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AN EVALUATIVE STUDY ON DOTS IMPLEMENTATION IN KABOMPO DISTRICT

BY

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ACKNOWLEDGEMENT

This report has taken all the energy, all the money, all the extra time I had, all the friends' and the time for all those that helped, in the making of this report.

I wish therefore to attribute the completion of this report inclusively to the time, care and support given to me by many contributors and helpers,, without which the journey to its completion would have been not only labourious and difficult but more to it, it could have been blink. To them all I say thank you.

I would like to extend my exclusive thanks to Miss Susan Chibwe for her unending smiles and the much effort she put in, though indeed it was an inconvenience on her part, to tirelessly type and re-type my report, and to Ernest Kakoma for re-directing my work.

To Dr. Sibalwa, I say thank you for his encouragement and guidance, for the time too, spent on my work as both my supervisor and as a Head of the Department of Adult Education and Extension Studies.

I wish to thank the Human Resource Office – Ministry of Health – for linking me up with the District Health Management Team in Kabompo, that supported my work financially and by the provision of transport. Many thanks go to the District Director of Health, Miss Trifonia Phiri in particular, for her helpful hand during the period of study.

To the many others, whom I have not mentioned, I still acknowledge your contributions together with those I have. It is because of all your efforts that I have been able to bring to birth this report on DOTS implementation in Kabompo District.

ABSTRACT

A low cure percentage rate of the sputum positive patients is not in the making of one person or a few people but involves many aspects of individuals concerned and the factors in their working environment, both internal and external ones.

The case of Kabompo District cannot be pin pointed as a separate entity, like what is happening elsewhere, can be an example among many other places that may be facing similar situations in the face of new conceptions of TB, once regarded as a vertical programme, now an integrated health care programme whose particular importance as a public health threat, diminishes as the distance from the central control office increases, with diminishing interests and priority settings among workers and their managements.

The study report for Kabompo District brings to light a few of the many problems facing the TB programmes and in particular the DOTS implementation. The report is a sum of the facts found to be causing the low output in the cure rate of the TB patients. The factors range from the recruitment of officers who are given responsibilities to shoulder as contact persons, their dealings with patients, the amount of time spent on their tasks, the coordination of tasks and responsibilities, the relations with fellow workers and the management and the codification, storage and interpretation of data.

What has come out shows clearly that not much was put in to seek better than what the current results show. The focal persons were hurried in their uptake of tasks. They were further loaded with many other tasks so that there was little time used to take complete control over the programme's management; worse still not supported psychologically to fit in, on the new responsibility. The management has its share of lapses too. Like a hen that lays an egg and lets it to hatch itself, the focal persons have been regarded as all knowing and let to function in their own ways, without support and motivation and only to desire of them good results later. Fellow workers and the community assets, which includes collaborating partners have not been mobilised and made use to any advantage of the TB programmes. Fellow workers are either not made use of or only when demand exists. So that all have become too complacent to show and advise when things were not well, because to them the main actor was there. The public and government workers in the District do not even know how and when they can be useful to the TB programmes apart from being called to attend TB health day celebrations.

The problem of sputum examination at the end of 8 months resulting in some patients being labeled as having completed treatment and others to have been cured, raises a question about the validity of the terms used and the interest of the originators of the analytical tools. Many patients are no longer able to produce sputum at the end of their treatment because sputum production would have been curtailed before the end of the therapy itself. The fact that they do not give their last sputum for examinations, even after successfully

completing treatment, even when visibly cured, are termed as having completed treatment and not cured.

These and many more, have come out and would need critical thinking towards positive solutions, in order that there will be a change of air on how the cure rate can be raised and the concept of what should be an acceptable definition of a cure, and a subsequent cure rate.

