional specific indicators for maternal health. The CBoH planned 4 supervisory visits to each district each year, which was to be carried out by the provincial wing of the CBoH. From the information we obtained on the

ground, only one such visit was completed in each district. The reports of the visits indicate several shortcomings of which the major ones are<sup>1</sup>:

- Inadequate coordination of activities in the districts. This placed a high demand on staff by externally supported projects.
- Inadequate grant to the district health program from the basket allocation.
- Shortage of drugs.
- Limited community participation (*attributed in the final report to poor community mobilization*).
- Lack of space for EOC services in the peripheral health centers.
- Poor feedback mechanisms and information flow.
- Delay in dissemination of findings of studies related to maternal health, such as the Evaluation of the TBA program.

Due to the short interval between the time that these shortcomings were reported and this summative evaluation, only a few changes had occurred. Most of these were by individual health centers and were not initiated by the district. Or they may have entirely been missed during supervisory visit because of the remoteness of the health facilities.

In each district, there is a district health management team (DHMT) composed of the following technical and managerial staff:

- **The District Director of Health Services:** Either a medical doctor, a nurse, clinical officer or environmental technician trained in administration.
- **Manager, Health Planning:** A nurse or clinical officer trained in management.
- **HMIS Officer:** Often a clinical officer or an environmental technician trained in HMIS.

There are no public health nurses or district nursing service directors and no district public health officers. In each district there was one nurse designated as the safe motherhood project coordinator.

In Mpongwe, the DHMT is led by a medical officer with over 5 years experience in management of H/S in rural areas. He is not trained in public health but has had several in-service training in administration. He is assisted by a medical doctor who is an expatriate and has had training in management of health problems in the tropics. There is a district health planner who was a clinical officer but has been trained in administration. The other member of the team is an HMIS officer. There is no district public health officer, even though there are several environmental health technicians. There is no district public health nurse, but one ZEN/ZEM has been designated the coordinator of the “*Safe Motherhood Project*”.

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<sup>1</sup> Final Report, Zambia, Strengthening Obstetric Care (EOC) Services at First Referral Facilities, January – December 1999, January 2000. *Velevi please add to the reference list and remove from here.*

At both the Mpongwe Baptist, St. Theresa Catholic Mission hospitals that serve as first level referral hospitals in the district and St Anthony's Health center, there are 24 nurses trained as midwives (known in Zambia as Zambia enrolled or registered midwives). The district also had five medical doctors involved in obstetric care. In Masaiti, there was no first level referral hospital, there are only two ZEM and the district has no medical doctor. In Lufwanyama, There is also no first level referral hospital, the Shimukunani Health Centre is currently under upgrading to become the first level referral hospital, but the process is incomplete due to lack of finance. There were two ZEM in the whole district and no medical doctor. This seriously limits that capacity of the latter two districts in providing adequate technical support to the peripheral health centers in EOC. The training program in EOC specifically targeted and trained nurses and clinical officers who not received training in midwifery. In centers where there was no qualified health staff, even classified daily employees and clinical assistants were trained in EOC.

One of the areas found wanting was on support to peripheral center workers. Only one out of four (quarterly) planned supervisory visits to peripheral health facilities was completed in every district over the three-year period between 1997 and 1999. According to Mpongwe DHMT this was due to lack of finance or lack of a vehicle for the support of visits. Each district had a 4 Wheel Drive vehicle, which could reach all the health centers since 1997. It therefore appears that lack of fuel was the major factor obstructing support visits. According to the staff of peripheral hospitals, supervisory checklist used by the DHMT was different from the one designed and used by the CBoH. According to the HIS officer in Mpongwe, the EOC reporting tools were unfamiliar, many and cumbersome. The centers did not have any direct support from health professionals that worked at the referral hospitals. There was therefore no way of appraising the technical capabilities of staff in the health centers in EOC.

Technical and management capacity is also dependent on the human resource available within the district. At the level of DHMT, the staff strength was adequate in all the three districts with the exception that none of them had a designated public health nurse nor public health officer. This limited the capacity of DHMT to coordinate and advocate for preventive and promotive health activities especially during the development of health plans. In all the districts visited there were officers with professional training and technical capability of carrying out such function. In all health centers visited, there was at least one clinical health staff trained in EOC. In one of the centers in Lufwanyama, the trained staff was innovative enough and organised an internal training program with assistance from the district HQ in a cascade that enabled rapid transfer of skill to all untrained health center staff and had even started training of TBA.

Another reflection of technical capacity and managerial capability is in the development of district sectoral plans. Looking through the annual district Action Plans for the health sector, there was evidence that they had been improving since 1994. They have SMART objectives, and specific indicators for monitoring and evaluation. The difficulty is the relevance of the district plans to the overall priority health interventions. For example, in the Masaiti Action Plan 2000, the

training objectives (and supposedly this is related to budget level), over three out of four training objectives relate to capacity at the district level and a good number target one individual. Only one training targets 18 clinical staff in Maternal Care. Training objective 4 does not appear to relate to training but to an on-going performance appraisal. Such skewed plans obstruct capacity building to improve specific health interventions such as IMCI, EOC, Safe Motherhood, STI/AIDS control, etc. Also in this Action Plan most estimates show that training related to improvement of quality of service to patients are left for the Basket, while the training for capacity building in the district are funded by the DHMT. The cost values of these training are 1:1

A third attribute of capacity to manage and to sustain quality care is supported given to peripheral centers by the DHMT (see the Mwinuna health center case study). Of planned support visits, in Masaiti only one out of four were completed in the last three years. This was also the case in Mpongwe. In the Lufwanyama district, three out of four of these support visits were completed. The Mwinuna

**Box 8: Case Study - Mwinuna Health Center**

*Mwinuna Health Center is located 98 Kilometers South West of Mpongwe District headquarters, where the one of the first level referral hospitals and the District Health Office are located. It staffed by two male ZEN and two male CDE. One of the CDE is currently located at a new clinic site to keep the clients informed of the location of the old clinic. The distance between the two sites is approximately ten kilometers. The location of the new site is based on proximity to the more densely populated area in the location.*

*Mwinuna was reported to refer very bad cases to Mpongwe Hospital. This placed a value judgment on the staff. On visit to Mwoinuna, we were not quite aware of the true distance from Mpongwe Hospital since the DHMT members were not quite sure and the Map was not drawn to scale. The journey took longer than had been anticipated. On reaching the site some 80 kilometers from Mpongwe, it took sometime to locate anyone. Then a CDE, who guards the site, was called from his home. He informed us that this was the new site for the health center. It was not yet functional. The building was being loaned to the DHMT from the Ministry of Agriculture. The functional site was some distance away. On insistence we were informed it could be "some 8 Kilometers away." On being informed of our mission he was rather reluctant to take us to the functional clinic site on the ground that "it was far from his home". After assurance that he would be dropped as close back to the clinic he consented reluctantly. A second observation was as notice at the door, which was possibly the only communication patients ever contended with (photograph on center page).*

*Having convinced the CDE that he would be brought back as close as possible to his residence, he agreed to take us to the functional clinic site. Here we found one male nurse and a male CDE. The second male nurse and male CDE **had gone on outreach to a health post for a period of three months.** This was a regular practice and the two pair of staff carried it out on rotation. This was because this health post was very far from the functional clinic site. We latter learnt that the health post was popularly known as the "Under-fives" Both the health center and the "under fives" outreach site offered Maternal Health services, i.e., ANC, deliveries, PNC, and Family Planning.*

*We took the opportunity to go to the "Under-fives" outreach site. It turned out to be a Thirty Kilometer drive on no road through a forest with the obstructions shown in photographs 1 and 2 in the center page. On reaching the outreach site, we found a temporary two-roomed hut built by the community to provide privacy and shade. A member of the community "Neighborhood" committee motivating mothers to attend the clinic, ensure children complete vaccinations and for all who came to contribute money for the construction of a health center in the near future and for food for the outreach clinic staff. We also took a drink prepared by community members for clinic staff to refresh themselves as they worked. A male CDE who recorded the BP of expectant mothers and the weight of the Under-five children. A male nurse conducting ANC and vaccinating the children. Many mothers who patiently waited their turn!!*

*An interview and observation of the health staff revealed that their knowledge and practice were excellent. An interview with community revealed acceptance of male staff as midwives even though this is culturally unacceptable!*

Health Center case study presented in box 8 may help illustrate observation on the capacity of the district to implement EOC.

According to the DHMT this center usually refers very bad cases. Not an attempt had previously been made to find out the reason. During this evaluation, the team found the staff at this clinic to be highly motivated and interested in their work they. The male staff in this clinic, Mushingashi in Lufwanyama actively provided EOC (photo).

Finally, the human resource establishment at peripheral centers is of paramount importance. The level of training of clinical staff, their professional interest, their dedication to the job and their gender all affect the performance of health intervention programs. According to the Mpongwe DHMT, some people that were trained could not be employed in the project. This was partly due to the fact that trained women tend to remain in urban areas. Another reason was because of the retrenchment. Some of the trained staff was retrenched, but they were unable to get jobs in the project because of lack of coordination in their respective districts. They were even unable to view the training as an opportunity that they could use to start services which they could run and charge at low cost to patients on their own.

### 3.3. Financing and Sustainability of the EOC Project.

Table provides insight into how the budgetary allocation and the expenditures compare. These primarily represent capital costs. In addition, in every district the project was financed by additional funds from user fees for services, additional donations, such as drugs to hospitals and voluntary contributions of labor and material from the communities. The latter are primarily recurrent costs

In Mpongwe, the DHMT estimated such additional funds to be approximately US\$10,000 for Mpongwe Mission Hospital, US\$15,000 for St. Theresa Hospital and possibly US\$ 1500 for the health centers. An estimated US\$5,000 worth of drugs was used in each of the hospitals station. The cost of health staff has not been included but is close to K100,000,000 equivalent to US\$30,000. In Lufwanyama, there was additional funding from World Vision of K30,000,000 equivalent US\$10,000. This is a conservative figure but adds up to US\$81,500 per district, i.e. US\$ 241,500 in total (table 1).

