
**COLLABORATION OF
ICEIDA AND THE MINISTRY OF HEALTH, MALAWI**

**BASELINE STUDY ON THE HEALTH CARE SERVICES IN
THE MONKEY BAY AREA, MANGOCHI DISTRICT**

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Abbreviations

AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Care
ART	Anti-Retroviral Treatment
CBDA	Community Based Distribution Agent
CHAM	Christian Health Association of Malawi
CO	Clinical Officer
DHMT	District Health Management Team
DHO	District Health Officer
EHO	Environmental Health Officer
FP	Family Planning
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HSA	Health Surveillance Assistant
ICEIDA	Icelandic International Development Agency
IMR	Infant Mortality Rate
MA	medical Assistant
MDHS	Malawi Demographic and Health Survey
MBCH	Monkey Bay Community Hospital
MCT	Monkey Bay Community Hospital Coordination Team
MDG	Millennium Development Goal
MICS	Multiple Indicator Cluster Survey
MoH	Ministry of Health
OPD	Out-Patient Department
PD	Project Document
SLA	Service Level Agreement
SWAp	Sector Wide Approach
TB	Tuberculosis
TBA	Traditional Birth Attendant
U5	Under-Five
VCT	Voluntary Counselling and Testing

Executive summary

In 1998, an agreement was reached between the Government of Iceland through the Icelandic International Development Agency (ICEIDA) and the Government of Malawi through the Ministry of Health to explore the possibility of expanding the collaboration of Iceland and Malawi into the health sector in the Monkey Bay area in Mangochi district. The first Project Document (PD) was signed in the year 2000, and a second one in 2004. A new PD was signed in 2009 where the two collaborating parties decided to continue the collaboration to the end of the year 2011.

Guided by the 4th Malawi National Health Plan 1999-2004, the two parties decided to transform the health centre in Monkey Bay to a community hospital while at the same time give improve the primary health care services in the Monkey Bay area. Since the collaboration was initiated the health system has been strengthened by better infrastructure and more diverse clinical care, including surgical capabilities. In addition to Monkey Bay Community Hospital (MBCH), there is one governmental run health centre (Nankumba) in the area and one dispensary (Chilonga) but it has been dysfunctional for some years. There are also four privately run health facilities in the area, three are run by the Christian Health Association of Malawi (CHAM), i.e. Nkopé, Malembo and Nankhwali, and one by an Irish NGO, Billy Riordan Memorial Trust Clinic, in Cape Maclear. It is estimated that about 113.000 people live in the Monkey Bay area.

The present study was conducted in April 2009. The aim is to (1) describe and analyse current practices of health care professionals for referrals of patients in the Monkey Bay area; (2) seek community members' preferences for seeking health care; and (3) suggest baseline indicators to be used to monitor and evaluate the success of project activities at the end of 2011. The study methodology is based on interviews with over 140 individuals, including health professionals and community members, individually or in groups. The results illuminate the opinions of the principal stakeholders in the area with regard to health services, i.e., the beneficiaries of the services (rural poor) and health professionals. Data was also collected on health system performance based on available documents and other information.

In 1999, the health centre in Monkey Bay was a small, worn down facility with limited range of services and few staff. Ten years later, the health centre has been transformed to a community hospital with diverse services rendered by trained and competent health professionals, as felt by the population. The premises are nice and give satisfaction to staff and attendees. MBCH has become a first-line referral facility for the health centres in the area and it attracts attendees from all of the Monkey Bay area. Despite lack of certain services available in the district hospital in the administrative capital Mangochi, many prefer to go to MBCH for services rather than the district hospital. For improvement, it is suggested that the hospital should be expanded with new wards for maternity services and children, X-ray facility and a kitchen. The out-patient department (OPD) area is also overcrowded and needs expansion. Finally, more staff houses are in demand.

Transport emerged as one of the major themes in the present study. Evidently, a first-line referral hospital needs access to functional transport. Community members and staff appreciated improved access to ambulance services in the Monkey Bay area, facilitated with better radio and telephone communication between the health facilities. However, many raised concern regarding the transport of sick people from the villages to their health

centre. Functional transport fleet is also crucial to bring the services closer to the population through out-reach clinics in villages with difficult access, and include under-five clinics and antenatal care (ANC) and family planning services. The delivery of these clinics is claimed to have improved with ICEIDA support through better access to transport vehicles. Yet, this work is hampered by lack of appropriate facilities in the villages that give protection from sun and rain, as well as privacy. It was suggested that simple shelters could be constructed and the community members stated willingness to contribute with labour and local construction material.

Exclusion to health services was another major theme that emerged in the study, closely related to user-charges. Community members living in catchment areas served by CHAM facilities complained about the high cost of the services. Yet, of particular worry for them was the situation of the poorest ones in the area, and claimed to be excluded from the services. The three CHAM facilities apply different user-fee schemes that confuse attendees and people complain they never know beforehand what the cost of a consultation will be. Other identified factors that contribute to exclusion of services were long distance to a health centre, over-flooded rivers during the rainy season, old age and mental illness. Solutions suggested are more state run health centres where services are free of charge, better transport and building of bridges. More attention should also be given to elderly people and those who are mentally ill, but both groups were said to seek help from traditional healers.

ANC and delivery services emerged as a third major theme in the study. A new Malawian policy prohibits Traditional Birth Attendants (TBAs) to assist women to deliver. Most community members argue that the services of the TBAs are needed. TBAs' assumed lack of medical knowledge is felt compensated for by knowledge of their community and for being there 24-hours a day when in need. The new policy is a challenge for the health services in the area. It is urgent to respond to increased need for skilled birth assistants in the health facilities, and better accommodation for the expectant mothers and their guardians. TBAs need also to be trained in a new role to support women during pregnancy. Applying fines, as currently practised, to prevent TBAs from assisting in delivery and mothers to give birth alone, may contribute to concealment of births and health risk for the mother and her child.

Support of ICEIDA to the health services is recognized and appreciated by those interviewed. At the outset, in 1999/2000, two of the specific objectives of the ICEIDA support were to strengthen the health services in the area and that MBCH would become a first-line of referral facility. The health service delivery in the area was claimed to have gone through remarkable change during the last decade, and is appreciated by all: community members, health professionals, district health authorities and officials within the MoH in Lilongwe. Quantitative analysis of data from the Health Management Information System (HMIS) gives some support to such claims, e.g., OPD utilization, ANC attendance, and vaccination coverage. On all studied indicators, Monkey Bay health area is doing remarkably well compared with available data from either Mangochi district or national figures (*Annex 3*). The performance of the governmental services has gradually improved over time, while the situation in the CHAM facilities has not experienced similar development. It is difficult to pinpoint one single factor for improved health service delivery results in the governmentally run facilities. Yet, there is no doubt in the mind of those interviewed that ICEIDA's support has greatly contributed to the outcome.

The sustainability of the ICEIDA support was discussed as the new PD plans for its termination in December 2011. While people express confidence in ICEIDA and wish the support to continue after 2011, it was stated that the health work would continue either way. Without ICEIDA it could, however, not be expected to progress with the same effectiveness as with the current support and the services would suffer. Thus, it is important to monitor the process of a gradual pull-out. During this process, the transport sector needs special attention and fundamental transport management techniques should be implemented and include log-books for all transport vehicles that are regularly analysed and acted upon. Important indicators to monitor are, e.g., those that relate to the ambulance services. Also, it is important to monitor the flow of funds from the DMHT to the Monkey Bay area, a prerequisite for a successful pull-out.

The HMIS in place in Malawi gives ample opportunities to monitor the health system performance. Included indicators give data for comparison across time and place and fulfil criteria for being SMART, i.e., being specific, measurable, achievable, relevant and time-bound. Some of the HMIS indicators should be regularly monitored in the Monkey Bay area and efforts made to improve the quality of the data collection. In addition, it is suggested that efforts should be done to disaggregate the numbers of the OPD by age groups, which is currently not the case. Also, it is suggested that the out-reach activities should be better monitored. This calls for special forms to be developed locally.

One of the over-all objectives of the ICEIDA support to the health care services in the Monkey Bay area has been to support the national government to attain general socio-economic development and the fight against poverty. The results of the present study show that the support has reached out to many of the rural poor in the area. The interviews also reveal satisfaction of the beneficiaries with the work done so far, and that improved access is felt in all of the Monkey Bay area, even in distant villages. It is important to monitor further progress in the next three years and the current study suggests appropriate indicators that can be used for that purpose (*Annex 1-3*).

Introduction

New trends in evaluation and monitoring of development assistance have recently been identified (Conlin and Stirrat 2008, Segone 2008). These trends are mainly related to the current architecture of aid following the Paris Declaration on Aid Effectiveness in 2005 with the concepts *alignment* and *harmonization* becoming central. One important tendency is to evaluate large themes while less importance is given to projects and programs evaluations. The focus is on strategies and resource allocation and the importance of measurable impact is underlined. Likewise, consequences of development assistance for social equity should be considered as well as enhancement of empowerment. The evaluation is more complex and the contribution of particular donors has become increasingly fluid. Another important recent trend in evaluation has to do with focus on the Millennium Development Goals (MDGs) and corresponding indicators (Conlin and Stirrat 2008). MGDs include also a move away from project-orientated interventions to a wider approach where other factors than the intervention alone should be taken into consideration.

In a recent article, Bamberger *et al* (2004) outline a “shoestring evaluation” that aims to offer tools that guarantee an evaluation with maximum quality possible, despite being conducted with small budget, short time and limited access to data. They propose conventional methods for collection and analysis of data but however with a new combination. The shoestring approach is partly based on group discussions with the most important stakeholders, and partly the appraisal of strategic documents, interviews with managers, and assessment of the decision-making processes. While theory based evaluation tends to focus on inputs, implementation, outputs, and impacts, the shoestring approach embraces all these themes and adds two more for examination. The first is the project design, for example, was it organized ‘top down’ or through participatory approach, or was it designed around certain interventions rather than desired outcome. The second additional theme of focus is identification of factors, which may influence implementation and outcome. This includes examination of the economic, political and organizational context and the socio-economic character of the population with emphasis on identification of eventual excluded groups.

Indicators are important feature of all evaluation efforts. Indicators are succinct measures that aim to describe as much about a system as possible in as few points as possible (NHS 2008). They help us understand a system, compare it and improve it. Indicators are defined with the intention to provide reliable and comparable information across time with regard to interventions and their achievement. The definition of an indicator may however vary (MDF, n.d.). According to OECD/DAC, an indicator is: “A quantitative or qualitative factor or variable that provides a simple and reliable means to measure achievement, to reflect changes connected to an intervention, or to help assess the performance of a development actor”. Another definition is proposed by the USAID: “*a variable, which purpose it is to measure change in a phenomena or process*”. The European Commission describes (planning) indicators as: “*a description of the project’s objectives in terms of quantity, quality, target group(s), time and place.*”

To inform the general public and funding bodies on their achievements, development agencies desire whenever possible to present *concrete* results. In addition, indicators on concrete results of development interventions, projects and programs are by some

development agencies required to become increasingly “SMART” or “SPICED” (MDF, u.d.). SMART indicators are *Specific, Measurable, Achievable* (acceptable, applicable, appropriate, attainable or agreed upon), *Relevant* and *Time-bound*. SPICED indicators allow different characteristics to become important for assessment of the impact of change. These are *Subjective* (informants have a special position or experience that gives them unique insights), *Participatory* (involve the project’s ultimate beneficiaries, local staff and other stakeholders), *Interpreted and communicable* (may need explanation as they are locally defined), *Cross-checked and compared* (the validity of assessment needs to be cross-checked, by comparing different indicators and progress, and by using different informants, methods and researchers), *Empowering* (allow groups and individuals to reflect critically on the changing situation) and *Diverse and disaggregated* (indicators from a range of groups, especially men and women).