ABBREVIATIONS

ARI	-	Annual Risk of Tuberculin Infection
AFB	-	Acid Fast-Bacilli
CBOH	-	Central Board of Health
DOTS	-	Daily Observed Treatment (therapy) – Short Course
HIV	-	Human Immuno – Deficiency Virus
ITG	-	Integrated Technical Guidelines
MOH	-	Ministry of Health
MDR-TB	-	Multi-Drug Resistant - Tuberculosis
NTP	-	National Tuberculosis Programme
PTB	-	Pulmonary
THC	-	Rural Health Centres
Sus	-	Supportive Units
TCs	-	Treatment Centres
TB	-	Tuberculosis
WHO	-	World Health Organization
+VE	-	Sputum Smear Positive
-VE	-	Sputum Smear Negative

CHAPTER ONE

THE PROBLEM

1.0 STATEMENT OF A PROBLEM

Tuberculosis (T.B) is a major and growing public health problem in Zambia, and else where in Africa among especially, the under developed and developing countries (WHO/CDS/T.B/2002-297).

T.B persists as a global public health problem of a serious magnitude, requiring urgent attention and control. The fourth World Health Assembly (1991) in Geneva recognized the growing importance of T.B as a public came up with a new framework for effective control and a global strategy called dots (Daily Observed Treatment Course) - (WHO/CDS/T.B/2002.297).

Since the strategy was adopted in 1994, in Zambia no evaluative study had been undertaken to determine how well individual Districts were implementing the DOTS strategy.

Kabompo District, in particular had in the last five years failed to attain a 60% T.B cure of the patients in the first months of initial treatment (intensive phase) and an 85% cure, at the end of 8 months (continuation phase) when T.B treatment ends.

1.2 PURPOSE OF THE STUDY

The purpose of the study therefore, was to determine the factors causing the inability of the District to attain the required percentage of 60-85% respectively. An evaluative study on how the DOTS strategy was being implemented in Kabompo District was to give us the answers.

1.3 OBJECTIVES OF THE STUDY

The General Objective was:

To determine how well the DOTS strategy was being implemented in Kabompo District.

Specific Objective are as follows:

- (a) - to determine whether T.B patients were well informed of what DOTS was all about before the start of their treatment to avoid none compliance and default.
- (b) - to find out why the actual achievement was far away from the desired percentages of cure results, the 60% at 2 months, and 85% at 8 months.
- (c) - to determine whether the achieved results represented a worthy picture of the effort and resources put in against the environment in which the DOTS implementation was taking place.
- (d) - to draw conclusions on how DOTS was being implemented and further suggest weak areas for improvements.

1.4 ASSUMPTIONS OF THE STUDY

The assumptions of this study that would guide the research to achieve the above objectives were as follows:

- (a) - When the workers were considered and managed as social – economic and as social – psychological beings they would become motivated enough to implement programmes under them well.
- (b) - If there was sectoral co-operation among the workers of an organization, with other governmental and non-governmental, departments, and also with the stakeholders the possibility of getting wrong and poor quality data would be reduced.
- (c) - If structures and data collecting instruments were well constructed and tested the possibility of getting wrong and poor quality data would be reduced.
- (d) - If standards of collecting and analyzing data were clearly set and without ambiguity, there would be little chance of obtaining unequalled information.

- (e) - If a focal person (T.B) was empowered with knowledge and timely orientation before undertaking T.B programmes and their implementation, achievements would be expected to be good.
- (f) - If the focal person (T.B) was availed with required resources (include drugs funds, transport, time) and support by both the fellow workers and the management, the implementation of the programme would achieve maximum results.
- (g) - If patients on DOTS were not only well oriented but also well supervised, the reliability on them to take and swallow their drugs would be multiplied and the possibility of obtaining good result would be certain.
- (h) - If there was work specification and specialization in undertaking T.B programmes, the T.B focal persons would often put in their best in order to achieve good results.
- (i) - If a programme's work plan is made before the implementation and well followed during the actual implementation, chances of getting poor results would be reduced.

1.5 RELEVANCE OF THE STUDY

This study, to determine how DOTS was being implemented in Kabompo District, is relevant in the following ways.