**Table 1. Comparison of Actual Costs of UNICEF/IRISH AID Financial Input as Compared to the Initial Estimates.**

Item Description	Budgeted Amount US\$	Expenditure US\$	CCF Nos.
Drugs Equipment and Supplies	106,000.00	42,915.90	PGM-ZAMA/99/90
		32,994.00	PGM-ZAMA/99/91
		4,034.00	PGM-ZAMA/99/92
		23,073.00	PGM-ZAMA/99/89
		30,000.00	CCF-AMA/98/0348
Training and Personnel development	30,000.00	4,627.00	CCF-AMA/97/0302
Technical Assistance	50,000.00	2,478.00	CCF-AMA/97/0296

Monitoring and Evaluation / Supervision	5,000.00	17,573.00 4,571.00	CCF-AMA/98/4186 CCF-AMA/98/0048
UNICEF Project Support Costs	9,000.00	26,546.00 2,750.00 3,076.00	CCF-AMA/98/0026 CCF-AMA/98/0577 CCF-AMA/97/0285
<b>Total - Actual Allocation PBA SC/97/0313-1.</b>	<b>194,174.76</b>	<b>194,637.90</b>	

The cost of community contribution was estimated by the Lufwanyama DHMT to be approximately K55,000,000, equivalent to US\$15,000. This included voluntary work from TBA and safe motherhood committee supervisory and planning work. Other opportunity costs to the community are not included. By rough estimates, each district could have financed the project by additional US\$250,000. The true cost of the project was therefore close to US\$400,000 or double the contribution from UNICEF contributed. The cost of equipment and initial training were capital expenditure and a one time run off if properly organized. The rest of the cost were predominantly recurrent and were contributed from within the district with a significant proportion coming directly from the communities. This makes this project highly sustainable can be made cost effective by improving efficiency.

### 3.4. The Impact of Training on Essential Obstetric Care.

One of the strategies used in improving the quality of EOC at the health center and first referral level was training. The training aimed at improving management of antenatal and the care at delivery at the health center level and vis-à-vis improve recognition and management of pregnancy complications and prompt action through the use of a partograph.

The training was planned and conducted by the three DHMTs with funds from UNICEF. One training workshop at which 18 participants were trained was reported. It is not quite clear whether these staff were trained as EOC providers or as trainers of EOC providers. ***Velevi please confirm.*** The DHMT and regional office used trainers from the established Ndola and Kitwe Irish Aid funded Maternity Projects. The curriculum consisted of the five WHO Safe Motherhood, Midwife in the Community, post partum hemorrhage, Obstructed labor, Eclampsia, Puerperal sepsis and the PHP Module 3, Chapters on Antenatal Care, Safe and Clean delivery and PNC. This also included notes on all the five modules for the students. This curriculum was comprehensive and appropriate as it addressed the major causes of maternal mortality in Zambia as indicated by the UNICEF Situational Analysis of Safe Motherhood (1996) and the Maternal Mortality Study of 1998. By December 1998, 65 clinical staff from rural health facilities had been trained in EOC. These included male nurses working in RHCs who usually do not undertake training in midwifery (obstetric nursing). Of those trained, 24 were from Lufwanyama, 21 from Masaiti and 20 from Mpongwe (table 2).

**Table 2: Health Facilities and Trained staff**

Project Sites	Lufwanyama	Masaiti	Mpongwe	Total
Number of	nil	nil	2	2

hospitals				
Number of delivery centres	13	18	10	41
Total number of staff	82	131	145	358
# Training workshops held	1	1	1	3
# of midwives/enrolled nurses/clinical officers trained	24(29%)	21(16%) (7 enrolled midwives 8 enrolled nurses 2 registered nurses 3 clinical officers)	15 (10%) (6 enrolled midwives, 5 enrolled nurses, 3 clinical officers, 1 auxiliary staff)	60(17%)

In all the districts, at least one clinical staff from the RHT had received EOC training, this represented a 50% attainment of the training objective. The principal reason for this 50% score was the actual time that the project could be implemented and lack of appropriate personnel to be trained. It was only in Lufwanyama, however, that the strategy was translated to ensure sustainability. In addition in all the centers visited, the clinical staff interviewed and observed at work had the knowledge, skill and positive attitude in the delivery of EOC. It was observed, however, that the training plans had ignored the clinical staff in the referral hospitals. In Mpongwe, which was the only district with two first level referral hospitals, the nurses working in the maternity units of these hospitals were all trained in EOC. This compensated for the apparent incomplete training of staff in the health centers. In one out of three health centers, the reason for not training staff was that there was no appropriately qualified clinical staff to be trained. On the issue of natural drainage, only two of the trained personnel had been transferred or left their position for another. So far there had been no drainage due to death or disability.

In Mpongwe and Masaiti districts, the EOC training, as most training in clinical care is purely funded from the *basket*, meaning all money for this activity comes from the *central level and in effect is from donor source*. This perpetuates dependency and is in the long run not sustainable. In Lufwanyama, a different situation obtained, the training provided by UNICEF/Irish AID funds was regarded as a training of trainers. One of the health staff trained was the nursing officer in charge of St. Mary's Hospital, she organized an internal training for her staff and together with the DHMT, trained other clinical staff from the district. They have now planned a training of the TBA and the hospital training center is ready to

carry out continued training to ensure improvement of quality of care. This approach makes the project more sustainable and should be emulated by the other districts.

### 3.5. Availability and Use of Partograph

In this evaluation, the availability of the partograph, correct use and documentation and interpretation by the health workers was used to assess the recognition of pregnancy complications. The types of partograph used were not uniform in the three districts. In Masaiti and Lufwanyama almost all the health centers used the recommended WHO partograph (see Appendix ....). In Mpongwe both first level referral hospitals, St. Theresa's and Mpongwe Mission Hospitals used a cervicograph adapted from Philpot's partograph (see Appendix ..). The rest of the health centers in Mpongwe DHMT did not use any partograph to monitor labor. Mpongwe DHMT has ordered the WHO partograph but due to lack of funds are unable collect them. However, St. Theresa has acquired the WHO partograph and should soon be using them.

The WHO partogram was used and documented correctly by almost all health centers in Lufwanyama and Masaiti DHMTs and the health workers were able to recognize the common complications and determine the need for referral. We cannot however, comment on the appropriateness of the referral as we were unable to retrieve any records of the partograph records of the referrals. One of the problems identified was the over reliance of the districts on external funding for inputs in the EOC. In Mpongwe district, the DHMT ordered the new partographs and they were printed, but they were not released because payment was awaited from UNICEF funding.

### 3.6. Managing Pregnancy Complications According to National Guidelines

The strategy of training personnel at health center and health post level is consistent with the government policy of providing Zambians with quality health services as close to the families as possible. **There were 46 health centers in the district, giving health center population ratio of 1:4,000-1:5000.** This ratio is far ahead of government policy of 1Health center/50,000 population. Three out of four facilities classified as health centers, however, have physical structures that do not offer space for appropriate maternal health services, having only one or two rooms. They therefore have no delivery or recovery rooms and cannot provide the opportunity to manage obstetric emergencies expediently.

The government policy on Trained Birth Attendants whom we have designated TBA upper case, is that there should be one for every 500 households. This is equivalent to one for 3,500 people or 150 expectant mothers. All the health centers visited, had TBA attached. In one out of every five of them, only a TBA employed and classified as a CDE provided the obstetric services. The average ratio of TBA per household was 1:2500. The national guidelines provide that all cases of obstetric

complications from communities be referred to the first level referral hospital through the health centers. To enforce this guideline, the hospitals surcharge those cases that bypass the health centers. While this guideline was practiced by all hospitals, most cases preferred to go to hospital directly when complications arose and to pay the surcharge. This was because often, going through the health center either caused delay or led to extra expenses because they had to deviate from the main road.

Therefore most of the guidelines were relevant at national and district health facility levels. The implementation of these guidelines were complicated by two factors at the health centres.

- Clinical staff at most health centres were predominantly males, they were trained and in EOC, but this was not quite culturally acceptable since communities preferred that EOC should be delivered by women.
- Equipment provided was standard and met service needs, except that in some cases the equipment needed electrical energy but were distributed to a number of facilities that had no power and were therefore rendered them useless.

Another observation was that at district level, there was problem with prioritization. Pregnancy related health needs form the second most common cause for attendance to the hospital, and the leading health problem when the BOD approach to prioritization is used. It was, however, only ranked fourth to sixth on priority lists in all the three districts. This may have been influenced by availability of funds the ferocity of seasonal attacks of malaria (meso to –hyper endemic status), and gender considerations. The district plans and fund allocation almost completely relegates funds for maternal health to “the basket”.

### 3.6. Access to Primary Level Essential Obstetric Care

Access to primary level health care can be determined from service utilization and coverage data. This is on the assumption that the reporting system is reasonably good. A more reliable way of determining this is through household level surveys or FGD. Household level data collection was beyond the scope of this study. Therefore information from HIS and FGD is used to assess this aspect of the project. Tables 3 to 7 present some of the basic data collected and summarized. They show proportion of actual, to expected deliveries.

**Table 3: Statistics on Essential Obstetric Care Project per District 1999 FIRST QUARTER**

Indicator	Mpongwe	Masaiti	Lufwanyama	Total
Total number of births in the district	385	400	388	1173
District expected deliveries	693	1290	789	2772
District expected number of live births	660	1290	751	2701
District proportion of all births that took place in EOC facilities.	10%	87%	73%	57%
Women with Obstetric complications treated in EOC facilities	48	9	16	73
Proportion of women delivering who have serious complications	5%	8.5%	2%	5%
Number of facilities equipped	2	3	Nil	5
Number of babies delivered by caesarian section	25	4	Nil	29

**Table 4: Statistics on Essential Obstetric Care Project per District 1999 SECOND QUARTER**

Indicator	Mpongwe	Masaiti	Lufwanyama	Total
Total number of births in the district	392	396	391	1176
District expected deliveries	693	1290	789	2772
District expected number of live births	660	1290	751	2701
District proportion of all births that took place in EOC facilities.	29%	56%	73%	53%

Women with Obstetric complications treated in EOC facilities	41	11	12	64
Proportion of women delivering who have serious complications	8%	8.6%	2%	6.2%
Number of facilities equipped	2	3	Nil	5
Number of babies delivered by caesarian section	18	2	Nil	20