Whatever the indicators used, being SMART, SPICED or any other combination, they can conveniently be grouped into three broad categories (Rigby and Köhler 2002). *Structural* indicators monitor progress in terms of physical structures, transport vehicles, etc., and are usually the most easily obtainable indicators to monitor within a health project. *Process* indicators are more difficult to obtain but measure activities that are supposed to lead to the desired outcome of project activities. They are often called proxy indicators when they refer in an indirect way to the desired outcome. The indicator “proportion of children fully vaccinated by the age of 12 months” is, e.g., a process indicator if the objective is to lower infant mortality rate (IMR), and vaccination at young age is an evidence-based mean towards that end. *Outcome* indicators are the most costly and difficult to obtain and need stringent research methodology, e.g., the measurement of the IMR or maternal mortality. They are also called direct indicators as they refer directly to the subject they were developed for.

The current evaluation is organized with the recent trends in evaluation and monitoring of aid assistance mentioned above in mind and under the influence from the shoestring approach. The general theme is the over-all performance of the health care services in the Monkey Bay area with focus on changes in recent years, irrespective of what interventions or factors may have caused these changes.

Background and Setting

The collaboration between the Government of Iceland through the Icelandic International Development Agency (ICEIDA) and the Government of Malawi goes back as far as 1989. In the beginning, the collaboration focused on the fishery sector in Lake Malawi. In 1998 an agreement was reached between the two partners to explore the possibility of expanding the collaboration into the health sector through the Malawian Ministry of Health (MoH). A feasibility study was carried out in the last quarter of 1999 in the Monkey Bay health area in Mangochi district, and in the year 2000 a bilateral agreement, “Support to Monkey Bay Health Care,” was signed between the two collaborating partners.

The Monkey Bay health area was chosen in part due to the previous presence of ICEIDA there since 1989, but the district has also as a whole been characterized by poor health indicators compared to other areas in the country. Guided by the 4th National Health Plan 1999-2004, it was decided to strengthen health care provision in the Monkey Bay zone with the building of a new health centre in Monkey Bay and give general support to the primary

health care services in the area. During the building process it was decided to transform the health centre into a community hospital, the Monkey Bay Community Hospital (MBCH), which at the time was a new concept within the Malawian health care system but fully in line with the national health policy.

The District of Mangochi is in the Southern region with population in 2007 estimated to be about 802,568. The district is divided into five health areas, of which Monkey Bay is one. MBCH is run by the government and has the primary responsibility for all health services related activity in area with about 100 villages and about 113,000 inhabitants (2008). There is one governmental run health centre (Nankumba) but one dispensary in Chilonga has been dysfunctional for some time. In addition, there are four privately run health facilities in the area that apply user-charges. Three are run by the Christian Health Association of Malawi (CHAM), i.e. Nkopé, Malembo and Nankhwali, and one by a Irish NGO, Billy Riordan Memorial Trust Clinic in Cape Maclear.

For each of the governmental and CHAM health facilities there is a Health Centre Committee that includes representatives from several villages in the catchment area. In addition to these, there is a Traditional Authority (TA Nankumba) within the area who is chairman of the Area Development Programme, composed of 15 community members. There is also a Village Health Committee in each village that discusses health care issues, voluntaries such as Traditional Birth Attendants (TBAs), Community Based Distribution Agents (CBDAs) and those who work with home based care for HIV/AIDS patients.

The collaboration can conveniently be divided into three distinct phases:

Phase I: In the years 2000-2003, the emphasis was on building physical structures in MBCH. Radio communication was installed in all the health centres in the zone to facilitate communication between the health facilities.

Phase II: In the years 2004-2008, the emphasis was on strengthening the services of MBCH with improved clinical care and surgical capabilities. It was decided to build a new laboratory and facilities for HIV/AIDS related services - Voluntary Counselling and Testing (VCT) and Anti-retroviral Treatment (ART). The health centre in Nankumba was renovated and expanded and community health services strengthened through health promotion, training of staff and community health volunteers and support to outreach activities. Further, the use and application of the national Health Monitoring Information System (HMIS) already in place was emphasized.

Phase III: Planned for the years 2009-2011, this phase is based on a new Project Document (PD) that is the result of extensive collaboration and consultation with key stakeholders in the area. These include the MoH and district health authorities, as well as health staff and community members in the Monkey Bay area. The new PD includes the construction of a new maternity ward, paediatric ward, kitchen and X-ray facility at MBCH. The out-patient department (OPD) will be renovated and the current maternity transformed to under-five (U5) clinic and antenatal care facility (ANC) and family planning (FP). In addition, outreach activities in the rural communities are to be strengthened.

During implementation of the project activities since 2000, human resources have been given continuous support and training, in- and out-of-country. ICEIDA has also financed seven motorcycles for the community health related activities that have been handed-over both to governmental and CHAM health structures. Also, one ambulance was bought in 2003 and a new one in 2007. The cost of running the vehicles has mostly been covered by ICEIDA funds.

To inform decisions regarding the implementation of Phase III and to monitor the success of project activities at the end of 2011, it was decided to conduct a baseline study in the area.

Objectives

In the context of ICEIDA's health care project in the Monkey Bay area, the objectives of the current study is to:

- ∞ Describe and analyse current practice of health care professionals in using MBCH as a first line of referral for their services; and
- ∞ Describe and analyse community members preferences for seeking health care and their current experience in seeking health services in MBCH compared to that of Mangochi District Hospital
- ∞ Suggest a few baseline indicators to be used to monitor and evaluate the success of project activities at the end of 2011.

Methodology

Qualitative interviews

Interviews and group discussions were conducted with health professionals (e.g. clinical officers (CO), medical assistants (MA), nurses, midwives, environmental officers, and health surveillance assistants (HSAs)) in all seven health care facilities in the area. Also, in all the health facilities except in Cape Maclear, members of the health facility committee were invited to discuss issues related to the health care services. Discussion was also held with one TBA and the TA Nankumba and his clerk. In total, more than 140 persons were met during the study period (*Annex 4*), either in groups of 1-2 persons to 30.

The interviews were conducted with the help of a translator, as needed. They were based on open-ended questions that relate to the health service delivery and seeking of health care. Particular attention was given to encourage respondents to look both backwards and forward in time, to be critical and to consider alternatives. Open-ended interviews typically rest on 'why' and 'how' questions, and respondents are asked to tell stories of particular experiences and express their opinions. The main issues discussed were: changes in health care services during the last decade, the current delivery of health care services, referrals, human resources, out-reach activities and voluntary community health work, transport, user charges, excluded groups, alternative services, and relations between health facilities, staff and communities. All the data was continuously computerized and analysed during the visit.

In addition to the above, data collected during the feasibility study, conducted in October 1999, was reanalysed. It included interviews with staff and community members before the implementation of project activities was initiated and can thus serve as a baseline to judge current activities.

Quantitative information

Regular collection of monthly data is the current practice of health professionals in the Monkey Bay area. It is based on monthly registers that are computerized in the national HMIS and sent to Mangochi District Health Management Team (DHMT) for compilation and analysis which later sends to the national health authorities in Lilongwe. The staff provided new data for the year 2008, both regarding the services to admitted patients in MBCH as well as data on attendances, main clinical problems and the preventive services. The national responsible person within the MoH in Lilongwe was contacted to have information on comparable national data, if available. Other secondary sources were also sought and analysed, as appropriate.

Results

A. Qualitative information

I. Health care services in 1999

In 1999, health care services offered in the Monkey Bay area were the state run health centres in Monkey Bay and Nankumba, in addition to the CHAM health centres. Monkey Bay health centre had responsibilities regarding the whole area while the Mangochi District Hospital was the referral hospital. In interviews with health care staff, health committee members and community members following main themes were discussed.

Physical structures

Respondents were concerned about bad quality of buildings of the governmentally run health care services. The Monkey Bay health centre building was old and worn out, and staff suggested that curative and public health services should be moved to the already identified new hospital area; old buildings could be used as residences for staff or as a training facility. Nankumba was also a worn out health centre in need of renovation.

Community members called particular attention to the small health centre premises in Monkey Bay that did not accommodate all those seeking care. They also complained about unfilled promises by the Safe Motherhood programme regarding the building of a simple health post in the communities. They had everything ready but the obligations on part of the donor were never fulfilled.

Transport and communication

Lack of ambulance transport was of major concern. However, Nankumba had an ambulance that was functioning at the time of study and referral patients with complicated conditions were sent directly to Mangochi. Staff members complained about difficulties with ambulance transport from the Monkey Bay health centre to Mangochi. To have an ambulance transport, staff needed to call Mangochi that usually responded there was no fuel or no driver. The Mangochi ambulance fleet was small and if the ambulance was operational, it was always away on duty when needed in Monkey Bay. When the ambulance arrived, most of the time it took at least 2-3 hours. Regarding transport on the lake, boat was suggested to improve the health services to the lakeside population. Community members complained about lack of ambulance transport both to and from Monkey Bay and also lack of *ambulance basco* for transport of patients from the villages to the nearest health centre.

Monkey Bay health centre had two motorbikes, but these were earmarked for special purposes within programmes, i.e. Safe the Children (gave fuel 20 l/month) and the Danida bilharzia project (gave fuel for mass distribution of drugs); government paid 10 l/month. At the time, Nankumba health centre had no motorbike but Malembo had one that was earmarked for the bilharzia project.

In 1999, there was no radio communication between the health centres in the area except in Nankumba health centre with a nearby facility, Phirilongwe HC that is outside the Monkey Bay health area. No regular contacts were with the Monkey Bay health centre and all reporting was sent directly to Mangochi. Nkopé had no contacts with the Monkey Bay health centre.

Human resources

There was a constant lack of qualified staff and the motivation was low. Staff members suggested paid risk allowances (i.e., for extra work and risky work), better housing, better salaries, training of all sorts and general help to execute their duties in order to increase motivation. Some staff was also interested to have their own funds to run the health facility, e.g., regarding minor purchases such as fuel, lamps, and maintenance of buildings. Staff preferred upgrading rather than workshops, seminars, or meetings.

There were sporadic supervisions of the health centres from the Monkey Bay health centre. There was no knowledge on IMCI in some health centres. Within the area there was no proper collection of health related data and no meetings were arranged. Most connections were directed towards Mangochi, however there were no common meetings within the district, mostly because of transport problems and no zonal reports. Initial steps had been taken to computerize zonal health data.

Community services

The volunteers (e.g., TBAs and CBDAs) complained about the lack of materials to fulfill their work duties, such as umbrellas, writing material, travelling bags. Material they already had was worn-out and needed to be renovated. At the same time, community members expressed their appreciation of the services of the TBAs. Health committee members complained about the lack of water and sanitation in the area and village headman that nothing was ever materialized of what had been promised.