Firstly, the study would reveal strengths and weaknesses in the implementation of DOTS strategy in Kabompo District. It would also reveal various aspects of the implementation like the knowledge of DOTS being linked to practice on the ground, whether there was consistence in the patient selection for DOTS, whether there was consistence on record keeping and reporting, whether there was always an amount of education given to patients before, and during treatment, whether it was possible for the objectives of DOTS implementation to be achieved at 2 months and 8 months respectively, in Kabompo District.

Secondly, the study would review the feasibility of the DOTS strategy in the environment of Kabompo in comparison with laid out conditions supporting the successful implementation of the DOTS strategy.

Thirdly, the outcome of the study was meant to give light both to the District Health Management Team and the Provincial Health Office, so that in following the trends that would be outlined, good decisions would be considered to improve and raise the cure percentage, the success of the DOTS implementation.

The District focal person too, would be helped beyond measure, to realize whether the low performance rates were a result of personal failures, a result of factors in the programmes' environment or arising from the use of reporting and analytical tools that were not well directed.

Furthermore, the information would be put to good use by the National T.B office, to compare the picture of Kabompo with other Districts and Provinces as basis for further and nation wide study in future.

Lastly, the study was to serve as a partial fulfillment of my academic qualification that was to be attained.

1.6 LIMITATION OF THE STUDY

This study was limited to a smaller population sample size because of the following constraints.

The holiday time of one month in which the study was to take place was not enough. It was shared between having to travel from Lusaka to Kabompo, before settling to undertake the study.

It was not possible to carry out a study involving a larger population sample due to limited finances. Funds were not enough to involve many research assistants to develop many research instruments and to be able to cover transport costs over the District's population that is widely scattered and largely dispersed from the central administrative area.

DEFINITION OF TERMS

- Assumption of the Study - Assumed thoughts or beliefs that if certain steps are taken, good results will be achieved (researcher definition).
- Cost-Effective Control - Control measures that are not only less expensive but able to achieve objectives (researcher' definition).
- Constance - Number of item is constant when it doesn't increase or decrease. In the case to this study, limited choice because of small size of respondents (researcher' definition).
- Communicable - Able to be transferred from one person to another (researcher' definition).
- Compromised - Body defences giving in to defeat by the (HIV) invading viruses (researcher' definition).
- DOT - (Daily Observed Treatment). A health worker or volunteer should observe the patient swallow, given T.B drugs (researcher' definition).
- DOTS - (Daily Observed Treatment – short course). A patient takes a short course of T.B treatment regimes of 8 months, under daily observations – mostly for the first two or three months (researcher' definition).
- DOTS Strategy - A particular plan for gaining success in the use of DOTS – in T.B treatment (researcher' definition).
- District Focal Person - A health worker tasked with the responsibility of managing T.B patients and programmes, including DOTS implementations, (researcher' definition).

Histological	-	Microscopic Study of Tissues (Dictionary for Nurses).
Mortality	-	Death Rate (Dictionary for Nurses).
Morbidity	-	Having unpleasant drive towards bad results (death) (Dictionary for Nurses).
Microscopic Service Network	-	A fair distribution of microscopic centers or Sputum examinations in deserving places, for easy reach by patients, but with a central control (researcher' definition).
None Probability	-	A method of sampling in which some items/members of the population have a bigger chance of being selected than others (researcher' definition).
None Compliance	-	Refusal or inability of patients to continue taking their T.B drugs correctly to the end (researcher' definition).
Probability	-	A method of sampling in which all items/ members of the population have equal chances to be selected (researcher' definition).
Primary Health Infrastructure	-	Composition of health service delivery in which the community will be empowered to understand and participate in treating patients at the grass root level (researcher' definition).
Protean	-	With characteristics of gram-negative bacilli of Genus proteas, which are motile and in groups (researcher' definition).
Qualitative data	-	Expression of measured facts about a study by Describing the value and quality (Ghoshi, 1952).
Quantitative data	-	Expression of measured facts of study by writing numbers and figures or presenting facts in quantities (Ghoshi, 1952).