**Table 5: Statistics on Essential Obstetric Care Project per District 1999 THIRD QUARTER**

Indicator	Mpongwe	Masaiti	Lufwanyama	Total
Total number of births in the district	473	280	372	1125
District expected deliveries	693	1290	789	2772
District expected number of live births	660	1290	751	2701
District proportion of all births that took place in EOC facilities.	63%	95%	73%	77 %
Women with Obstetric complications treated in EOC facilities	51	9	23	83
Proportion of women delivering who have serious complications	8.6%	8%	3%	6.5%
Number of facilities equipped	2	3	Nil	5
Number of babies delivered by caesarian section	12	4	Nil	17

**Table 6: Statistics on Essential Obstetric Care Project per District 1999 FOURTH QUARTER**

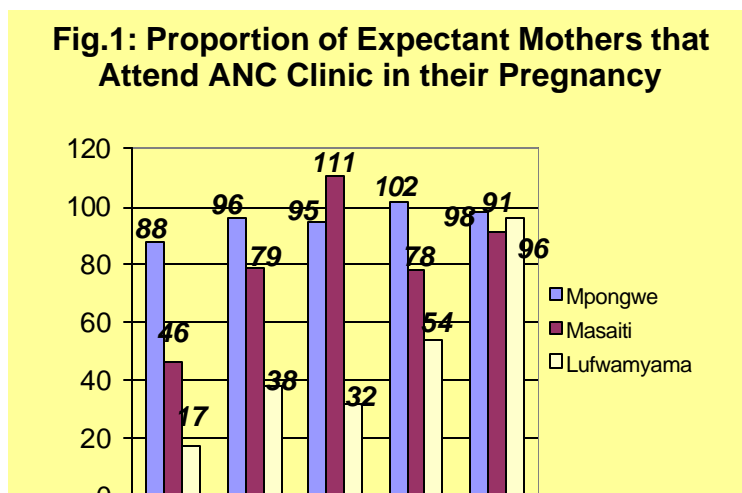
Indicator	Mpongwe	Masaiti	Lufwanyama	Total
Total number of births in the district	429	281	389	1099
District expected deliveries	693	1291	820	2804
District expected number of live births	680	1291	751	2722
District proportion of all births that took place in EOC facilities.	18%	100%	49%	56%
Women with Obstetric complications treated in EOC facilities	93	4	18	115
Proportion of women delivering who have serious complications	5%	6%	6%	6%
Number of facilities equipped	2	15	13	30
Number of babies delivered by caesarian section	11	0	0	11

**Table 7: Statistics on Essential Obstetric Care Project per District January to December 1999.**

Indicator	Mpongwe	Masaiti	Lufwanyama	Total
Total number of births in the district	1679	1357	1540	4576
District expected deliveries	2079	3870	2367	8316
District expected number of live births	1980	3870	2253	8103
District proportion of all births that took place in EOC facilities.	30%	85%	66%	60%
Women with Obstetric complications treated in EOC facilities	233	33	69	335
Proportion of women delivering who have serious complications	7%	8%	3%	6%
Number of facilities equipped	2	15	13	30
Number of babies delivered by caesarian section	66	10	0	76

An important finding is the steady rise in the number and proportion of deliveries that take place in health facilities especially in Mpongwe district. On the other hand in Lufwanyama, the rate of delivery in health facilities was high but

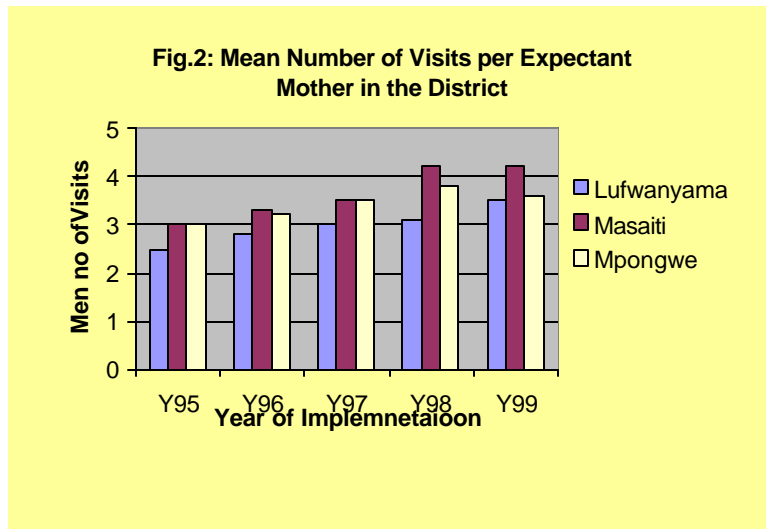
**Fig.1: Proportion of Expectant Mothers that Attend ANC Clinic in their Pregnancy**



appear to have declined over time. The reasons for these changes are not clear. Figure 1, illustrates access to first level EOC by presenting an analysis of secondary data from the clinic registers on ANC attendance. It

presents the rate of first ANC (or a single ANC visit) visits between 1995 and 1999 in all the three districts. Figure 2 presents the average number of ANC per expectant mother at the ANC. Both charts show a steady increase in the use of ANC. ANC attendance was lowest in Lufwanyama prior to the launch of this project. It is much higher now with both proportions of expectant mothers visiting ANC at least once and the mean number of visits per expectant mother in the districts increasing. The result is much more dramatic in Lufwanyama in which the safe motherhood committees were established first and were most active already.

Some changes like in Lufwanyama that may appear negative may, actually, be positive. Lufwanyama district has for instance ran one TBA/tba training to reduce postnatal infections and have the most active "Safe Motherhood Committees." These actions appeared to have improved the quality of care provided by TBA/tba and thereby reduced demand for delivery at the health centers. Box 9 presents responses to questions related to where ANC, delivery and advice related to pregnancy and childbirth is sought most commonly.



**Box 9: The Most Commonly Sought Obstetric Care**

<i>Question</i>	<i>Responses</i>			
	<i>Men</i>	<i>Women</i>	<i>Girls</i>	<i>Boys</i>
<i>Who should provide care to expectant mothers?</i>	<i>Husbands Hospitals</i>	<i>Ourselves TBA/tba Mothers/in law Grandmothers Aunties</i>	<i>Woman herself Husband Mother/in law Sister in law Grand mother Aunt TBA/tba</i>	<i>Husbands Mothers Grand mothers</i>
<i>Who do most mothers/families feel most comfortable to discuss issues of pregnancy with?</i>	<i>Husbands Nurses Grand mothers tba hospital</i>	<i>Husbands first. The Aunties Grand mothers Mothers/in law But Many go to the clinic.</i>	<i>Husbands Mothers/in law Grand mothers Aunties</i>	<i>Banachimbusa - (tba) Mothers/in law Grand mothers Other women Husbands</i>
<i>Who do most families feel comfortable to assist deliveries?</i>	<i>TBA/tba and Grandmothers</i>	<i>TBA/tba and Grandmothers or mothers who have experience</i>	<i>Elderly Women Grand mothers TBA/banachimbusa</i>	<i>TBA/ tba and grand mothers</i>

None mention of health facilities here and the low rate of mention of nurses or health facilities seems to be a matter of familiarization. It is reflected in the HIS data which show that use of health facilities as a primary level contact for deliveries is, at best around 60%. Some of the reasons may be explained by factors that obstruct use of health facilities as sources of primary level obstetric care.

The first major obstruction to EOC was distance from the health facilities, the condition of the roads and means of transportation. The average distance between health facilities is 50-60km. Experience shows that the proportion of people who seek preventive promotive health services dwindles rapidly from half a kilometer and is almost none beyond 5 kilometers where transportation is poor. In the three districts, many people came from as far as 60 kilometers or more on canoes or oxcarts to get emergency treatment. In addition the roads to all health centers visited except two were soft gravel and impassible in many place. This evaluation occurred during the dry season and so it was possible to travel to all the selected centers. Other barriers to getting that quality obstetric care include the cost of transport and cultural barriers. From the focus group discussions, the decision to seek care may be delayed as husbands, aunties, mother in laws and grand mothers have an upper hand in taking decisions to seek care for obstetric problems. Once the decision has been made to seek care, the delay occurs because of other barriers (see constraints).

A missed opportunity was in the adoption of traditional birth attendants, whom we designated **tba**, lower case and block. These are the true communities

own resource persons chosen by traditional criteria. Considering that households are on the average located 1.5km apart, each TBA is expected to cover at least 750km a month i.e., 187hours walking only, plus another 36hrs for looking at the mothers. This adds up to 223hrs a month or 28 working days a month. This is only to provide the preventive care. Delivery is conducted as it comes, since there are 150 a year for every TBA, this is another 12 hours a month or half working day. Most of which occur at night. The TBA is therefore expected to provide free care throughout the year on a daily basis. Yet traditionally every village has a **tba** within less than one km. Our interviews with them showed that they have experience, safe approaches to management of labor, but limited safety in Prevention of infections since they do not have clean delivery material.

### **3.7. Referral System**

The referral chain in Ndola rural as is the case elsewhere in Zambia is from the community to the health center and onward to the district, general and central hospital. This relies heavily on patients to recognize complication and decide to seek care at the health center. Therefore the communities have to be aware of the complications or danger signs of pregnancy and seek care. In addition, the health workers have to be able to recognize and take timely action on any complication that arise.

At the health center again onward forward referral is dependent on the health workers' recognition of complications and timely referral. There are various barriers at this level. From the key informant interviews, the barriers identified were as follows:

- Lack of ambulance services and where this exists, there is poor or no communication between the health center and the district where ambulance is stationed
- Inadequate equipment e.g. lack of simple equipment such as spotlight.
- Male nurses, from focus group discussion and the key informant interviews, women prefer female nurses to attend to them. However, male nurses man most health centers.

In spite of all these problems, there still exists a forward and backward referral mechanism or system. The DHMTs have in place referral books, which indicate the name of the institution which is referring, and which require that the receiving nurse at handover examines and writes finding on the Referral Note and signs it indicating the general condition of the patient and diagnosis. The TBAs are not given any recognition when they escort a patient to the hospital even though they have a lot of valuable information because they are the ones who may have looked after the patient. There is no other information thereafter on the referral note. This is used for the purpose of funding for the district. The backward referral is dependent on the patient reporting back to the health center and many times without written evidence of the outcomes.