II. Health care services in 2009

Physical infrastructure

Staff members and health committee members claim that the most obvious change in health care services since 1999 is related to the construction of the new MBCH. The hospital has good facilities. Before there were less patients and mostly in the maternity, but now the situation had totally changed. New laundry house is welcome because of the increased number of linen associated with surgical activity. Electricity and a stand-by generator are great improvements. For staff, construction of staff houses has been important, as it is difficult to rent a house in Monkey Bay. Despite improvements in physical infrastructure, MBCH lacks better space for expectant mothers and improved maternity. Kitchen is lacking and it is still more important considering the new surgical theatre and the increased bed occupancy rate. Likewise, attention is paid to the fact that there is no special place in the hospital for senior people: *“One day a chief of a village was in the queue like all the others. There should be a special treatment for prominent people.”*

The health centres have been renovated. The infrastructure for two of the health centres, i.e. Nankumba and Malembo (CHAM facility) has been improved. The health centre in Nankumba has been expanded and renovated, with new and renovated staff houses. It is now a new health centre with new equipment, and is totally transformed with expanded pharmacy, separate wards for males and females, new services (VCT/HIV test), more staff, and water and solar system in place for electricity and water. The health centre in Malembo has recently had installed a new water pump, run by solar energy through the ICEIDA funded water and sanitation project. Representatives of the Presbyterian CHAM section from Nkhoma Hospital, with responsibility for Malembo health centre, were keen to forward their gratitude to ICEIDA for all the efforts it has done for the health centre in general, but in particular the water pump.

While better physical structures were appreciated, further improvements were suggested. Improved housing and services in Chilonga were identified as a priority. More governmental health facilities were asked for, in particular between Nkopé and Sun-and-Sand beach, between Malembo and Nankhwale and in the Binary area (between Kaiche I and Kaiche II).

Health services

MBCH is seen as a good hospital that has lifted the burden of people of travelling to Mangochi. For all, distance is important and the hospital is closer to where they live than Mangochi – some people can even walk to the hospital. Some argue that MBCH works almost like a district hospital and is in some aspects even a better hospital than Mangochi. Health centre staff in all the facilities is also pleased with the hospital and argues that it helps with transport, supervision and technical assistance in the care of patients.

MBCH now delivers many new services, such as surgical operations, VCT/ART, laboratory services and dental care. The laboratory has attracted people and results in less pressure on Mangochi. Children with malaria and anaemia can now be transfused after

proper testing. Children get food through the World Food Programme. Rehabilitation services are provided but appropriate equipment is needed.

Respondents say they are as well treated in MBCH as in the district hospital in Mangochi. The services are claimed to be good and staff is polite. Medical staff gives enough drugs when they are available. Respondents lament occasional lack of drugs. Waiting time is short compared with Mangochi hospital, however, some paid attention to overcrowding at the OPD with long waiting time. Data show increased number of patients and overcrowded facilities with patients lying on the floor in the wards, even post-natal mothers. There is even increased number of patients in the male ward. Although the situation has improved somewhat, there is lack of ground staff, including few clerks, support staff, and data clerks.

Staff at the health centres was generally considered to be competent and to treat patients with consideration. However, there were some complaints and in one of the health centres staff was said not always to be polite. The reason stated was that some of the staff was old and others were tired because of the heavy workload. However, there had been improvements. In the past people who lived in isolated areas were not treated at all, but now they are attended to.

Community members stressed the importance of having health services in their neighbourhood. It was for instance pointed out that tuberculosis (TB) patients had at times to pick up their medicines once a week in Monkey Bay, when the health centre could as well keep the medicines closer to their homes and hand them out there. It is difficult for HIV/AIDS patients to travel. Nankhwali has a VCT and can diagnose people with HIV, however, they can not give ART treatment. ART treatment should be given in Nankhwali and Malembo. To do this staff will need more training to deliver ART drugs.

ICEIDA's has supported the work with cholera by supplying tents, cholera beds, chlorine, and funded workshops on cholera. With the tents it has been possible to isolate the patients from other admitted patients - before they were in the wards. Cholera outbreaks are stated to have become less frequent, partly thanks to the work of the HSAs.

Referrals

In all the corners of the Monkey Bay health area, it is claimed that MBCH serves all the communities, "*they all come to Monkey Bay when seriously sick.*" For all the health centres in the zone, MBCH serves as a first point of referral for complicated cases. Maternity cases mentioned are caesarian sections, miscarriage, ectopic pregnancy, tubal ligation, ruptured uterus, prolonged labour, postnatal mothers with eclampsia and puerperal sepsis (infections after birth). Other cases include hernias, abscesses, ART substitution medication (complications after initial treatment), tuberculosis, meningitis, severe anaemia that need transfusion, bowel obstruction, and orthopedic, dental, and psychiatric cases. Before everybody was referred directly to Mangochi, now everybody prefers MBCH.

According to staff in the health centres, patients referred to MBCH are generally well taken care of; it was mentioned by staff in Nankumba that referred patients from the area are given transport back to the health centre after treatment, which was appreciated. MBCH staff is said to give feedback on treatment and communicate back if they refer the patient further to Mangochi.

There were some complaints. One complained about lack of information on the outcome of referrals, *“it is always like that, despite using official referral forms for referrals.”* Another complained that at times referrals were not properly handled at MBCH. As an example, it is a problem when referred patients with side effects of the normal HIV/AIDS treatment were only seen by nurses and not properly handled by a more senior clinician. Sometimes patients returned with only pain-killers as they were not treated by a more senior staff than found at the health centres. It is also bad to refer a woman to deliver in MBCH and then find out she was not at all helped during the delivery and gave birth alone. However, this depends on what staff you meet. Some of the health staff was particularly identified as capable and responsive to the needs of patients.

Patients who are sent directly to Mangochi are, e.g., those who need surgical operation that is not done in MBCH, when the anaesthetic technician is sick or away, children with severe cerebral malaria or meningitis, TB patients on initial treatment, fistulas or if a patient will need an X-ray, e.g. those with fractures. There were also reports on mothers without guardians who are sent to Mangochi after caesarian operation because there is no food given in the wards of MBCH.

Having an X-ray/ultrasound would be plausible and it would greatly improve the services, many argued. MBCH should be a fully provided facility, including serving food to admitted patients and with better drug accessibility.

Human resources and training

At the initiation of the project activities there were few nurses in Monkey Bay. Now there is an increased number of staff with different qualifications that deliver more diverse services. A major improvement is the addition of five Clinical Officers (CO). This is partly attributed to pressure from ICEIDA to attract more staff with a gradually expanding community hospital. ICEIDA has also significantly contributed to the training of staff and voluntaries (TBAs, CBDAs, others).

Through workshops, the health professionals are said to have better knowledge and skills. It is claimed that the training funded by ICEIDA has reached many different places and reached everyone in the area. In all of the area, the number of HSAs has increased considerably in the last few years, and they need further training.

Transport and communication

Transport is a problem and was discussed extensively by staff and community members. There are various ways of transport used; some walk, others are carried on stretchers and bicycles, some take the bus or rent a car, and in severe cases the ambulance will bring patients to MBCH.

The health area is now served with two ambulances from Monkey Bay, but some claimed they arrive with delay. Many voiced concerns about the transport of sick patients from the village to the nearest health centre as the ambulance only goes to the health centre. Trips

farther away were said to be risky for the ambulance because of rough road conditions, and would be too time consuming.

For transport from the villages, people use stretchers and *basco* stretchers (a simple carriage on bicycle wheels) to carry severely sick patients to the nearest health centre. Some stretchers are broken. One respondent argued “*there should be at least one stretcher in every village.*” Many recommended ambulance motorbikes for all the health centres. Some recommended one ambulance to be placed in Nankumba to serve the large area, as the communication network is not always functioning properly, and the distances are long.

It was mentioned that sometimes when people die in Mangochi, family members have to pay the transport of the corpse back to the home village, which can be expensive. Likewise the ambulance does not always bring the corpses to the villages, often due to bad roads during the rainy season.

Through ICEIDA funds, all the health centres have now motorbikes for outreach activities and they can now reach formerly non-accessible areas. This is claimed to contribute to increased immunization coverage and helps to reach pregnant women, something that was impossible before. This is appreciated by the respondents.

It is appreciated that ICEIDA has furnished radio communication between the health centres in the area and MBCH. Staff members can thus communicate, even during night. ICEIDA has also funded cellular phones and land line phones and has facilitated access to internet for staff; internet had however not been functional for 2-3 months at the time of interview (April 2009) because of contamination of the computers with virus. ICEIDA funds meetings that create good communication between staff in the health zone.

Out-reach activities

Out-reach activities have greatly improved with transport vehicles and support for lunch allowances. All the facilities have schedules for their catchment areas with U5-clinic (weighing and immunization) and ANC/FP. However, ANC or FP are not always available because of lack of privacy for the mothers. It was suggested that it would be advisable to include also an HIV counsellor in these sessions, who could take HIV-test. The clinics are many times conducted under a tree but not in a proper shelter. A shelter is thus highly requested by staff and community. The communities are ready to contribute to the construction work. The need for a house for the HSAs was also pointed out. Weighing scales are also not always properly working and need continuous service or renewal. The same applies to blood pressure equipment. Uniforms and raincoats for the HSAs was also asked for by many.

In a few identified villages, there are so-called *village clinics*. In these clinics, the HSA has been given the authority to distribute drugs for specific diseases, i.e., anti-malarials (now waiting for a new policy), co-trimoxazol (antibiotic), Panadol (pain killer), eye ointment, and Oral Rehydration Salts (ORS). It was suggested by many health surveillance assistants (HSAs) and community members that the network of village clinics should be expanded.

The role of TBAs

The antenatal services and delivery were major issues for staff and community members alike. It was pointed out that formerly TBAs were untrained but with support of ICEIDA they were trained and access to their services improved. This resulted in better awareness in the villages regarding the importance of ANC and safe delivery. It was argued that TBAs now recognize their boundaries and are thus more likely to refer the pregnant mothers when they encounter problems. CBDAs have also been trained and given necessary supplies to improve access to family planning methods. Antenatal mothers are reached now, even in far away villages, thanks to transport vehicles in the health facilities. Some argue that this has resulted in less maternal deaths, partly thanks to trained TBAs, in addition to improved transport.

Since late 2008, it is the official policy of the MoH that women should deliver with the assistance of skilled health workers in health facilities. This is a radical change considering that the majority of women have chosen to deliver with the help of TBAs in the villages. There are TBAs in every village but now they are not allowed to assist births any more. With the new policy, TBAs are expected to monitor the mother during her pregnancy and guide her when to go to the health facility in her area.

The new policy on deliveries is not well received by all of the population. Many expressed outrage with the new policy regarding the role of TBAs in delivery, in particular those who live far away from a health center. The work of TBAs is appreciated and it was pointed out that it is hard for pregnant women to travel. The TBAs help a lot, it was claimed, and they organize the delivery: *“of course [mothers] are not happy.”* One member of a health committee explained: *“When the mothers heard the news, they cried.”* Many expressed fear that as a consequence women would give birth alone which could be dangerous: *“What to do in the middle of the night?”*

All did not however denounce the new policy on TBAs. It was by some considered to be good and could contribute to lower maternal mortality. Further, by giving birth in a health facility mothers did not have to reveal their HIV-status in the community and be given appropriate HIV drugs at delivery, in case of need. In addition, it was pointed out by staff that TBAs are not able to write referral notes and not technically trained to give proper assistance. On the other hand, the MoHs recommendation to encourage fathers to assist delivery was met with some irony. Mothers laugh when that proposal was taken up for discussion, and say *“no”* when it is suggested that the father should be present at birth.