Serious Magnitude

- Severity of the effects T.B causes on people socially, economically and physically (researcher' definition).

Specialisation

- Well trained to carry out a specific function or specifically trained to carry out a certain function (researcher' definition).

Specifications

- Laid down standards or rules that should guide one's activity (researcher' definition).

CHAPTER TWO

REVIEW OF LITERATURE

2.0 THE PROBLEM OF THE T.B DISEASE

Tuberculosis is a communicable disease caused by the tubercle bacillus; called *Mycobacterium Tuberculosis*. The bacillus is transmitted from an infectious patient to a health one by coughing, or sneezing (droplet infection). The bacillus settles in the lung and causes an infection (Primary infection) there (I.T.G, Second Edition, 2002).

In the majority of the cases the bacilli are contained by the body immune system and remain dormant for the rest of a person's life except for a smaller number of people who develop the disease in their lifetime, depending on their immunity. A person's immunity can be compromised by many factors such as HIV, poor nutrition, cancer and its associated treatments, old age, diabetes and many other infectious diseases. Virtually all systems and organs of the body can become sites of infection, but involvement of the lungs is by far the most common (MOH, T.B Manual, Second Edition, May 2001).

Tuberculosis is a Necrotizing Bacterial infection with protean manifestations and wide distribution. The lungs are the most commonly affected but lesions may occur also in the kidneys, bones, lymph glands, and meninges or be disseminated throughout the body. The infection may cause clinical disease either (1) shortly after inoculation, called primary Tuberculosis or (2) after a period of months or decades of dormancy (still sometimes erroneously referred to as re-infection' Tuberculosis). In the western world where bovine Tuberculosis has been controlled, the portal of entry in humans is almost exclusively the lungs (Harrison, et al, 1980).

2.1 EXTENT OF TUBERCULOSIS PROBLEM

Tuberculosis is major and growing health problems in Zambia. It accounts for about one out of every six adult deaths in Zambia hospitals. One third or more of Zambians carry the bacteria in their bodies. As many as 100,000 Zambians have active tuberculosis. The number of cases of Tuberculosis reported each year has more than tripled in the last 10 –15 years largely as a result of HIV epidemic. When untreated, about half of the people with Tuberculosis will die from the disease within two years. The treatment regimes available in Zambia, however, can cure the

vast majority of patients provided that treatment is began early and the patients take all prescribed drugs regularly (I.T.G First Edition, 1997).

Tuberculosis still presents a major threat to the health of the population of Zambia. It has become one of the leading causes of morbidity and mortality, accounting for some 13% of all hospital death recently and becomes one of the top 10, leading causes of hospital admission. In currently relationship to the HIV, has introduced serious difficulties to case finding, treatment and follow ups due to a dramatic increase in the number of cases.

The level and trend of transmission of the Tuberculosis among the population of Zambia in the past and at present are essentially unknown as no Tuberculin surveys to determine the annual risk of Tuberculin infection (ARI) have been carried out in Zambia so far. An estimate of the trend of Tuberculosis can, however be made on the basis of the rates of notified cases available from the Annual Reports and Statistics of the National Tuberculosis control programme for the period of 1964 to 2005.

The rate of notified cases of Tuberculosis, as forms, remained constant at around, on average 100 cases per 100,000 populations between 1964 and 1984, indicating a steady state situation. On the basis of these rates, an annual risk of infection (ARI) in the order of 2 to 3% is estimated for this period. During the period of 1985 to 1994, the absolute number of notified cases of all forms, increased from about 8,000 in 1985, to over 38,000 in 1996 (CBoH), tripling the cases detection rate from about 100 to over 400 per 100,000 population. The reason for increase in T.B rates include high rates of HIV in the sexually active age groups, poverty, and over crowding in homes and compounds, failure to identify cases early by health workers, failure to adhere to treatment, problems with data collection and, over diagnosis due to reliance on clinical and radiological findings rather than on sputum microscope (MoH) Manual, Second Edition, May 2001).