The potential merits of the referral system are that the Referral Note has the name of the referring health center and district written on it so that it is possible to discuss as a teaching exercise with the district or health center, if clinical management protocols were not followed. But it not used that way and therefore, ceases to be a useful tool in monitoring and evaluation of maternal morbidity and mortality. The main demerit of the referral system is the by pass charges. It limits access in that women who stay far away from first level referral prefer to go to a waiting home at the first level referral facility to await delivery. This is because they feel that should complication arise at the health center they still have to be referred to the next level and given the non-availability of quick transport they would be further delay. But if a health center is by passed i.e. no referral to first or second level, there is normally a by pass fee of K 10,000 charged. This may discourage mothers from seeking care at first and second level and for complications e.g. hemorrhage that the health center will refer on anyway. This approach i.e. by pass charge is not in the interests of promptly treating complications and will not contribute to the reduction of maternal mortality.

Antenatal care is basically free except for laboratory charges in which the determination of hemoglobin concentration costs K 300, while testing for VDRL is K 1,000. The fees for delivery at the health center and first level referral are not standardized but range from K 3,000 – K 6,000. Given that the per capita income in Lufwanyama for example, is K 750, most mothers cannot afford this and therefore choose to deliver at home. The Referral System in Lufwanyama has a few operational problems. These are mainly lack of first referral hospital in the district coupled by long distances, difficult terrain, and unreliable public transport has made referral to be very expensive. The district has been assigned to purchase 42 beds by CBoH calculations for first referral. Bed purchase is at K 9, 200. The total expenditure for bed purchase is between 20 – 40 % of the total budget per month.

### **3.8. Factors that Influence Client’s Satisfaction with Services.**

Factors that influence the clients’ satisfaction with services are patients’ expectations access to services, the roles of clinical health staff such as nurses, clinical officers and other health workers in the project. The willingness of communities to participate and the level and nature of their involvement in the project is also to a large extent influenced by culture.

Health worker attitude was assessed by observing how health workers discussed with clients, whether they showed concern towards patients as they came in, the messages in notices to patients or communities on the walls or at the entrance to the health facilities. One of the most common notices was that regarding operations outside working hours. In one third of the centers visited, there was notice that read “only emergencies will be attended to after 4.30.” This is understandable, but it needs to be put in context and clients should be given explanation to clarify and let them know what is recognized as emergency. This is because all labor pains for are emergencies for example and should be treated as

#### **Box 10: Opinion on Satisfaction with Services Offered at the Hospital**

- 1. Nurses have “a don’t care” attitude.*
- 2. Mothers feel shy to be attended by male nurses. Therefore they prefer to be delivered by TBA/tba at home*
- 3. They only examine with a funnel to see if the baby is breathing, but seldom carry out other examinations.*
- 4. This many mothers prefer to deliver at home.*
- 5. When hospital bed sheets are*

such. But such a notice may discourage patients from coming in early labor thereby reducing the time during which the progress and condition of the client and her baby could be monitored thus rendering partography irrelevant (fig.....).

Responses to the question, *“Are you satisfied with the services offered by the hospital?”* are provided in box 10. On the whole clients see health workers work as essential, but they are often frustrated by lack of courtesy, harsh treatment, aloofness and non caring attitude exhibited by some health workers. It is understood that some of these reactions may be due to frustration of the health workers resulting from overwork, lack of essential drugs and cultural prejudice that cause uneasiness in the delivery of some of the services. At Mwinuna clinic, expectant mothers who were interviewed believe that expectant mothers who did not attend ANC *“missed a lot”*. For them, they called TBA at home only when they experienced problems. They preferred to have ANC at the local health facility (which was a health post), because the health staff who came for extension services examined them carefully and could detect complications early. For example, the reported *“when the blood pressure was taken during ANC visit, it helped to discover if there is something wrong with the baby”*. *By being examined on the tummy, it is possible to detect that the baby is not in the right position and therefore the delivery may be complicated.*

According to men most women deliver at home because the clinic are too far, while there are TBA/**tba** in the community. Some prefer to have care at the clinics but lack funds to sustain the care. They also report that families are more comfortable with **tba** or grandmothers providing care at delivery. An interview with a TBA in a village off Mushiwe health center is illustrative. (box 11). The interview brings out several issues, the first is that the **tba** do not see the modern ANC and care at delivery as competition but rather as complementary. Care from TBA/**tba** are appreciated more, because they are close to the people, payment is voluntary, it is often given by relatives who are the most trusted to look after their kinsfolk and are not likely to bewitch them. They are gentle and concerned and examine the mothers with due diligence. Care from TBA was, however dwindling rapidly because most clients do not reward them for their effort. This is due to the erroneous belief that TBA are paid by the government. Care from **tba** on the other hand continues in its traditional form. The care providers are equipped with *knowledge* and when necessary herbs. They are unlikely to bewitch the baby or mother. They know how to deal with complications that are related to traditional taboos.

Box 11: An Interview with a tba in Chisonso Village – Mushiwe

**Q: In this area where do most women deliver?**

A: They deliver in their homes, most are attended by untrained women, even during pregnancy.

**Q: What happens in case of problems during deliver?**

A: The women are given traditional medicine, should the problem persist, then a stretcher is prepared and the woman is rushed to the health center.

**Q: Are there many TBA/tba in this area?**

A: There used to be, but people in the community were not thankful after the babies are delivered. The client's relatives or community were expected to give the TBA/tba gifts such as chitenge, something to clean their face, or a blanket. In fact in the past people gave maize and chicken. This has since stopped because young men have forgotten to and to abide by traditional law.

**Q: Who are responsible for people not appreciating these services?**

A: It is the men because they are the heads of families.

**Q: Are there any taboos or traditional beliefs related to providing care in pregnancy and childbirth?**

A: It is believed that a tba who delivers many babies not related to her soon goes "blind". It is also believed that when the person assisting a delivery is a relative, she will quickly realize if there is an unpredicted twin baby because she will have a quiver in her own tummy as soon as the first twin is delivered, this indicates to her that *there is still another baby in the womb*.

**Q: In your opinion, what is family planning?**

A: Family planning means *the spacing of children*. One has to agree with her husband to delay the next birth and perhaps reduce the number. In Zambia, there are traditional methods for doing this, they wear a *charm* waistband for two to three years. This prevents them from becoming pregnant until the *charm* breaks. Many women still use this method up to now when they are unable to obtain the modern contraceptives from the health facilities.

**Q: Where do women go for ANC?**

A: We advice them to go for the ANC at Mushiwe clinic

**Q: What problems have you experienced when conducting deliveries?**

A: Sometimes labor lasts much longer than normal, under such circumstance I examine the client's tummy for the babies position and if it is normal I give herbs to strengthen the contractions. In other cases the woman bleeds during or after delivery. Often when we experience more complicated cases the woman could die because there is little you can do. Even when we take them to hospital it is useless since it is too far and the women is still likely to die.

**Q: How many maternal deaths have you witnessed over the last two years?**

### 3.7. Recommendations from Mid-Term Review.

### Response to

Significantly, there has been great advancement in community mobilization to respond to maternal health needs. This is not surprising because as demonstrated in the earlier section on policy relevance, EOC was a felt need. This is emphasized by the fact that when mothers people present to congratulate a mother following a delivery, they sing a praise song that goes "You have survived!". Similarly communities have responded by heightened anticipation. This development is a major challenge to the project because if the expectations are not met, clients will be disillusioned and will stop participating. The greatest challenge is the problem of access to quality EOC. A strategy that may deal with this problem that is being adopted rapidly is the formation of safe motherhood committees. At the moment the TBA/tba in the neighborhood of health facilities constitutes these. They have the responsibility of ensuring that mothers get some ANC, and have safe delivery.

At the mid term review, several recommendations were made to improve the effectiveness of the program. Whereas there was only a short interval between these

evaluations, the districts had already implemented some of the recommendations. These included dealing with transportation, providing maternal care rooms at clinics, training enough TBA to cope with the demand for voluntary care and have care as close as possible to the people. The interventions are outlined below:

- At MTE, one of the most significant obstructions to EOC has been transport. The decision made was to assist communities to develop strategies to overcome the problems of distance, cost of travel. The strategy adopted by most communities was to start safe motherhood subcommittees of the health center neighborhood committees to look into the management of Safe motherhood activities. As a priority the subcommittees chose to deal with the issue of referral and logistics and costs. Among the committees interviewed, the universal decision was to collect and keep some funds to be used for this purpose. This matter is still in a very early stage to determine its effectiveness and sustainability. Another recommendation was to establish appropriate motor vehicles at the health centers for transfer of patients to first level referral hospitals. So far only Lufwanyama district had bought one vehicle and had been provided with a second vehicle. The third vehicle to this district was for some reason held at the CBOH. Our understanding was that vehicles were provided by UNICEF on the basis of need, as well as demonstrated ability of the district to maintain the vehicle in serviceable condition. Lufwanyama district had demonstrated their commitment and ability to implement this agreement by buying and maintaining their own vehicle. It was not possible to establish why the other districts had not implemented the decision.
- The second most common problem was the lack of appropriate space and accommodation for safe motherhood interventions. There were no separate rooms with appropriate water supply and sanitary set up for labor and recovery of mothers following delivery. Different neighborhood committees adopted different approaches and strategies to solve the problem. Some chose to seek funds from some well wishers or donors, others chose to raise funds to construct the safe motherhood rooms. Three out of every four facilities visited either had a completed safe motherhood room waiting for launch of activities or furniture; or they had collected materials and funds and were constructing a safe motherhood room. Other facilities especially the mission ones already had adequate safe motherhood rooms.
- A third priority problem was the low number of trained TBA. The decision was to accelerate the training of TBA. The safe motherhood committees were to encourage communities to identify persons to be trained. This has been on going, but it is only at St. Mary's hospital in Lufwanyama that a training had been planned for TBA by the time of this evaluation. There were no district plans for such training yet, but this may have been a factor of the interval between the time of MTE and the development of the new operational plans.

In addition to the recommendations from MTE, there have been several other pertinent recommendations from the regular supervisory visits and review meetings. A joint meeting was held in June 2000 for co-operating partners and NGOs involved in reproductive health and safe motherhood programs. The purpose of the meeting was to share information and experiences and make plans for national scaling of services. The following recommendations were made.

- Experiences on use of Safe Motherhood modules e.g. EOC training modules to be circulated to committees working on SMH policy and guidelines in order to make the required changes.
- CBOH to establish working groups to finalize work on SMH policy guideline document for submission to MOH.
- An editorial meeting for the Reproductive Health Newsletter to arranged by CBOH.
- Re active other working groups on Reproductive health and Safe motherhood e.g. National Task Force on Cancer of Cervix.
- Meetings to take place every month.