There are many obstacles to implement the new TBA policy. Staff members were often concerned about their possibilities of assisting an increased number of births. The health facilities would not cope with the added burden of deliveries. *“This is a good idea, but we need shelter [for the expectant mothers] at the health facility,”* one said. More space must be reserved for expectant mothers and proper shelters built.

Supplies at the health facilities are claimed not to be adequate and appropriately trained staff not always at hand. When the mothers come to the health facility there might be no skilled person to assist with the delivery and the mothers are left to give birth with the help of a ward attendant or their guardian. It is also recognized that staff-client relations are not always so good. One staff member said: *“It is like rotten fish in the pond, difficult to find exactly who!”*

It was pointed out that the new policy could be dangerous for the pregnant women. There are difficulties to bring them to the health facility in time, especially in the rainy season with over-flooded rivers, no transport and facilities with no food. This is specially the case for those who have already started to deliver in the villages, and during the night there is no transport. With the new policy women risk giving birth alone, without any assistance. One tells about a woman who gave birth alone in the fields, on her way to Monkey Bay, as no TBA dared to help her to avoid being fined: *"We need to avoid secret deliveries."*

According to the new policy, the Village Health Committee and the Chief in the village should be trained to discipline the women to give birth in a health facility. It is up to them how they should be disciplined. In the Nankumba area mothers who give birth in the village are to be fined. Fines of 1000-3000 Mkw were mentioned, as well as fines of 1-3 goats and up to 20 chickens, etc. The money is to be used to assist the work of the village health committee, or at times to support the TBA.

The TBAs are paid for rendered services. If they are not allowed to assist births, they lose income. Consequently, the TBAs are not happy: *"advice only, no income."* Now they get paid about 200 Mkw per delivery or are compensated by the population with, e.g., food, chicken, etc.. *"It is not fair to exclude them – we should continue to train them."* Thus, it is felt important to secure them some income for their new function of bringing mothers in for delivery.

There is some confusion on the extent of the ban on TBAs. Initially, TBAs were allowed to deliver the second, third and fourth child of a mother. Now there is a total ban on all deliveries. Based on the interviews, the new regulation is not respected by all. The mothers are not happy, and TBAs are still working. Some TBAs continue to do their business as usual while others stop and try to comply. Many mothers like to deliver in the villages. Consequently, it is claimed it will be difficult to implement this new policy under the current circumstances.

Expectant mothers in Nankumba

We walked to the outdoor kitchen area and talked to a grandmother (a guardian) and expectant mother, who had three children at home. The pregnant woman had come there in her eighth month of pregnancy because of some problems, and she had been there during four weeks. She and the guardian took with them some food. They, and other expectant mothers, slept on the cemented waiting seats – without mattresses and mosquito nets. There were many other women waiting to give birth – partly because they had some complications but most because of the new rules on TBAs, and they disliked the new rules. TBAs were of great help, they argued.

Drugs and user-charges

Support of ICEIDA has been important regarding access to drugs in times of shortage from the CMS, and it is appreciated. The MBCH pharmacy has high consumption, and they often send emergency orders to Mangochi, including materials for the laboratory. The health centres in the area are supported by MBCH with drugs if they run-out themselves. Staff said: *“They share [drugs] with us.”* Rarely the representatives of the community complained about lack of drugs, and people have confidence that they get drugs, if they are at all available. One respondent said however: *“I did not get the proper medicines.”*

In general, community members admitted that they could have good treatment and drugs at the CHAM facilities, but at a cost. It was however difficult to know beforehand what the cost of a consultation would be. First, there is the price for the consultation, about 25-50 Mkw. Then comes the cost of drugs, e.g. for pneumonia of children the cost can be as high as 400-500 Mkw. If laboratory analysis is needed, it costs another 100 Mkw. *“If no money, people go to a governmental facility.”* It is also complicated for the CHAM facilities to charge for treatment given to sick children in U5-clinics during out-reach visits, preventive health visits that in theory are free of charge.

Expectant mothers pay a fixed price for ANC, about 200-250 Mkw. However, if they need treatment with drugs while pregnant they still need to pay for drugs except for pneumonia or malaria. In addition, for delivery they are charged about 250 Mkw and sometimes more, if they need drugs that are not included. Service Level Agreements (SLAs) with CHAM are claimed not to resolve this issue. In some places, because of costs, people go to MBCH during the day, but to a nearby CHAM facility during the night when transport is not easily available. Health committee members argued: *“It is unfair to have only access to a CHAM facility.”*

All three CHAM facilities apply different cost schemes and this adds to the confusion felt by the population. *“You never know what to expect!”* In particular, patients with many health problems risked to be charged high price for the services, e.g., people with AIDS pay for drugs for each and every problem. People claimed: *“They are only in it for the business.”* CHAM-staff however explained that they are non-profit organizations that need to buy the drugs on the private market and charge the users to cover real costs. Yet, in some cases people get credit if they are unable to pay.

Excluded groups

All those interviewed were asked if there were any excluded groups from the health care services in the Monkey Bay area. Contributing factors to exclusion that were most frequently mentioned were poverty in areas with CHAM facilities, long distance to health centre, old age and mental illness.

The first group to be mentioned as excluded was poor people living in the catchment areas of the CHAM facilities. Government run health facilities were asked for, even in areas under the responsibility of CHAM. Some argued governmental health centres had to follow governmental rules, while private clinics did whatever they like to earn money. *“It is their business.”* If we build governmental health facility, those with money can go to CHAM – others go to the governmental facility. The price for a consultation at CHAM can be as high as 700-1000 Mkw, it was claimed, and you never knew beforehand what the cost will be. Consultation fee for adults can even exceed 1000 Mkw. Being a villager, it is difficult to pay for such services, and there is a lot of poor people. CHAM is expensive and, therefore, some people decide to go straight away to Monkey Bay. They know that such a visit will not cost more than the bus fare. To illustrate, it was claimed that some went to Nankumba to seek care if sick, even if Malembo was closer as it was too expensive, despite offering good services. If critically ill they are referred to MBCH in ambulance, which comes if requested.

A partial solution to this problem would be a SLAs between the Government and the CHAMs. Only one such agreement has been made (Nkopé) allowing women to give birth free of charge in the facility, and this agreement was greatly valued by the population in the area.

One respondent argued there is a social bias in the whole system, some people get a lot of drugs when villagers do not: *“Someone who lacks money is dead.”* Others lamented that when people attended with little money staff would take something from them as guarantee for later payment, and those who come with nothing are not be attended.

It is claimed that when some people with money decide to use private health care it is their own matter. Some, those with money may visit Malembo, which is a CHAM facility, and people without money from the CHAM areas go to Nankumba or MBCH where services are free. The better of in Monkey Bay choose at times to attend services in Billy Ricordian Memorial Trust Clinic in Cape Maclear where the prices are low and access to drugs not available in the governmental health facilities.

Distance hinders people to seek care, and populations that live far away from health facility were identified as being excluded from the services. In the catchment area of Chilonga, e.g., the most isolated villages are some 20 km away. In addition, some populations belong to villages that become isolated during the rainy season due to high level of water in rivers, e.g. in the catchment areas Nkopé and Nankhwali.

Another excluded group is people who are members of the Apostolic church but it makes people not to seek health care services. The followers are not allowed to use drugs or seek hospital care and are advised to pray instead. The respondents believe, however, that children whose parents belong to this faith are vaccinated. The headman in one village said he had told these people he would expel them from the village if they did not accept the health care services when needed.

There are no user charges at governmental facilities, and those who live in the proximity are not excluded. However, some people cannot walk, such as aged people; in case of need their families take them to the health centre or to Monkey Bay but did so only rarely. There are organizations in the area that take care of old people and orphans who mostly stay with grandparents or some family members. In the villages, it was pointed out that old people in particular was in need of transport and might need to be taken to the health centre on a stretcher.

The services in the Monkey Bay area have little to offer people with mental problems, and such patients were referred to Mangochi and at times from there to Zomba. Often their problems are dealt with by the herbalists.

Alternative services

Respondents, whatever category, agree that herbalists are much attended. *“All of Africa is for witchcraft!”* Attendance depends on the type of health problems and the cure is likely to be linked to beliefs in witchcraft. Herbalists counteract witchcraft and one respondent claimed: *“You need to be a witch to know witchcraft.”*

Common reason to seek the services of an herbalist is chronic disease and when attendance to other available services have not resulted in cure, despite the use available resources such as drugs and X-ray. Some go for specific conditions, such as cancer and wounds that do not heal, e.g., AIDS patients. People often combine herbalist services with those of the health centre and MBCH. In addition, herbalists are said to treat headache, stomach problems, and minor cases but also severe cases such as psychiatric patients.

It is difficult to estimate the price of the services as there is no specific user-fee. The fee may be cash or animals, e.g., chicken, goat, or whatever at hand. As much as 6.000 Mkw was given as a recent example of a fee to an herbalist. Some herbalists are mobile, travelling around, while other live in the area. Respondents expressed concerns that some herbalists cheated after having been paid a lot. *“I will cure you, but in the end of the day the patient dies”*. Others said: *“They are in the business only for the money.”* This contrasts to earlier custom as some village headmen maintained that in former days it was the habit to pay the herbalist after the patient was healed, not before as it is now practiced.

There is disagreement among respondents on the help offered by herbalists. The health professionals seem to have less faith in the herbalist services than other respondents who argue that the herbalists help at times. It was, e.g., pointed out that herbalists are good in dealing with mental problems in contrast to MBCH that gives no help to such patients.

MBCH committee and village health committees

There is an act of the Malawian Parliament that decides who should be included in the MBCH Committee. Thus, included are, e.g., a Member of Parliament, the Malawian Armed Forces, representatives from the political parties, the police, and community members. The committee should meet about once a month or every other month; however, at the time of interview in April 2009 the last meeting had been in November 2008. There was no meeting in March, as it was cancelled. Aim of the committee is to be a bridge between the staff and patients and intermediate when there are disputes. This is not frequent but

happens when staff is not polite or patients have to wait a lot. Staff members may come late to their service posts and people wait for long time. According to the committee members present, a staff member has never been accused of taking and selling drugs or asking for payment for services.

The role of the village health committees is to look after problems at the health centres. These committees are large with up to 12 members. The chiefs are members and each village has one member, however the rules seem to vary on who should become a member. At the CHAM facilities, the combination of members may be different and the pastor may be the chairperson. At times village members were chosen.

Village health committees look into the problems of patients and guardians at the health centres. They look also at the environment and sometimes cleaning is needed. Relations are said to be mainly good with health centre staff and when something is wrong they sit down and discuss the issue. Sometimes they disagree, and is considered normal. However, committee members at times complain of lack of support from the health centre staff.

Committee members for health centres and MBCH come from different villages and they do not get paid, get no allowances and they have to pay for transport. Bicycles would help and many maintained they needed civic education, or as one village committee member said: *"We do not really know what is our role."*

Other ICEIDA supported activities

During the discussions on changes within the health care services within the Monkey Bay area during the last decade, staff and community members called attention to water and sanitation and other support of ICEIDA in the area: *"Now we have a committee trained for water."* Many people have latrines and there are increased number of boreholes, and water pumps. Great satisfaction was evident among all who raised the issue. However, more boreholes were requested in almost all areas.