### **3.9. HIV/AIDS and Provision of EOC.**

The HIV/AIDS scourge already constrains Zambia's health care system by increase in infective conditions and the burden to the budget due to high bed occupancy in medical wards. The condition poses a major challenge to obstetric care in that it necessitates extra caution from all cadre of care providers as well as from the clients. Among the care providers most highly exposed to the risk of HIV infection are the *tba* and TBA. This is because they have the least information and they are the worst equipped to deal protect themselves and their clients from the infection. The second challenge is the reduction of the risk of mother to child transmission during the delivery. This requires extra caution in the handling of the cord and the baby's skin in general to ensure no contamination on the baby's blood with that of the mother or of the midwife.

What this means for the EOC program is that a vigorous awareness campaign should be developed and the supply and distribution logistics for EOC materials and antiseptic drugs should be strengthened. The current situation is that the health workers are overloaded. There are national programs that address the question of the spread of HIV, but there was little evidence of these programs in Mpongwe and Masaiti districts. In Lufwanyama, the DHMT work together with a World Vision Project in some areas to provide IEC for the prevention of HIV transmission. In all the three districts, the TBA were encouraged to organize themselves into safe motherhood committees. These provide a potential for cost effective HIV prevention strategies. By the time of the evaluation, the government had initiated urban based programs to reduce mother to child transmission by use of short term antiretroviral chemotherapy. The assessment of response to that program was beyond the scope of work of this evaluation. Key informant interviews with mothers and nurses involved in the trial, however reveal that many women are afraid of being screened, due to the far reaching marital implications. This project had been introduced before popularizing voluntary counseling and testing to men and women alike. If not checked it could result in reduction of usage of EOC in health facilities.

On the other hand, there is need to ensure that skills in reduction of all modes of HIV transmission from infected mother to child, infected mother to midwife or vice versa, as well as the spread of HIV in general should be incorporated in the EOC training. This entails a high motivation and effective strategies to prevent the HIV spread of HIV in general. The implication of this is increase in HIV prevention activities in general as well as intensification of training of TBA to observe antiseptic techniques and provision of material to ensure safety of mother babies and TBA/tba. This especially applies to assisting the TBA/tba in protecting the raw areas of the babies cord from contamination with maternal or midwives secretions. Many mothers are already sensitive to the problem of HIV.

The current experience in Zambia with regards to use of anti-retroviral treatment to minimize mother to baby transmission is still in its very early stages. It is already being challenged by the lack of adequate awareness and motivation to accept voluntary counseling and testing (VCT). This is because making decision on reproductive health issue is often a shared responsibility. For women to accept VCT, their sexual partners, particularly their husbands should be aware and should also accept it. The results whatever they are have consequences that require shared responsibility. Anecdotal response to the question regarding responses to the question on the progress of counseling and testing for HIV among women attending ANC reveal that they are reluctant and in some clinics, the process has reduced attendance to ANC. This problem is so far confined to urban areas. In FGD with expectant mothers in five of the facilities visited, mothers were concerned that TBA/tba provide care to most mothers, yet they don't have gloves or other effective antiseptic material. Since there is widespread awareness of HIV/AIDS but little detailed information regarding the modes of spread, it was possible that mothers may begin to shy away from assistance provided by the TBA, other than those that they are closely related to. This is yet another challenge of popularizing EOC and increasing its utilization. It negates attempts to provide quality EOC from household level to secondary referral level.

### **3.10. Availability And Quality of Data for Monitoring and Reporting**

In the planning of the EOC project, specific objectives were identified and specific indicators were developed to monitor and evaluate the process of development, sustainability and the impact of EOC project. These were organized using the logistical framework (logframe) for project implementation, monitoring and evaluation. The evaluation team followed this logframe in evaluating the project and in addition added indicators requested by UNICEF to look at special aspects of operations and reasons for some of the observations that have been made during the implementation process. Among the key indicators identified to monitor progress of this project were: Maternal mortality ratio, the rate of ANC as determined by the proportion of expected pregnancies reporting for the first visit and the average ratio of all ANC visits based on the expected number of pregnancies in the community.

Examination of the data from the peripheral health facilities, the referral hospitals and the district health offices indicated that there was collection of adequate data to follow up the trends in access and utilization of EOC. The data could not, however, be used to evaluate the efficiency or impact of the project. This was due uncertainty of the denominators, the incompleteness of service data and activity statistics, lack of a system to capture data on self referred cases and obstetric related mortalities at the referral hospital and inconsistent treatment of back referral statistics to complete the district level obstetric statistics.

The reasons for the difficulties are, failure to establish the base population and the rate and nature of migration (population movement into and out of the districts). At the time of evaluation, several neighborhood committees had initiated head counts in the areas served by their health facilities. At least one in every three health facilities were also recording data captured by TBA. These exercise should be done with care and proper mapping to establish accurate geographical information data with good estimates of data on immigration and emigration to ensure proper account of the base population in order to provide good estimates of the rates and proportions to be determined. Looking at the data provided by the District HIS, all showed first visit ANC rates that greater than 100%. This confirmed our observation that there was no accurate estimation of the base population. It also suggests that there may be inaccurate estimation of expected number of pregnancies based on the fact that more women that is appreciated now practice some contraception. More over, statistics collected by the TBA were filed away at the clinics because no provision was made for their systematic incorporation in the district HIS. Finally, the health data collected and compiled at the district HIS office was collated and summarized without any validation and editing, thus providing the erroneous figures that are currently available in the returns.

In summary, data collection, summary and retrieval to monitor progress in this project are still very weak. On the positive side, at health center level, the reporting system adopted includes data from TBA. But since their coverage is not uniform there is a wide data gap. Not all health center staff is keen to collect and summarize data accurately. In one health center, the staff did not even know their catchment population. In Masaiti district, district level reporting is good but is at variance with health center level reporting. Health facility reports do not discriminate between Fresh stillbirths and macerated ones, nor early neonatal deaths, which would be good future monitoring indicators as maternal mortality, decrease.

The handling of data related to referrals and reverse referrals, especially self referrals leads to loss of data on cases with complications. Not all the HIS officers were comfortable with the data to be collected. In the words of one of them, the reporting tools were too many and were cumbersome.

### **3.11. Constraints.**

TBA are regarded as a part of the human resources relied upon in the implementation of EOC. The ratio of trained TBA to expectant mothers is, however, very low and many trained TBA default from their responsibility soon after training. Considering that safe motherhood committees were largely composed of TBA, it was not clear why the process of identifying new people to be trained was slow. This may be due to reluctance of **tba** to join because they had some expectations which are unmet. This problem had been identified during routine monitoring and was being addressed. On the other hand, not just any person is trusted with the information on ones pregnancy. A factor that further delays attempts to seek care or help during pregnancy and may well be the cause for delayed seeking of ANC. All the participants in the FGD shared the sentiments equally. There was little difference in response from men, women, adolescent boys and girls. Thus the communities may not see the TBA as the right people to provide obstetric care.

The health staff and communities reported that most roads in the area were impassable during the rainy season. Similarly, it was equally difficult to reach first level referral hospitals from health centers because the distances were long and the roads were soft gravel. Between some health centers and the hospitals there were no roads or there were impassable rivers, The best example of these were Mwinuna, Machia in

Mpongwe district and Kamboa in Masaiti district where we met patients coming from as far as 60 kilometers on a canoe to a health center with medical emergencies. The only reliable means of transport in most of the places were bicycles, canoes and ox-carts. Where there was no ox-cart and it was not possible to use canoes or bicycles the people had to travel long distances on foot carrying their sick relatives. These factors were confirmed from FGD and KII (box 4).

**Box 4**

*Factors that Delay Obstetric Interventions: Verbatim Reports from the KII and FGD and Real Life Photographic Illustrations*

1. Long distances: *“Often, patients had to travel more than 60 kilometers through very poor roads to the nearest health centers.”*

2. Mode of transport: *“In many areas in Ndola rural people either just walk, use ox drawn carts or bicycles to transport their sick.”*

3. Geographical barriers: *“Rivers for example the communities around Mushiwe Rural Health Centre in Mpongwe come from across marshlands, rivers, and swamps, which may be impassable during the rainy season.”*

Generally, the challenges faced by the project include the following:

- The whole reform process at MOH/CBOH and in particular the ongoing process of integration of the vertical programmes, delinkage of the health staff from the civil service and the ban on all workshops.
- The existing structure is limited by the technical capacity within the Systems Directorate, MCH/FP Unit at District and health centre level resulting in inefficiency and poor management in procurement and distribution system for supplies and logistics.
  - Reduced contributions to the Health Sector- basket funding for delivery of health services despite elaborate negotiations and efforts to coordinate resource inputs.
  - Poor information flows between the National Health System and districts.
  - Delayed completion and dissemination of policies on HIV/AIDS, Reproductive Health and Safe Motherhood, in particular unclear Government policy on TBA programme.
  - The current MOH/CBOH ban on workshops and policy for DHMTs not being able to employ professional staff using funds from the Government grants, requires a review of the whole reform process at MOH/CBOH for visible achievements in EOC and other RH services.
  - The distribution of health centres and long distances from 1<sup>st</sup> referral hospitals, inadequate equipment for EOC and lack of ambulance services, lead to problems with referral of patients. The installation of radios will improve communication for easy referral.
  - A number of cultural issues negatively affect utilization of EOC services. These include forbidding male staff to deliver or examine pregnant women and post natal women coming back for postnatal services.

The technical challenges that face the project were:

- The **low staff levels** in health care facilities indicate the **major limitation** to reduction of maternal mortality through provision of EOC.
- inadequate equipment and supplies hinder provision of clean and safe deliveries at health facilities;
- poor data collection and management;
- lack of trained community health workers;
- poor communication systems.

### **3.12. The Role Of CBOH, DHMT and UNICEF in Management of EOC Project.**

The EOC project was administered jointly by the DHMT and CBOH with support from UNICEF. While UNICEF traditionally works with stable governments by providing technical and financial support and leaving the relevant sectors to implement the operations, in the situation of EOC project, UNICEF adopted a closer partnership with the MOH, CBOH and DHMT. UNICEF provided some additional logistical support, with the UNICEF project officer for maternal health providing closer technical support to the project. This was done through joint training and supervision activities. EOC was planned as a continuation and improvement to *the safe motherhood* project following an in depth needs assessment carried out in April of 1996. This was because Zambia was among the pioneer countries to adopt the global program on safe motherhood. The CBOH approved the project given in November 1997 but implementation was postponed until delinkage of CBOH activities from civil service was completed in February 1998. The results of the safe motherhood needs assessment were disseminated to the 3 districts (Mpongwe, Masaiti and Lufwanyama) to sensitize administrators and staff in the DHMT, the regional office and the referral hospitals at a joint workshop in February 1998 in Kitwe. At the end of the workshop, the three DHMT developed district EOC implementation plans.

UNICEF and Irish Aids financed the start up activities which included participatory planning of the project, training, logistics for the initial post training supervisory support to the health facilities, and the procurement and distribution of basic medical (obstetric) equipment. In addition, UNICEF and Irish Aid undertook to provide vehicles subject to a reciprocal undertaking by the DHMT to

also procure some vehicles and to provide fuel and finance to maintain the vehicles. Following the first review meeting, UNICEF undertook to provide radio communication equipment. UNICEF also facilitated the organization of intersectoral meeting to engender corporation among the agencies with interest in reproductive health. UNICEF and Irish Aid financed project review meetings, and technical support for evaluation of the project.

The CBOH was responsible for monitoring through strengthening of the health information system (HIS), and training of HIS staff. In addition, it was anticipated that the CBOH would lead quarterly supervisory visits to peripheral health facilities, and organizing biannual and annual inter district review meetings. In addition, the CBOH with financial assistance from UNICEF and Irish Aid was responsible for mid year review to monitor the EOC services.

The DHMT were responsible for monthly supervision of health centers. This was to be carried out directly from the district health office initially. It soon proved none feasible for various reasons and was reorganized in zones, to reduce the cost of logistics and the time for supervision. The DHMT was to compile quarterly and annual reports on the progress of the project activities. In addition, the DHMT were expected to raise more resources locally from, fee for other services, private voluntary organizations and well wishers in the private sector to compliment resources from UNICEF and CBOH in running the district and peripheral level activities such as providing extra rooms for EOC services. In order to ensure community acceptance and participation, the neighborhood health committees were mobilized and the leaders were encouraged to start safe motherhood sub-committees. They were charged with the responsibility of educating and mobilizing women of fertility age to accept and utilize the EOC services. They were also to address issues that obstruct mothers from EOC, such as lack of transport to health facilities.

### **3.13. Government's View On The Project.**

The GOZ has been concerned with the problem of inequitable access to quality health care to all its citizens since the advent of the Structural Adjustment Programs in the last two decades of the last century. As a result, the government has made efforts to reorganize the health system to make it more goal oriented. Consequently, the government set for itself the priority to reform the health care system to make it more responsive to the needs of Zambian people from 1991. To this end, seven broad objectives were formulated to reform the health system:

- To achieve equity in health opportunities.
- To increase life expectancy of Zambians.
- To create an environment which supports health.
- To encourage healthy lifestyles.
- To provide quality assured health services.
- To promote public policies which support development of health care.
- To improve individual and family health through efficiently administered population health activities.

The National Health Strategic Plan now identifies the overriding feature of the poor health situation as *“the gap between the increasingly severe health problems faced by the population and the increasingly limited resources available to the public health system to respond to them”*<sup>3</sup>. The vision of the government is **“to provide equity of access to every Zambian to cost-effective quality health care as close to the family as possible.”** The EOC project was designed to respond to this approach with specific cost effective intervention to improve women's health.

The central feature of the reform process has been the emphasis on managing for quality through annual district plans that are independently developed by each district to address various health problems, which include HIV/AIDS, STDs, tuberculosis, malaria, childhood illness, conditions related to pregnancy and childbirth, water and sanitation. These are part of the wider Zambia (Essential) Health Care Package that aim at addressing at least 80% of the common causes of morbidity and mortality at various levels of the health care system (household, community, health centre, district, general and central hospitals). The approach taken to plan the project with the district directorates of health by development of annual district health plans and to ensure the mainstreaming of the EOC project into the District Health System is in conformity with the policy and initiatives of the government.

One concern that the government strongly expressed was that the EOC project should be implemented as part of a broader reproductive health policy. To this end, policy pronouncements for EOC, TBA and safe motherhood initiatives are implemented as parts of a comprehensive Reproductive Health Program. The government has confidence that this program should succeed, particularly having witnessed the success of improvement of EOC at primary level centers in the urban areas. The CBOH fully supports the project and participates in its monitoring. This support has only been limited by inadequate finance and logistics. The project is also accepted by the UTH whose faculty members have been engaged in the formative research and program development activities since its launch.

#### **4. Discussion**

In this section we concentrate on looking at the requirement for EOC and the implication for any project that is meant to improve obstetric care and maternal health in general. In addition we raise conceptual issues to help the reader critique the whole project more closely in an attempt to help improve the planning and coordination of EOC with any other on going obstetric care projects such as post abortion care (PAC).

#### **ESSENTIAL OBSTETRICIAN CARE**

##### ***Critical Zambia Issues on Obstetrician care***

The Global safe motherhood Initiative (SMI) was launched at the International Conference held in Nairobi, Kenya in 1987. Its main aim was to draw attention to dimensions and consequences of poor maternal health in developing countries and to mobilise action to address high rates of death and pregnancy and childbirth. The primary goal of this initiative was to reduce the maternal mortality one of the most important indicators in assessing a country's safe motherhood performance. However despite the manoeuvred attention that has been directed to issues surrounding maternal health, the maternal mortality rate in Zambia has increased over the past 10 years since the launch of the safe motherhood, Initiative. In 1992, the DHS estimates maternal mortality rate at 200/100,000 while the 1996 DHS estimated national ratio of maternal mortality rate at 649/100,000 live births. This figure is not a true reflection of variation in distribution of maternal mortality study.

#### **Major Factors Contributing to Maternal Mortality**

Maternal mortality is recognised as a serious problem by both policy makers and health care practitioners. It is also recognized that there is no single solution that will address it. To ensure issues related maternal health care are addressed adequately, policy makers need to be aware of factors that affect maternal health care at different levels. The factors

known to contribute to high rates of maternal mortality can be classified into institutional and patient related factors. The level starts from the mothers themselves, the households, the health care providers in the communities and to health facilities. Institutional factors include:

- Inadequate supplies of equipment for ante-natal care delivery and postnatal care, be these at home or in health facilities.
- Human resources constraints such as lack of skills, unavailability of appropriate trained staff or weak technical support to peripheral health staff.
- Poor access to health facilities leading to low numbers of supervised deliveries
- Poor referral systems

In developing countries, patient related factors predominantly contribute to the risk of maternal deaths. Among the most common patient related factors are:

- Age at first pregnancy
- Poorly spaced pregnancy and high
- Lack of knowledge about risk factors
- Sexual health behaviours
- Poor socio economic status
- Lack of user's fees and transport
- Distance from facilities

The direct causes of maternal mortality include, sepsis, haemorrhage, inappropriately induced abortion, eclampsia and disintegrating ectopic pregnancy or rupture of the uterus. In addition, diseases like malaria, anaemia and HIV/AIDS have increasingly become major causes of maternal morbidity and mortality in recent years.

At global level, the safe motherhood initiative and plan of action that called for the reducing maternal mortality rate by 50% by the year 2000, but no clear strategy was developed and little was achieved. Presently a more comprehensive reproductive health policy has been drafted with specific strategies and implementation guidelines as part of it. In Zambia, the content of the policy, strategy and guidelines to implementation of the safe motherhood initiative were influenced by findings and recommendations from early research in maternal mortality e.g. the Mongu Study (Nsemukula 1994) and the Safe Motherhood Situation Analysis (UNICEF,1994). The current emphasis is on provision of effective and efficient services in order to improve the health of the mothers and newborns and significantly reduce maternal mortality at all levels of the healthcare system. This is not easy to achieve as several factors affect the provision of effective and sufficient services. The following are examples of some of the areas of services that require improvement.

- The issue of inadequate supplies and equipment for delivery obstetric and family planning care facilities has not really been addressed.
- There is difficulty providing screening tests and prophylactic drugs that provide that basis of ante-natal care and disinfections and sterility for clean deliveries.

- The issue of human resource constraints is the crucial one.

The Safe Motherhood Needs Assessment by MOH in 1996, that was supported by UNICEF identified the critical shortage of appropriately qualified staff both in number and cadre especially in rural areas as a major limiting factor in the efforts to improve perinatal outcome. One of the reasons for this limitation was that was that the individuals were reluctant to be posted to rural areas and tended to be retained at district level. This situation was even worse in the case of the female nurses especially when they were also married. Even though this had started to change, the newly introduced USP at VITH alone has perpetuated shortage of experienced staff in both rural areas and districts. Moreover, in-service training is not as structured as in the 1980's when the hospitals had in-service training programs to update staff on know and ledged skills for healthcare.

As observed in this evaluation, the in-service training is irregularly provided resulting in gaps in knowledge and deterioration of skills. In the UNICEF sponsored 1997 Safe Motherhood training needs assessment in Ndola Rural for example, only 19% of nurse/mid wives in health centres had undergone in-servcie training to improve obstetric care. There have been attempts to address this issues albeit in vertical approach. For example, the EOC training based in the three project districts and the UTH and Ndola Central Hospital based training to expand post abortion care (PAC) to 100 districts in Zambia through collaborative efforts of UNICEF/CBOH/SIDA/JPHIEGO.

### **Referral and Accessibility**

A major contribution to maternal mortality is lack of access to healthcare facilities due to long distances nad poor communication systems. Fish AID with urban maternity projects has successfully decimating care nearer to the mothers by upgrading of urban health centres capable to provide essential obstetric care at health centre and first referral facilities which has resulted in significant mocase in access and utilisation of safe delivery services. However in rural areas this investment has not yet been made and most mothers living far from equipped maternity facilities only have access to the sources of a trained birth attendant who is not equipped to deal with serious birth complication while the next approach of the past ha helped focus attention on women's health. It is now recognised that most life threatening complication cannot be prevented or predicted. During pregnancy, delivery and postponed or period any woman can suddenly develop a serious complication which requires prompt and adequate medical care to save her life and that of the baby.