In addition to the work within the health sector, other ICEIDA support within the area is recognized for its contribution to the population in the area, i.e., to the primary schools, adult literacy and fishery.

The staff and community members recognize that the Malawian Government can not cope with all the costs now contributed by ICEIDA to the health care services. The transport was particularly taken as an example. On the other hand, despite recognizing the problems of ICEIDA pull-out from the area, people said: *"It [the work of ICEIDA] is sustainable as the work will continue."*

B. Quantitative information

Health statistics within the health area of Monkey Bay are collected on a monthly basis and computerized in the nationally applied HMIS by the environmental officers in MBCH. This programme was gradually taken into use during first 1-2 years of the project implementation. These data can thus provide useful information on the progress of the

health services during project implementation. The MoH has defined more than 200 data elements in the HMIS to be used to monitor the health services on a national level. Such an exhaustive list of indicators is however not practical in daily use for the health services in the Monkey Bay area which includes 88 data elements (*Annex 1*). Thus, since 2004/05 a selected subset of these data has been compiled, analysed and discussed among staff during quarterly and annual meetings. These data give reasonable information regarding the performance of the health services in the area the last decade and can serve as a proxy on the impact of project activities.

Health service data from the Monkey Bay area need to be compared with national data in general but in particular to similar data for the Mangochi District. There are currently four sources of information that at times can be used.

1. The most important source is the *Health Information Bulletin. Annual Report July 2006-June 2007* (MoH 2008), which is the most recent available publication. The data in this bulletin are based on the same source of information as in Monkey Bay, i.e., facility based and computerized in the HMIS.
2. The Multiple Indicator Cluster Survey (MICS) report by the National Statistics Office in Malawi and Unicef (2008) is based on information collected in 2006 from a representative sample of children under the age of five, women aged 15-49, and men aged 15-49 years in 26 districts in Malawi. In total, about 58.000 people were interviewed in more than 30.000 households.
3. The MDHS 2004, published in 2005, by the National Statistics Office and ORC Macro (2005) is based on a nationally representative survey of women 15-49 years and men 15-54 years. In total, about 15.000 people in about 15.000 households were interviewed. MDHS is used to monitor the population and health situation in Malawi and follows-up on similar studies conducted in 1992 and 2000 MDHS surveys.
4. SWAp indicators are used by many donors for monitoring the progress of the health services (*Annex 2*). Data are currently available are for the Mangochi district for the period June-December 2008 (DHO Mangochi, personal information, April 2009).

In addition to these documents above, in 2003 two Icelandic medical students conducted cluster-sample survey in the Monkey Bay area that gives information on the immunization status and antenatal care services in 2003 (Fjalldal 2003; Thordarson 2003), and another one in 2005 who analysed the OPD services (Ragnarsson 2005).

In *Annex 3* the results are summarized.

Reporting status

Under the HMIS, each governmental and CHAM run health facility in Malawi is responsible for its own well-defined catchment area. These facilities are in turn expected to return on a quarterly basis, monthly reports, first to the responsible health facility in the area which later sends the report to the district. Despite being at times late in delivering the monthly reports, all reports for the Monkey Bay area have been collected at least since the year 2002. In 2006/07, Mangochi district is reported to have returned in just less than 90% of all expected facility reports, while the national figure was 95%. Yet, in this time period, only about 22% of the districts reported to the MoH in a timely manner compared to the period 2005/06.

It is difficult to judge the quality of the collected data, by their face value. However, during the years of project implementation, the data have continuously been analysed and discussed among staff and ICEIDAs technical assistants, and controlled again when the quality was in doubt. Further, one Icelandic medical student analysed all OPD attendances in the area in 2005 by going back to the books in the MBCH and found the data to be reliable (Ragnarsson, S. 2005). There are thus reasons to believe the data, as registered in HMIS, give a reasonable accurate picture of the situation in the area.

OPD utilization

At the start of ICEIDAs involvement in 2000, the data collection in Monkey Bay health centre was seriously flawed. For example, it was reported that monthly attendance to the health centre was about 10.000 patients and after the inauguration of the new hospital in June 2002 the monthly attendance figures rose to 30.000-60.000 patients. This situation was discussed internally and now the data give a more realistic picture of the current situation.

Annual OPD figures for the health facilities for the period 2003 to 2008 indicate the importance of the governmentally run health facilities. In MBCH the annual number of attendees indicates about a three-fold increase during the period and a five-fold increase in Nankumba (Figure 1). CHAM facilities do not show a similar development where the numbers are rather stable between the years, except in Malembo.

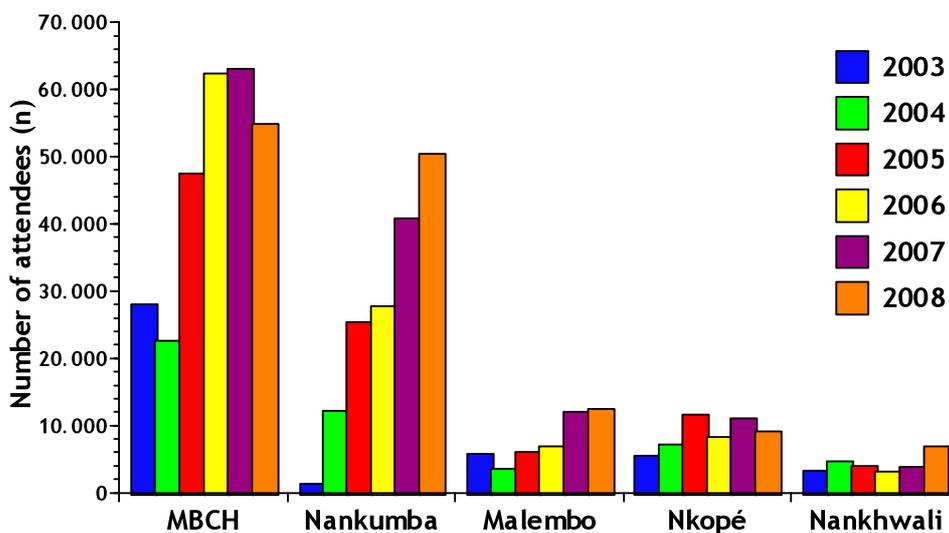


Figure 1. OPD attendance in the five health facilities in the Monkey Bay area in the period 2003-2008.

In 2008, the OPD utilization figures in all of the Monkey Bay area was 118%; for governmental facilities it was about 175% and for only MBCH about 195%. These figures can be compared to available national figures. National health data from 2006/07 show that each and every Malawian attended a health facility just less than once during the period (96%), while similar figure for Mangochi district was 65%. Only three health districts show the same or lower utilization rates, i.e., Lilongwe (65%), Dedza (54%) and Mulanje (51%). For the SWAp indicator monitoring in Mangochi, for the period July 2008-June 2009 the target for OPD utilization is 115%, and the district had reached 54% of the target during seven out of 12 months which indicates some improvement.

Admissions in MBCH

Number of admitted patients has been monitored in MBCH since 2006. The data show that the number of admitted patients has gradually increased and that general bed occupancy rate had increased from 58% in 2006 to 77% in 2008. The maternity ward and the paediatric ward have the highest average monthly occupancy rates, i.e., 124% and 99%, respectively. The occupancy rate was lowest for the male ward. No similar national data are available at the time of writing.

The surgical department is a new service in MBCH. Data are available since July 2008 on the number and types of surgical operations, the most frequent being Caesarean sections, evacuations and incisions and drainage. The rate of Caesarean sections in Malawi has gradually been increasing since 1992, from about 2-3% to 7% in the year 2007 (MoH 2008). The current rate in the Monkey Bay area is 2%, and it is an important indicator to monitor in the coming years..

Information on in-patient mortality shows greatly increased number of deaths in the MBCH wards in the period 2006 to 2008, i.e., from 176 deaths to 331. In 2008, the highest number of deaths occurred in the paediatric ward (51%), the male ward (24%) and the female ward (21%). This needs to be monitored and audited on a regular basis. No similar national data are available at the time of writing.

Antenatal services

Attendance to antenatal services has been rather stable during the period 2002 to 2008. To monitor this, it is customary to use the number of first ANC visits to the health facilities during any trimester, divided by the number of pregnant women in the area (5% of the population). In the last 2-3 years, there has been an increase in the number of first antenatal visits in MBCH, Nankumba and Malembo during the period (*Figure 2*, page 26). In 2003, the coverage for a pregnant woman to attend antenatal care at least once during her pregnancy was 97% (Fjalldal 2003), and 98% in 2008. The national figures for the period July 2006 to June 2007 show coverage of 83% (range for districts 71-170), figures that indicate problems in data collection or a greatly mobile population, some even coming from across the border. In Mangochi district the figure was 86%. This indicator is not included in the SWAp monitoring. The recent MICS (2008) gives this figure to be 97% on a national level but 98.5% for Mangochi district.

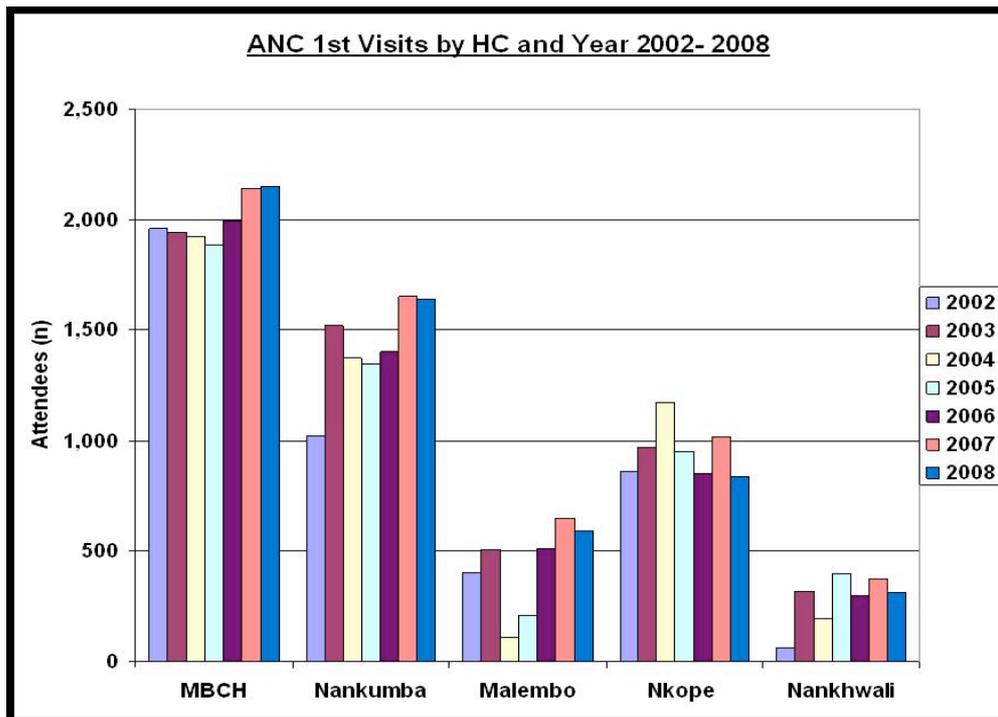


Figure 2. Number of women attending ANC services in the Monkey Bay area.