Another important areas that affects accessibility is decision making in the community on antenatal, delivery, postnatal and family planning care issues. From a recent studying factors assisting community maternal mortality in Zambia (1998) found that mothers who delivered safely were more likely to seek help from health institutions than those subsequently died of maternal causes. Moreover survivors were more likely to decide on their own. Women experiencing 1<sup>st</sup> births were more likely to allow relatives or friends to decide for them instead of deciding for themselves. While pregnancy and delivery were often considered women's issues, the roles of men were identified as encouragement of

antenatal care, institution delivery and post natal care. Escorting to the health facilities arranging and paying for transportation, financial support, helping with house work or heavy duties and emotional and psychological support. But this role was impeded by cultural and traditional perceptions that pregnancy and delivery were women's issues. For some communities, traditional leader such as a village headman, chief played an important role in maternal health. The issue of decision making needs to be taken into consideration .

When planning for delivery of obstetric services this is done during the time of the programme and introduced in place real fast and often does not seep down and often this is perceived as extra duties for all healthcare providers. This results in others not being willing to participate in improving quality care. The attitude of only those trained should follow guidelines. May be reduced if structured courses which encompasses several areas are introduced at the same time as part of improving quality of care..

Safe motherhood initiative identified the following priorities to reduce maternal mortality

- Antenatal care
- Clean safe delivery
- Integrated postnatal and mix of complication of abortions

This was to be delivered by:

1. To train midwives, nurses, doctors in mix of obstetric complication
2. To improve communication and transport complicated case
3. More emphasis on pregnant mothers understand and respond to warning signs of birth complication

#### **The Unexplored Potentials The University Teaching Hospital**

The UTH serves as a secondary and teaching hospital for Lusaka and the rest of the country respectively. The total bed capacity is 1500 beds. Funding is mainly from a government grant but supplemented by high and low cost schemes and user fees. Staff are deemed from 3 sources- on secondment from MOH, the university of Zambia school of medicine and on contract basis from the UTHBM. UTH houses from Mafaw deciphers, parcel medicine surgery with supportive services of laboratory services, radiology pharmacy and physiotherapy, purchasing, administrative e.t.c.

The department of BOYN should be the natural centre of excellence for maternity care but it offers both in-patient and outpatient care to women in Lusaka and the country. It is affiliated to the school of medicine and offers training to under graduate and post-graduate nurses; clinical services in maternal care, gynaecology and family planning and research. The department has a total bed capacity of 464 beds – 250 in OBGYN, 89 IN GYNAECOLOGY WITH 125 BABY COTS. The medical office supply levels have increased since 1987 although workload had decreased and the nursing staff levels have reduced remarkably.

## Staffing deliveries & C/S at UTH 1992-1998

YEAR	DOCTORS	MWLW	DELIVERIES	C/S
1982	50	80	23,946	
1987	23	67	18,540	
1996	34	38	13,065	1348
1998	37	33	10,525	1685

The department of OBGYN faces shortage of supplies and drugs, lack of transport, essential drugs like Metenylidopa for mix of hypotensive disorder are often on short supply clothes, disinfectants are hardly supplied

The UTH can play a major management role in transforming maternity care into a meaningful service to women in Zambia. It has a potential if funds and capacity are available to

1. To conduct outreach activities in various parts of the country not only to offer clinical management of mothers but also to conduct facilitative supervision to Midwives/nurses
2. In-service training structured in service courses. This could assist in standardization of skills acknowledge obstetric courses. Although training is available in programmes providing reproductive healthcare.
3. The department of OBGYN should take a national lead in producing standardized guidelines and protocols for obstetric care
4. Operational research

### 5. Achievement Of Set Goal, Purposes And Outputs

In the planning of this project, a logistical framework approach was used in which the major development objective (the goal) was the reduction of maternal mortality rate while the intention was to adopt the global goal as much as possible, a realistic approach was taken that set the target for the goal at 15% reduction in maternal mortality in the three year period. This target may have been met, but it could be difficult to measure because of several factors. First the current data collection and collation strategy may not enable accurate monitoring. Secondly, if data collection were to improve, the it may not be unusual to first observe an apparent increase in mortality rate, purely arising from more complete (accurate) reporting. On the other hand, as the mortality decreases, it will not be possible to measure smaller changes over short periods of time because this will require large denominator sizes. In future it will be necessary to supplement this indicator with that on early neonatal death since it is directly related to obstetric care, in which case proximate indication can be monitored even for smaller populations.

The stated purpose of the project was the improvement of care of expectant mothers at the first EOC referral level health facilities, which were identified as the health centers. It was initially assumed that the major limiting factor was lack of knowledge and skill among the clinical staff working in theses centers. This was true to the extent that most staff in the peripheral centers were male nurses or clinical officers, who traditionally do not train in obstetric care. The first intermediate (project) objective was therefore to train 100% Health center staff in selected EOC interventions. The intention was to train a few personnel who would then train the other staff. So far all the training targets were met in terms of absolute numbers. Only 50% of this objective was achieved because of several factors. First there was not enough professional clinical staff in the peripheral centers to be trained. Where the center staff was older men (nurses

or clinical officers) they tended to be over conservative in their thinking and did not attend the training in EOC but relegated this to any female staff in the center or to one of the local TBA. This did not facilitate continued education for EOC within the center itself since the none clinical staff could not develop training skill or command enough respect to be able to train other staff or TBA. There was also limitation based on cultural acceptance, since the beneficiaries do not expect men to take care of expectant mothers. Finally it was not realized that most of these facilities did not have rooms for provision of EOC. This limitation was identified early in the project and most of th facilities that did not have such rooms have constructed or were in the process of constructing them through efforts of local people or their well wishers.

The second objective for the purposed was that 100% first hospitals provide EOC. This is 100% achieved, but the quality was variable. This was mainly due to the difference in the qualification of medical staff at these facilities. The care in St. Theresa's Hospital and the Baptist Mission Hospital in Mpongwe district was high quality. Both Kitwe and Ndola central Hospitals both of which have obstetricians had very high quality care as stated in the preceding findings and discussion.

The third intermediate objective was to ensure that 100% expectant mothers with complications were managed according to national guidelines. First there was no data to determine this rate by the current HIS data as already stated. It was however clear that the objective was far from being achieved due to the shear physical obstruction from EOC by distance from health facilities at the primary and first referral levels.

The first output objectives identified for this project were the formative objectives. They had to do with development of guidelines (EOC policy, which the CBOPH staff prefer to refer to as complementary policy to the overall reproductive health policy. They included he development of the policy and its implementation guidelines. By the time of the evaluation, a draft policy had been developed but needed revision to strengthen community aspects and simple practical protocols for management of PPH and Puerperal Sepsis. A second achievement in this area was the completion of EOC needs assessment and a comprehensive study of factors associated with maternal mortality study in Zambia. These two studies have provided detailed information which can be used to develop strategy that will rapidly reduce maternal mortality in Zambia.

The second output objective was related to efficient function of DHMT as a technical resource through supervision of peripheral facilities. This objective was far from being achieved. Of the planned supervisory visits, only 25% were completed. This is despite the fact that these visits were quarterly instead of monthly. More over the supervisory tools were not standard and could therefore not be used to compare functions at different centers and facilitate peer support. There is really no reason why monthly visits cannot be effected since salaries are delivered monthly to staff in these centers. is weak, only 25%-planned visits completed and tools not standard. Among the activities achieved under this objective, three district hospitals were equipped to improve EOC for complicated referral cases in surgical theatres, maternity units and MCH clinics. The ambulance system remained very weak and one ambulance stuck at HQ.

All district hospitals functioned efficiently, but only 66% of health centers functioned efficiently. One out of ever three were not functioning efficiently Mostly due to staffing level of staff attitude. Referral guidelines were not strictly followed, however, the community practice of self referral in cases of obstetric complications especially for those close to referral hospitals or to the main roads was more appropriate to EOC than the expected practice of always going through the local health centres.

Finally this exercise completed the monitoring and evaluation objective, since a mid term evaluation had also been completed and provided very valuable results.

## **6. Conclusion**

In conclusion, significant achievements have been made in this project considering that this is the third year of implementation and that in fact actual activity initiation was delayed by the on going reform procee within the health sector. The first major achievement of this project was the successful facilitation of the situation analysis of the state of obstetric care, by supporting a Safe Motherhood Needs Assessment and providing supplementary funds for the expedient completion of the study on *"Factors Associated with Maternal Mortality in Zambia."* These studies reinforced the formative process in this project which is still the stage at which this project can logically be placed.

From the second study, it is clear that the post natal period in home deliveries contributes to the highest proportion (61%) of maternal deaths. Maternal deaths most commonly occurs in young mothers, with the peak age of death at 25 to 29 years. The largest proportion of death occur on the same day (35%), within 72 hours (62%) or within one week (88%) of delivery. The findings suggest that the causes are therefore mostly problems that can be averted by better management of labor. Looking at the nature of complications, again home deliveries are the biggest contributors, with the problems of obstructed labor, excess bleeding and infections (42.1%), all of which can be prevented.

These findings indicate that with good strategy, the global goal of reduction of Maternal mortality by 50% can be met within the next three years. Some of the required strategy such as improvement of antiseptic techniques during delivery, better management of labor to avoid prolonged labor and subsequent PPH and treatment for malaria and anemia have been suggested an will be soon implemented. In addition to the problems of home delivery, the research reveled causes of delay in referral have been identified at the home and health center level. The main two are distance from health facility and lack of means of transport or the cost of it which many rural mothers are unable to afford.

As already demonstrated, there was gradual strengthened capacity of the districts to provide EOC services. As shown especially by data from Lufwanyama, the original impression that the rate of attendance of ANC is very high is a misconception due to the fact that health data from urban populations tend to overshadow those from rural areas, which perhaps never reach the data banks. The project has, however, demonstrated that with active community mobilization and demonstration of improvement of care of clients, use of modern health care will be popularised. More over this is at a critical point because popularisation of EOC may be used as entry point to communities for the acceleration and sustenance of uptake of preventive child health and other reproductive health interventions.

Some unexpected positive outcomes were also observed, for example, community involvement through formation of Safe Motherhood Committees (SMC). The SMC worked with the DHMT to sensitise communities to utilize EOC. They were also beginning to adapt innovative ways of overcoming the major obstruction to EOC, such as lack of money for transport to EOC and child spacing, specifically to improve maternal and child health rather than to reduction of family size.

## **7. Lessons Learned**

### **7.1. Best Practices and their Outcome**

- Correct documentation and interpretation of information by health workers at all levels facilitates timely recognition of pregnancy and delivery complications for appropriate referral.
- Community involvement improves the relationships between staff and community leaders and influential groups help to identify and address factors that reduce access to health services.

- Regular supportive supervision and review at all levels of planning and implementation improve performance and reporting of health intervention outcomes.
- The project opened opportunities to integrate child health clinics with postnatal clinics and the two acted symbiotically to promote utilization of preventive MCH services.
- Community involvement improved the referral system through creation of awareness on EOC services.

## 7.2. Gaps and Constraints

- Most health centres lacked delivery rooms or concealed units where mothers could be examined, delivered or counselled in confidence.
- Poor communication strategy for Safe Motherhood perpetuated lack of awareness on importance of early antenatal care, professional delivery care for all births and importance of postnatal clinics leads to low utilization of ANC care in the first trimester, delivery services and PN clinics in HCs.
- Lack of infrastructure for delivery rooms and storage of equipment and drugs.
- Strong cultural beliefs affecting decisions on early ANC and institutional deliveries.
- Lack of radio communication equipment.
- Lack of effective referral system.

## 8. Recommendations

- It is necessary to ensure that the radio communication equipment currently available in some health centres function at all times. Since the operations of the Flying Doctors Services of Zambia had been scaled down, all units that were served by the organization should be supplied with motor vehicle ambulances to enable transfer of emergencies which still prefer to go to these centres.
- Postnatal and child health clinics should be integrated to enhance efficiency.
- EOC equipment supplied should be reassessed for relevance of the technology required and the type of energy they need to operate in order to rationalize their distribution to the right places or replacement with more appropriate ones.
- Relationship with local communities should be strengthened to enhance utilization of EOC especially with the current limitation caused by predominance of male nurses in the peripheral health facilities.
- Documentation of EOC data should be improved between the community and health centre levels. A system should be developed for recording cases from communities that go directly to referral hospitals when complications arise, in order to ensure that the data is not lost to their home health centres and districts particularly when mortality arise.
- Back referrals from hospitals to health centres should be strengthened especially in cases where the clients did not pass through health centres. This will improve case management by providing feedback education to the health centre staff and TBA/tba.
- Infrastructure for deliveries and storage of drugs i.e. Oxytocics at health centre level should be improved by making use of opportunities provided by micro projects.
- Activities of TBA/tba should be strengthened and they should be given recognition by staff in the referral hospitals who often keep them waiting when they take their clients with obstetric complications, thereby delaying intervention as well as demoralizing the TBA/tba and the patients.

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1. What contributions did these different stakeholders' make to the conceptualization process, in particular what role did your organization actually play?
2. The project focused heavily on capacity building and equipping the first referral point (health facility), Now, considering that most deaths occur at home and is a result of complications which the first referral facilities cannot solve, do you think the strategy was relevant?
3. What were the main formative stages in this project, what lessons have come out of them, how have they been used to redirect the project?
4. What should be the future formative strategies and activities in this project bearing in mind the GLOBAL GOAL of 50 per cent reduction of maternal deaths by this year (2000) and another 25 per cent reduction by the year 2015?
5. Please outline for us the main activities in this project, indicating the lead organization and level for each of the activities and how they have progressed.
6. Let us look at human resource development, are the current national training strategy and district training plan supportive?
7. What did you find most useful in this project, what was not useful?
8. What were the reasons?
9. What lessons have you learned so far in this project?

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**Appendix I.**

**DATA COLLECTION INSTRUMENTS**

## FOCUS GROUP DISCUSSION GUIDELINES FOR WOMEN, MEN AND THE YOUTH

### Introduction

Good morning, my name is ..... I am a health worker working for the Central Board of Health. The Board is carrying out a study in this district to find out how the essential obstetric care project has been implemented and progressing since its inception. As you might know, this is a big problem in our country and the Government would like to see whether based on the results of your district(s), the project can be introduced nation wide. The Government would like to come up with ways and means of reducing maternal deaths. Your village was randomly selected among others in this research. The information that you will give us is very important and will be treated with confidentiality. I will now proceed to lead us into a discussion on various topics related to the project. You are free to make contributions. Thank you.

### ANTENATAL CARE

- What care do expectant mothers need?
- Who should provide this care? Please name all the different people whom you think should provide this care.
- Do women in this community always receive such care?
- In situations where some don't, what are the reasons for not receiving the care?
- *If home (or community) based ANC is not mentioned, then ask Can such care be provided at home (or within the community)? ....*
- What care should expectant mothers get at home (or in the village, or in the community)?
- Who do most mothers feel comfortable to discuss issues related to their pregnancy with?
- Most mothers say that such care in the community is enough, what is your opinion?
- Which is the best time for expectant mothers to visit the health facility for ANC for the first time? ..... Why?
- What care should be provided at the health facility during prenatal period?
- It is said that men have no role in ANC, what is your opinion regarding this statement?
- Who decides when ANC should be carried out?

### DELIVERY

- Where do most expectant mothers in this community deliver?
- Why do they deliver from this place(s)?
- Who makes the decision on where they should deliver?
- When the delivery takes place at home, which normally helps them deliver?
- Who do most families feel comfortable to assist deliveries and why?
- Are they normally trained? And by who?
- What are the common problems that arise during delivery?
- What actions do you normally take when a problem arises during delivery?
- What is the role of the men of this community during delivery?

### POST NATAL CARE

- It appears that many mothers get problems following delivery in this community, what is your experience?
- What types of problems are most common following delivery?
- In your opinion, what is the reason these problems occur?
- How serious are these problems?
- Have you ever heard of Post Natal Care? What is it?
- What are your views about Post Natal Care?
- Do women in this community attend Post Natal Care? *Why / Why not?*
- Where is Post Natal Care sought and from when?
- Who attends to them?
- It is said that in this community men have no role in the care of expectant mothers.

### **DECISION MAKING**

In this community, who makes decisions about?

- Pregnancy (when to have children)? Why?
- Family size? Why?
- Referral? Why?

### **FAMILY PLANNING**

- Have you ever heard of Family Planning? What is it?
- What are your views about Family Planning?
- Do men and women use family planning in this community? Why / Why not?
- What methods are used and who decides on them?
- Where is it sought?
- Are men involved in family planning?

### **TABOOS, TRADITIONAL BELIEFS AND PRACTICES**

What type of teachings / taboos / practices / beliefs are held in this community...

- During pregnancy (in all matters pertaining to miscarriages, still births, abnormal presentations, etc).
- During delivery
- After delivery

### **CAUSES of MATERNAL DEATHS**

What are the causes of death (socio-cultural, economic, medical, etc) in this community....

- During pregnancy?
- During delivery?
- After delivery?

### **TEENAGE SEXUALITY AND FERTILITY**

- What are your views on teenage sexuality? Is it common in your community for teenagers to engage in sex?
- What are your views on teenage pregnancy? Is it common in your community?
- What are your views on early pregnancies resulting from early marriages? Is this common in your community?

### **AWARENESS OPINION ON EOC PROGRAM**

- Are you aware of the efforts that the DHMT has been making in improving the care of expectant mothers in your community?
- What good things have you observed in the care of expectant women?
- What are the important shortcomings in the care of expectant women in your community?
- What should be done to improve these shortcomings?

## **Guide for Discussion with Key Informants at District and National Level**

10. Currently the Government of Republic of Zambia (GRZ) reflects pregnancy related conditions as the leading cause of burden of disease (BOD). To what extent is this true or is it merely guesswork, considering that over 50 per cent of deliveries occur away from health Facilities and there are no statistics of their outcome?
11. When was it realized that Pregnancy related complications are a major health problem in Zambia and what/who brought about this realization? *(What was the role of GRZ MOH, CBOH and DHMT, WHO, UNICEF, UNFPA, Other International Partners, NGO and Communities? In contributing to this realization?)*
12. Communities do not appear to believe so, otherwise over 50% deliveries would not occur at home. What is your opinion?
13. What contributions did this different stakeholders' make to the conceptualization process, in particular what role did your organization actually play?
14. The project focused heavily on capacity building and equipping the first referral point (health facility), Now, considering that most deaths occur at home and is a result of complications which the first referral facilities cannot solve, do you think the strategy was relevant?
15. What were the main formative stages in this project, what lessons have come out of them, how have they been used to redirect the project?
16. What should be the future formative strategies and activities in this project bearing in mind the GLOBAL GOAL of 50 per cent reduction of maternal deaths by this year (2000) and another 25 per cent reduction by the year 2015?
17. Please outline for us the main activities in this project, indicating the lead organization and level for each of the activities and how they have progressed.
18. Let us look at human resource development, are the current national training strategy and district training plan supportive?
19. What did you find most useful in this project, what was not useful?
20. What were the reasons?
21. What lessons have you learned so far in this project?

### **Persons Contacted During the Visit**

1. Mrs. Grace Phiri                      District Director DHMT Lufwanyama
2. Mrs. Josephine Banda              Manager Administration DHMT Lufwanyama
3. Mrs. Charity Mulenga Enrolled Nurse, Shikanani Health centre, Lufwanyama
4. Mrs. Dorothy Lwisha Enrolled Midwife, Kite Health Centre, Lufwanyama
  
5. Mr. Bernard Maswana              District Director DHMT Masaiti
6. Mr. Michael Zulu                      Manager Planning DHMT Masaiti
7. Mr. Jasper Musonda Information Officer, DHMT Masaiti
8. Ms. Emelda Hichibula              Enrolled Midwife, Kafulafuta Mission HC, Masaiti
9. Mrs. Victoria K. Pule Enrolled Midwife, Kafulafuta Mission HC, Masaiti
10. Mr. Mutale Mulenga Senior Clinical Officer, Masaiti A Health Centre, Masaiti
11. Mrs. Chomy Musonda              Enrolled Midwife, Masaiti A Health Centre, Masaiti
12. Mrs. Ladyness Kabungo              Enrolled Midwife, Masaiti A Health Centre, Masaiti

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|---------------------------|--|
| 13. Dr. Malan Soko        | District Director DHMT Mpongwe                         |
| 14. Mr. Vernon Shambonze  | Manager Planning DHMT Mpongwe                          |
| 15. Mr. Samukwepe Chikuni | Assistant District Health Information Officer, Mpongwe |
| 16. Ms. Godfridah Mwansa  | District Purchasing Officer/Stores, Mpongwe            |