Another way to evaluate the antenatal services is to monitor the attendance figure during the first trimester of pregnancy. National figures are low, 7% compared to 6% in the Monkey Bay health area and 4% in Mangochi.

Nationally recommended number of ANC visits during the pregnancy period is four visits, in line with international recommendation (United Nations 2009). In Monkey Bay, this figure was 2,6 visits/pregnancy in 2008. During the period 2002 to 2008 this figure has on average been 3.1 visits (range 1.4-4.2), both in MBCH and Nankumba. Yet, in 2003 in the cluster sample survey, for 159 out of 211 women who had dates on their cards for their antenatal visits, the average number of was 4.2 visits per pregnancy (Fjalldal 2003). In 2006/07, similar number in Mangochi district was 2.4 visits and nationally 2.5 visits. In the DHS in 2004, 57% of women reported four or more ANC visits.

Delivery care

One of the MDGs is to improve delivery services by increasing the coverage of skilled birth assistance during delivery, meaning attendance by trained health professionals and not TBAs. The development in the Monkey Bay health area has been positive in this respect as more women are giving birth in the health facilities (*Figure 3*). In 2002, 42% of the women gave birth in a health facility, 51% of the women in 2007 and 67% in the year 2008. In the cluster-sample study in 2003, 50% of sampled women had given birth in a health facility, including Mangochi District Hospital (Fjalldal 2003). In 2006/07, similar figure for Mangochi district was 34% while nationally 42% of the pregnant women were reported to have given birth in a health facility. However, the national figures have tended to fluctuate dramatically, which gives reason for caution when these numbers are interpreted. The MDHS 2004 reported that 57% of the women gave birth in a health facility. The collection of these survey data is different from HMIS, that is facility based, and covers a period of

five years which may introduce bias. The recent MICS (2008) found that 53.8% of Malawian women had given birth in a health facility compared to 45.6% in Mangochi district.

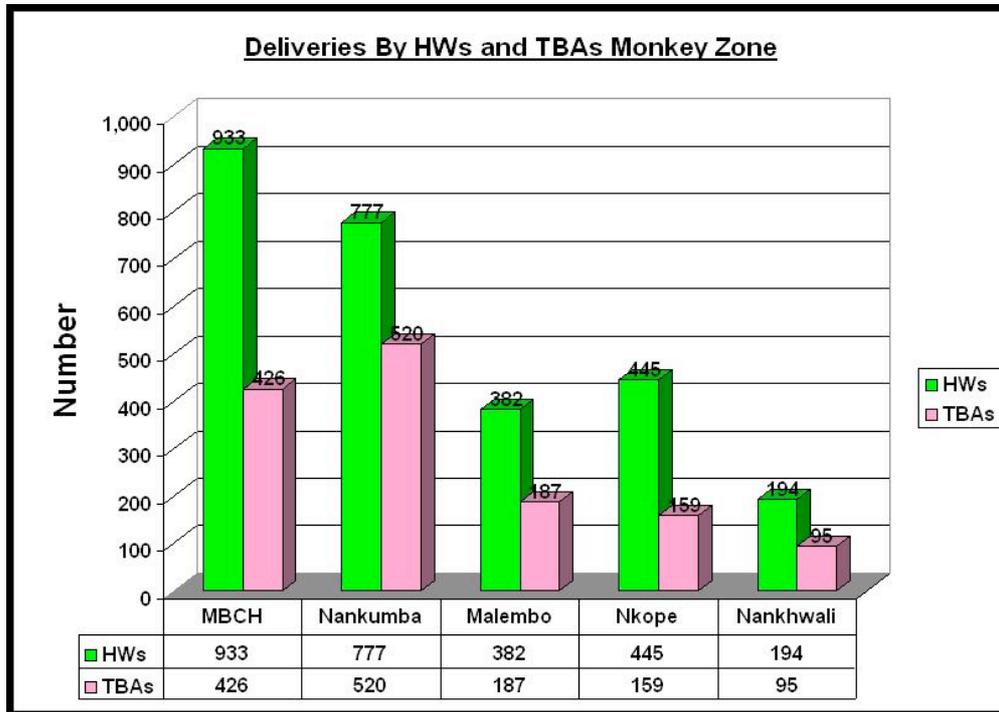


Figure 3. Number of deliveries conducted with skilled assistance and TBAs in the Monkey Bay area (2008).

Child health services

MDG4 states the objective to lower the U5-mortality rate by 2/3 in 2015. Immunization activity is one of the key components for success. One indicator used to measure successful vaccination activity is to monitor the number of children fully vaccinated by the age of 12 months. Fully vaccinated children may differ by year as more vaccines have been introduced during the period. Currently, according to WHO and Unicef, a fully vaccinated child has been given BCG to protect against tuberculosis, three doses of DPT-HepB + Hib, a pentavalent vaccine to protect against diphtheria, pertussis, tetanus, hepatitis B and infections caused by haemophilus influenza type b bacteria, such as meningitis and pneumonia, three doses of polio and a measles vaccine.

In the Monkey Bay area, the number for fully vaccinated children by the age of 12 months number has risen from 35% in 2002 to 69% in 2008, based on HMIS data. However, the cluster-sample study done in 2003 the figure was 29% (Thordarson 2003). In HMIS 2006/07, the figure in Mangochi district was 51%, and the national coverage 62% while the MICS 2006 gives a coverage of 60.7%.

Another way of measuring the vaccination coverage is to measure the proportion of children 12-23 months of age who are fully vaccinated against childhood diseases. There is only one data source for this information in the Monkey Bay area, collected in 2003 (Thordarson 2003). At that time, 70% of the children in this age group were fully vaccinated. MDHS 2004 gives coverage in Mangochi district of fully vaccinated children 12-23 months of 59.5% while the national coverage was 64.4%. In the MICS 2006, 72.2%

of the children in Mangochi district were fully vaccinated while the national coverage was 70.4%.

Considering the seriousness of measles for young infants, monitoring of measles vaccination of children before they reach 1 year of age is common, and is included as one target in the MDGs. In Monkey Bay area, the coverage in 2008 is estimated at 79%, compared to just less than 60% for Mangochi district as a whole in 2006/07. The national figure indicates that about 2/3 of the children were vaccinated before their first birthday.

HIV testing and counselling and ART treatment status

Services regarding HIV/AIDS, such as VCT (Volunteer Counselling and Testing) and ART have been gradually introduced in the Monkey Bay area with improved facilities. These are services aimed at people 15-49 years old, estimated to be about 49% of the total population.

In all the health centres in the Monkey Bay area, in 2008 in total 6950 men and women attended VCT services or 13% of the target population. Out those, 5689 were HIV-tested and 22.6% found to be seropositive. However, many of those tested were pregnant women; in total 1557 pregnant women were HIV-tested in the MBCH clinic and 11.6% found to be seropositive. In Mangochi district, similar figure is 11.3% and the national figure 11.6%.

Composite score of indicators

In the Health Bulletin for 2006/07 there is presented a so-called comparative performance score for the districts. It gives composite score on selected indicators, i.e., reporting status, measles immunization, OPD utilization, % of deliveries by skilled personnel and antenatal visits during any trimester. Using the figures presented above, the 2008 score for Monkey Bay area is 72.4 while the 2006/07 figures for Mangochi district is 49.0 and Malawi 57.2. As always, scores as these depend on the quality of data and should be interpreted with caution.

Discussion

The specific aim of the present study is to describe and analyse current practices of health care professionals for referrals of patients in the Monkey Bay area in Mangochi district in Southern Malawi, as well as the community members' preferences for seeking health care. The results are to guide informed decision regarding some baseline indicators to monitor progress of the health services that have been supported by ICEIDA since the year 2000. In short, both staff and community members unanimously express their satisfaction with the greatly improved health services in the area during the last decade. MBCH is today the first line of referral for all the health facilities in the area, and staff is recognized for their skills and supervisory role. Attendance to the services in the area has increased, in particular in the governmentally run health facilities. The support of ICEIDA is recognized and greatly appreciated. Yet, there is room for improvement and some expansion of the services.

A common theme emerged in the discussion was a focus on improved health services of the MBCH. In 1999, the health centre in Monkey Bay was a small, worn down facility with limited range of services and few staff. Ten years later, the health centre has been transformed to become a community hospital with diverse services rendered by trained and competent health professionals, as felt by the population. The premises are nice and give satisfaction to staff and attendees. MBCH has become a first-line referral facility for the health centres in the area and it attracts attendees from all of the Monkey Bay area. Despite MBCH lacks certain services that are available in the district hospital in Mangochi, many prefer to go there for services rather than the district hospital. For improvement, it is suggested that the hospital should be expanded with new wards for maternity and children, X-ray facility and a kitchen. The OPD area is also overcrowded and needs expansion. Finally, more staff houses are in demand.

Transport emerged as another major theme in the present study. Internationally, transport is recognized as crucial to attain the MDGs and to reach the rural poor with, e.g., drugs, vaccines, and basic health services (African Union and United Nations Economic Commission for Africa 2005, Porter 2007). Speedy response is also needed for effective interventions in medical emergencies, such as major obstetric problems or cerebral malaria, usually requiring urgent hospital treatment. Evidently, a first-line referral hospital with surgical capacity needs access to functional transport. Community members and staff appreciated improved access to ambulance services in the Monkey Bay area, facilitated with better radio and telephone communication between the health facilities. However, many raised concern regarding the transport of sick people from the villages to their health centre. Innovative approaches with intermediate-technology vehicles, developed to suit local conditions, are needed (African Union and United Nations Economic Commission for Africa 2005). It was suggested that every village in the Monkey Bay area should have an ambulance *basco* and that the health centres should be equipped with so-called ambulance motorcycles.

In an area with about 100 villages, and some isolated with difficult access to health services, functional transport fleet is crucial. It creates the necessary conditions to bring the services closer to the population through out-reach clinics in rural villages, and include U5-clinics, ANC and FP services. It was pointed out by those interviewed that the delivery of these clinics has improved with ICEIDA support to transport vehicles. Yet, this work is hampered by lack of appropriate facilities in the villages with protection from sun and rain and minimum conditions for some privacy during the consultation. It was suggested that simple shelters could be constructed and the community members stated willingness to contribute with labour and local construction material.

ANC and delivery services emerged as a third major theme in the interviews. MDG5 aims to lower maternal mortality ratio by 75%, between 1990 and 2015, and functional transport is crucial to achieve this goal (Babinard and Roberts 2006). Likewise, one of the targets is to increase the proportion of skilled birth assistance in health facilities. The new Malawian policy, since 2008, prohibits TBAs from assisting in deliveries is a response to this goal. Rather, TBAs are to primarily become promoters of health for pregnant women. Most community members interviewed complain and say that the services of the TBAs are needed. According to them, TBAs assumed lack of medical knowledge is compensated for by their knowledge of their community and for being there when in need, any hour of the day or night. The new policy is a great challenge for the health services in the area. It is

urgent to respond to increased need for skilled birth assistants in the health facilities, and better accommodation for the expectant mothers and their guardians. TBAs need also to be trained in their new role to support women during pregnancy. Finally, applying fines to prevent TBAs from assisting in delivery, and to mothers who give birth alone may contribute to increased concealment of births and consequent health risk for the mother and child.

Cost of services and excluded groups was a fourth major theme that emerged in the interviews. Community members living in catchment areas served by CHAM facilities complain about the high cost of services. The three facilities belong to different Christian religious affiliations and apply different user-charge schemes. This contributes to confusion among attendees who complain they never know beforehand what the cost of a consultation will be. Thus, they prefer governmental facilities where the services are free of charge and recommend the construction of new governmental health centres in areas served by CHAM. SLAs are not thought to resolve this issue as there are always additional costs that are not included in the agreement. There are also indications that the MoH is reconsidering its policy with the SLAs.

Application of user fees in health services in sub-Saharan Africa is a heavily debated issue. The services have to be used if evidenced-based interventions are to be effective. Research has shown that user-charges, even at a very low level, exclude the poor from health care, and are found to be ineffective to raise substantial funds (Yates 2009). In response, many African countries do not apply user-fees for governmentally run primary health care services, e.g., the neighbouring countries Zambia and Tanzania- and Malawi. Thus, it is not surprising that community members in the Monkey Bay health area identified poverty in the catchment areas of CHAM health centres as the most important factor to contribute to exclusion from health care services in the area. These health centres apply user-fees and people felt that all should have access to free governmental facilities. Other factors that were felt to contribute to exclusion of services were long distance to health centre, over-flooded rivers during the rainy season, old age and mental illness. Solutions suggested are more state-run health centres, better transport and building of bridges. More attention should also be given to elderly people and those who are mentally ill, but both groups were said to seek help from traditional healers. All admitted that alternative health care was commonly sought but there was disagreement about its effectiveness, and the costs were at times high.

The role of the village health committees in the area emerged as an issue during the interviews. These play an important role as a link between the community and health professionals. Some members claimed however that they lacked sufficient knowledge on their exact role, and requested support for civic education to be better equipped for the work they are expected to deliver.

There are many indications that the ICEIDA supported health activities in the area is achieving its goals of improved services. At the outset, in 1999/2000, two of the specific objectives of the ICEIDA support were to strengthen the health services in the area and that MBCH would become a first-line of referral facility. The present study gives strong indications that these objectives have been achieved. Actually, the health service delivery in the area has gone through remarkable change during the last decade, and this is appreciated by all: community members, health professionals, district health authorities and officials within the MoH in Lilongwe. Progress can also be measured by analysis of a few

commonly used indicators on the performance of health systems, e.g., OPD utilization, ANC attendance, and vaccination coverage. On all studied indicators, Monkey Bay health area is doing remarkably well compared with available data from either Mangochi district or national figures (*Annex 3*). Data from the area show also that the performance of the governmental services has gradually improved over time, while the situation in CHAM facilities has on many indicators not experienced similar development. It is difficult to pinpoint one single factor for improved health service delivery results of the governmental facilities. Yet, there is no doubt in the mind of those interviewed that the contribution of ICEIDA to complement governmental policy has greatly facilitated this outcome.

The support of vertical programmes and specific projects rather than general health systems has been an issue for discussion in the international literature. Health systems deliver many services that are interlinked, and it takes time (not just resources) to develop positive synergies between different health care needs (David McCoy *et al* (2008)). From the outset, ICEIDA did not aim to support some specific health programmes in the Monkey Bay area, e.g., programmes on HIV/AIDS, tuberculosis, or reproductive health. Rather, the approach is guided by national policies and priorities and supports key components for effective health service delivery, e.g. physical structures, transport, community related services and human resources and management. In addition, the recently initiated water-and-sanitation project complements these activities nicely. Thus, the support can be considered to be more facilitative than taking decisions on priorities at any one time. The national and district health authorities have shouldered that responsibility through national policies and implementation priorities. The authorities have thus, e.g., responded to improved infra-structure with more and better trained staff to the Monkey Bay area while ICEIDA has given support for further education and training.

The sustainability of the ICEIDA support was discussed in the interviews as the new PD states that the support will be terminated at the end of the year 2011. While people express confidence in ICEIDA and its approach and wished it to continue after 2011, it was stated that the health work would continue either way. Without ICEIDA it could however not be expected to progress with the same effectiveness and the services would suffer. Thus, it is important to monitor the process of the gradual pull-out. During this process the transport sector needs special attention and fundamental transport management techniques should be implemented that include log-books for all transport vehicles that are regularly analysed and acted upon. Important indicators to monitor are, e.g., those related to the ambulance services and out-reach community activities that depend on transport. Also, it is important to monitor the flow of funds from the DMHT to the Monkey Bay area, a prerequisite for a successful pull-out. Some of the SWAp indicators (*Annex 1*) can also be used for this purpose in the Monkey Bay area.

The HMIS gives ample opportunities to monitor the health services in Malawi. Despite the quality of the data collection can be questioned in many cases, a problem that not only Malawi is facing, this information is the best one available. Indicators based on the HMIS are in use in Malawi and give data for comparison across time and place (MoH 2008). These indicators fulfil criteria for being SMART, i.e., being specific, measurable, achievable, relevant and time-bound. We suggest that indicators in bold in *Annex 2* to be regularly monitored. In addition, it is suggested that efforts should be done to disaggregate the numbers of the OPD by age-groups, which is currently not the case. Also, it is suggested that monitoring of the out-reach activities as in HMIS can be improved. Both of these changes need special forms to be developed locally.

Identifying appropriate SPICED indicators is not as straight forward as either SWAp/SMART indicators. Data from this study show that indicators such as satisfaction with the services, perceived access to ambulance services, use of MHCH as a first-line of referral facility, and better access to governmental run health services can be used. However, to monitor some of them a similar study to the present one needs to be conducted at the end of the project period.

In the new PD, it is expected that responsibility of administering funds for training and transport to be increasingly given to the MBCH Coordination Team (MCT). As funds are gradually diminishing in 2010 and 2011, it is important to monitor how the funds are used. It should be avoided to concentrate their use to MBCH without giving due attention to the peripheral health facilities and community related health services.

One of the over-all objectives of the ICEIDA support to the health care services in the Monkey Bay area has been to support the national government to reduce poverty and achieve socio-economic development. The results of the present study show that the support has reached out with essential health services to many of the rural poor, an important component for socio-economic development. It also joins hands with the Malawian government in its efforts to achieve the MDGs as three out of the eight goals depend on successful delivery of health services to the rural poor, while the last MDG stresses international collaboration. The interviews reveal great satisfaction with the progress of the work done so far, and that improved access to health services is felt in all of the area, even in distant villages. To monitor the progress the next few years, appropriate indicators are suggested in this study and it is recommended that they are to be used, developed and improved locally during implementation of the current PD.

RECOMMENDATIONS

- ∞ Use existing indicators in the HMIS as indicated in bold in *Annex 1*. They fulfil the criteria of being SMART indicators and can illustrate the general performance of the health services in the area. They should be regularly monitored by the MCT in MBCH and other staff in the area, as found appropriate. This selection of indicators should be discussed with health professionals in the area. In addition, it is suggested that better registration of age-groups to be implemented aside this current HMIS registration.
- ∞ Collect information on the SWAp indicators in *Annex 2* for the Monkey Bay area, at least regarding the current status and monitor at the end of the project period.
- ∞ Continue work with selected indicators in *Annex 3* and find more comparable data for Monkey Bay, Mangochi district and Malawi.
- ∞ Improve registration of out-reach activities by a locally designed special form to be computerized in a separate database from HMIS.
- ∞ Revise the current registration on admitted patients in the wards of MBCH. This can not be done within the current HMIS.

- ∞ Revise the registration of the use of vehicles within the health services in the Monkey Bay area, and create indicators to monitor their use. This will need specially designed forms to be used for motorcycles and ambulances, and computerization in relevant database.
- ∞ Particular attention should be given to the services of the ambulances and how transport of sick people from the villages to the nearest health centre or MBCH can be organized.
- ∞ Improve out-reach services with community constructed shelters.
- ∞ Respond to the new MoH policy regarding the services of the TBAs, e.g., improve care of expectant mothers and service during delivery.
- ∞ Work towards primary health care services that are free-of charge to the users.
- ∞ Work towards increased flow of funds from the DHMT in Mangochi to the health services in Monkey Bay as ICEIDA funds are gradually withdrawn, as spelled out in the newly agreed PD 2009-2011.
- ∞ Conduct a new baseline study in 2011 to monitor if the population's perception of the health services has changed during the current project period.

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Annex 1: Indicators in the HMIS

The following indicators/data elements are used in the Health Management Information System (HMIS) for the monthly collection of data in the health facilities in the Monkey Bay area. Indicators marked in bold are suggested to be monitored on a monthly basis in Monkey Bay.

Antenatal first visit in first trimester

Antenatal first visit

Antenatal total visits

Delivery by skilled personnel

Woman with obstetric complication treated at obstetric care facility

Caesarean section

Live birth

Live birth less than 2500g

Abortion complications treated

Pregnant woman treated for eclampsia

Delivery treated for Postpartum haemorrhage

Delivery treated for Sepsis

Pregnant woman treated for severe anaemia

Newborn treated for complications

Postpartum care within 2 weeks of delivery

Woman of reproductive age receiving condoms

Woman of reproductive age receiving oral pills

Woman of reproductive age receiving Depo-Provera

Woman of reproductive age receiving IUCD

Woman of reproductive age receiving Norplant

Woman of reproductive age receiving sterilisation

Immunised fully under 1 year

BCG

Pentavalent III

Polio-III

Measles 1st dose at 9 months

Vitamin A dose to 6 - 59 months population

Underweight for age under 5 years

Volunteer counselling confidential test and serostatus result 15-49 y

HIV test positive 15-49 years

HIV positive person receiving anti-retroviral treatment

Pregnant woman receiving VCT and serostatus result

Pregnant woman tested HIV positive

Nevirapine dose to baby born to woman with HIV

Child attending under-five clinic

OPD total attendance

Tuberculosis case completed treatment

Sulpha Pyrimethamine out of stock for more than 1 week

Oral Rehydration Sachets out of stock for more than 1 week

Co-trimoxazole out of stock for more than 1 week

SP and ORS and Co-trimoxazole out of stock for more than 1 week

Functioning ambulances

Insecticide treated nets distributed

Households with safe drinking water

Income - cost sharing

Malnutrition under 5 years - new

Malaria under 5 years - new

Malaria 5 years and older - new

Neonatal tetanus - new

Cholera - new

Measles - new

Acute Flaccid Paralysis - new

Ebola - new

Meningococcal Meningitis - newx

Rabies - new

Yellow fever - new

Dysentery - new

Eye infection - new

Ear infection - new

Skin infection - new

Oral condition - new

Schistosomiasis - new

Leprosy - new

Common injuries and wounds

Road traffic accident

Admissions

Inpatient discharges

Inpatient days

Inpatient deaths (excluding maternity)

Direct obstetric inpatient death

Acute Respiratory Infections under 5 years - inpatient death

Diarrhoea diseases (non-bloody) under 5 years - inpatient death

Malnutrition under 5 years - inpatient death

Tuberculosis diagnosed - inpatient death

Malaria under 5 years - inpatient death

Malaria 5 years and older - inpatient death

Cholera - inpatient death

Dysentery - inpatient death

Road traffic accident - inpatient death

Delivery by trained TBA

Syphilis in pregnancy

Opportunistic infections - new

Acute Respiratory Infections under 5 years - new

Diarrhoea non-bloody under 5 years - new

Home-based Care patient followed-up and provided treatment

Case treated as STI - new

Annex 2: SWAp indicators

The following are indicators monitored by SWAp within the health sector in Mangochi district (DHO, personal communication 2009). For all, information is requested on the defined baseline in 2006/07, and the progress and the target figures for the period under study.

OPD service utilization
Proportion of 1 year old children immunized against measles
Proportion of births attended by skilled health personnel
EHP (Essential Health Package) coverage
 % of facilities able to deliver OPD, immunization, family planning and maternity services
TB cure rate
Number and % of health centres offering basic Emergency Obstetric Care services
Number and ratio of doctor/population ratio
Number and ratio of Nurse/population ratio
Number and ratio of HSAs per population
Number and % population residing within 5 km radius of health facility
Number and % monthly drug deliveries monitored by health facilities committees
% of pregnant women starting antenatal care during the first trimester
Number of people alive and on treatment (HAART) at the end of each year
Number of Insecticide Treated Nets (ITNs) sold/distributed in the district (semi-annually)
Number and % of health centres with minimum staff norms (having 2 medical assistants, 2 nurse/midwife and 1 health assistant/EHO)
Number and % of nurses with midwifery skills
Drug day availability of TT vaccine, oxytocin, LA, oral rehydration salts (ORS), co-trimoxazole, diazepam, HIV test kits, and TB drugs
Number and % of health facilities with equipment in line with standard equipment list
Number and % of health facilities with functioning running water (functioning water pumped into the facility)
Number and % of health facilities with functioning electricity (functioning solar or ESCOM)
Number and % of health facilities with functioning communication (functioning radio, phone but not personal cell phone)
Number and % of health facilities with functioning water, electricity and communication equipment
Number and % of fully renovated health facilities against all government health facilities (everything fixed & fully painted)
Number and % of health centres satisfying four infrastructure requirements (functioning water, functioning electricity, radio or phone, fully renovated)
% health facilities supervised at least 4 times a year by extended DHMT using integrated supervision checklist
Number and % of health facilities with ANC services with at least minimum package of PMTCT services
Number of service level agreements on MNH (maternal and neonatal health) signed with CHAM and other providers
Number and % of health facilities reporting timely data
Number and % of health facilities reporting status
% of budget and funds utilised semi-annually at district level

Annex 3: Table of selected indicators

*Selected indicators for monitoring of the health services in Monkey Bay area, Mangochi district and national figures. References from several sources.**

Indicator	2003	DHS 2004	MICS 2006	HMIS 06/07	HMIS 2008
Reporting status (% quarterly reports sent in)					
Monkey Bay health area	100				100
Mangochi district				88	
Malawi				95	
OPD utilization (%)					
Monkey Bay health area					118
Mangochi district				65	
Malawi				96	
Bed occupancy rate (%)					
Monkey Bay Community Hospital				56	77
Caesarian sections					
Monkey Bay Community Hospital					2.0
Malawi				7	
Antenatal care (ANC) (%)					
Monkey Bay health area	97				98
Mangochi district				86	
Malawi				83	
ANC in the first trimester (n)					
Monkey Bay health area	4.2	=>4			2.6
Mangochi district		(57%)		2.4	
Malawi				2.5	
Delivery by skilled personnel (%)					67
Monkey Bay health area	50.2			51	
Mangochi district				34	
Malawi		57	53.8	42	
Fully vaccinated by the age of 12 months (%)					69
Monkey Bay health area					
Mangochi district	29			51	
Malawi			60.7	62	
Fully vaccinated children 12-23 months (%)					
Monkey Bay health area					
Mangochi district	70	59.7	72.2		
Malawi		64.4	70.4		
Measles vaccination <1 year of age (%)					
Monkey Bay health area					79
Mangochi district				60	
Malawi				65	
VCT attendance (% population 15-49 years of age)					
Monkey Bay health area					13
Mangochi district					
Malawi					

Indicator	2003	DHS 2004	MICS 2006	HMIS 2006/ 07	HMIS 2008
ANC and HIV seropositivity (%)					
Monkey Bay health area					11.6
Mangochi district				11.3	
Malawi				11.6	
Composite score (reporting status, measles immunization, OPD utilization, % of deliveries by skilled personnel and antenatal visits during any trimester)					
Monkey Bay health area					72.4
Mangochi district				49.0	
Malawi				57.2	

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- 2008: HMIS Monkey Bay health area.

Annex 4: List of persons met

Traditional Authority, Nankumba

TA Nankumba

Lackson Chimombo (Chief's Clerk), tel. 0999299605

Monkey Bay Community Hospital (MBCH)

Emmanuel Nkonde, Clinical Officer (CO)

Jayne Msuku, Nursing Officer

Richard Chola, Environmental Health Officer

Frederick Kapinga, Chief Technical Officer (CTO)

Rajiv Chikhwasa, Rehabilitation Technician

Nthuto Ngoma, Dental Therapist

Jane Dzoole, Senior Nurse Officer (SNO)

Elson Kumbwemba, Anaesthesia

Noah Nyathi, Pharmacy Technician

Jane M. Somanje, Senior Enrolled Community Health Nurse (SECHN)

A.T. Banda, Senior Registered Nurse (SRN)

Aubrey Mopiwa, Laboratory Technician

Ireen Nyong'onya, Nursing Officer

MBCH Health Committee

Nsumbi (chairman and group village headman)

Grace Chale (vice chairperson)

Micro Dinga

Luxien Kaphirikwete

Benedicto Kalawo

Daniel Chaima (MCP party)

Eric Zulu

Nankumba Health Centre

S. R. Kalaya, Senior Medical Assistant, In-Charge

W. M. Billy, Senior Nurse

Thoko Everet Khoromana, Medical Assistant

I. I. Maunde, Senior HSA

F. Smart, EHSA

F. N. Adimu Bakasi, HSA

V. T. Beka, HSA

S. Kandulu, HSA

T. Materezhere, HSA

I. Lumbanga, HSA

L. H. Mchoma, HSA

B. Tewesa, HSA

M. V. Manda, HSA

P. Malita, HSA

Y. M. Banda, HSA

T. T. Chapotera, Hospital attendant

W. Pih, Ground labourer

Nankumba Village Health Committee

Joseph Luka

Matthews Kachigwe

Luxon Jelemia

George Gwaza

Mrs. M. Kaunda
Agnes Loveti
Talita Bazale
Esther Chimkonda
Emanuel Chituwagwa

Chilonga Dispensary

Bright Sumaili, HSA
Gloria Buleya, HSA
Matthews Goddson, HSA
Christopher Kamphoni, HSA
White Chihiwa, HSA

Chilonga Health Committee

Amina Ambulece
Chilonga (group village headman)
Margret Devesi
Hilda Kamka
Omari Bandechi (chair person)
Rahid Smart
Tambula Lolesi
John Edward
Oman Hassan
Mathews Mboola

Malembo Health Centre

Mike Besten, Medical Assistant, In-Charge
Anne Majawa, Nurse Midwife technician
Grace Besten, Nurse Midwife Technician
Godfrey Soko, Senior Administrative Officer, Nkhoma Hospital, Box 48, Nkhoma (Lilongwe area)
Brown Vitsitsi, Human Resources Management Officer, Nkhoma Hospital
Nesto Thomas, Dental Aid
Chrispin Nasiyama, laboratory aider
Tamazio KelvinBanda, Accounts assistant
Samuel Mwanyansi, HSA
Grandson Black, HSA
Tembetani Ishmael, SHSA
Lyson Mtoko, HSA
Mary Ngumbalo, HSA
Glady's Thadzi, HSA
Naomi Black, HSA
Ambali Makocheta, HSA
Chimnemwe Chikowe, HSA
Esmey Mdala, HSA
Loyce Mary Matewere, HSA
Joyce Phiri, HSA
Chisomo Chienga, HSA
Thomas Matson, hospital attendant
Mdala Davison, hospital attendant
Magter Wackson, ward maternity
Msatha Kachimela, patient attendant
Ivy Pasyanda, patient attendant (counsellor)
Emmanual Gondwe, watchman
McDonald Wilson, ground labourer
Rowex Khamba, ground labourer
Catheren Lumwira, O.W.A.

Malembo Health Centre Committee

Matekwe (group village headman)

Chilimbo (village headman)

Kttombe (village headman)

Simon (village headman)

Mr. Chipande

Joyce Keneth

Nankwali Health Centre

Mary Kasoka, Senior Nurse-Midwife

Matthew Mumba, Nurse-Midwife Technician

Laurence Majezak, Senior Environmental Health Assistant

Mellina Kapanda, HSA

George Kamwento, EHSA

Mercy Kaavule, HSA

Nicholas Kantiki, HSA

Asiatu Shaffe, HSA

G. N. Chilambula, EHSA

Queen Kandoole, HSA

Tinna Kadzakumanja, HSA

Nankwali Village Health Committee members

Maria Cttokera (Mbeya village)

Alesi Sttaaandeni (Kapchihi village)

Mercy Zimba (Mpapi village)

Lucius Gwaza (Mpango village)

Raphael Tenifolo Banda (Kasankha village)

Agnes Lawa (Kampande village)

Elra Kagwa (Kazembe village)

Nkopé Health Centre

Petre Mukuzi, Medical Assistant, In-Charge

J. Injesi (Mrs.), Enrolled Nurse-Midwife

Mary Mitepa, Nurse-Midwife Technician

Franley Magangu, Nurse-Midwife Technician

Gladys Sadiki, Nurse-Midwife Technician

A. Mbuji, Nurse-Midwife Technician

Gladys Makandanje, HSA

Lawrence P. Jabu, HSA

Leonard S. Kankwalala, HSA

Ellen. T. Kawombe, HSA

Jeany Nchambaimja, HSA

Peter Chikwamba, HSA

Gertrude Kachepatsonga, HSA

Austine Kaluwa, HSA

Elias Matemba, HSA

Jimmy Anusa, HSA

Godwin Swala, HSA

Alfred Chikokotu, HSA

Mofat Kachepa, HSA

Nkopé Health Committee (4)

Chiwaco, G.V.H.

Mwalembe, G.V.H.

Mwangama, G.V.H.

Benson Phunzo, Cairperson

Billy Ricordian Memorial Trust Clinic, Cape Maclear

Jeanette van Os, GP

Cape Maclear

Fanezi TBA, Cape Maclear

Alfred Kachikowa, HSA Cape Maclear

Clement Kaviola, HSA Cape Maclear

Mangochi District Health Team

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Ms. Lucy Chigwenembe, District Senior Nursing Officer (Matron), email:

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Mr. George Chithope-Mwale, Director of Clinical Services

Dr. Storn Kabuluzi, Director of Preventive Health Services (e-mail: skabuluzi@yahoo.com

Mr. P. Zimpita, Director of Planning and Policy Department, email: pzimpita@yahoo.co.uk, tel. +265-(0)1789400, mobile +265-(0)888688008/0999411969

Dr. N. Alide, Deputy Director, SWAp Secretariat

Mr. Chris Moyo, Director of Health Information Management System (HMIS), (email: moyochris@gmail.com, mobile +265-(0)888364718

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ICEIDA

Mr. Stefán Jón Hafstein, Country Director

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Mr. George Manjolo, Project Coordinator

Ms. Mary Agnes Nyirenda, Project Consultant

Others

Dr. P. J. Sangala, former Secretary of Health, Lilongwe

Dr. Gudjón Magnússon, Professor of Public Health, School of Health and Education, Reykjavík University, Iceland