In the forward of the Ministry of Health, manual indicated above, the Director General of the Central Board of Health Dr. B.U Chirwa adds that the advent of the HIV/AIDS epidemic and its hand-in-glove relationship with Tuberculosis has further aggravated the difficult of diagnosis and treatment of Tuberculosis, especially in the urban setting where the number of care threatens of overwhelm the capacity of the general health care system. A case in point is the problem of ensuring that Direct Observed Therapy short course (DOTS), is implemented in a cohesive and systematic manner so as to maintain compliance and improve treatment out come (Ibid).

The World Health Body (WHO) has summed up that Tuberculosis persists as a global public health problem of a serious magnitude requiring urgent attention. It has also established that the current global effects to control T.B have three distinct but overlapping dimensions namely: humanitarian, public and economic ones.

Alleviating the illness, the suffering and death of individuals caused by T.B is the major humanitarian concern and calls for a patient centered approach to control T.B. The public health dimension concerns proper diagnosis and treatment of T.B patients to decrease the disease transmission within communities. This necessitates the development of well organized T.B control programmes responsive and adaptable to the reforming health sector in many countries and societies. The economic dimension of T.B control relates to the reduction of such costs, the alleviation of poverty and illiteracy, and promotion of development (WHO/CDC/TB/2002.297).

2.2 BACKGROUND OF DOTS STRATEGY

The forty-four World Health Assembly (1991) recognized the growing importance of T.B as a public health problem. It also recognized the potential for cost-effective control using currently available tools. This led firstly, to a reassessment of on going T.B control efforts. The persistence of T.B was found to be due chiefly, to the neglect of T.B control by Governments, poorly managed T.B programmes, poverty, population growth and migrations, and significant rise of T.B cases in HIV epidemic areas.

Secondly, in order to address the situation, a new framework for effective T.B control was then developed and a global strategy called DOTS strategy was introduced. The five elements of the DOTS strategy, considered as essential for global T.B control are:-

- (a) Political and administrative commitment, (b) case detection using sputum microscopy among people seeking care for prolonged cough, standardized short course chemotherapy under proper case – management conditions that includes directly observed treatment, (c) regular drug supply, (d) and a standardized recording and reporting system that allows assessment of individual patients as well as overall programme performance (Ibid).

2.3 GOALS, TARGETS AND GUIDING PRINCIPLES SET BY (WHO 1991) IN IMPLEMENTING DOTS STRATEGY

The goals of T.B control are to reduce mortality, morbidity and transmission of the disease, while also preventing drug resistance, until it no longer poses a threat to public health. It also aims to reduce human suffering and the social and economic burden families and communities have to bear as a consequence. To achieve this, it is necessary to ensure access to diagnosis, treatment and cure for each T.B patient, and to protect vulnerable population from T.B and drug resistant forms (WHO/CDC/T.B/202.295).

The forty-four World Assembly (1991) set the targets for global T.B control to be achieved by the year 2000. These are to cure 85% of the infectious T.B cases (sputum smear positive patients), and to detect 70% of such cases in the population (Ibid).

The principles set and shown below, still up hold the highest priority of enabling achievement of high cure rates for all, and especially infectious T.B cases (1) Besides helping to rapidly reduce transmission, T.B programmes achieving high cure rate are likely to attract the great majority of existing cases (2) Giving priority to case finding before ensuring access to high quality care for diagnosed cases could compound the problem by producing chronic cases and MDR-TB (3) Improved and expanded case detection activities should follow sustained achievement of low default and high cure rates (4) By means of integration of T.B activities into general health services, introduction of guidelines for health care providers on proper management of respiratory disease, incorporation of community health workers and volunteers for service delivery, involvement of private and other non-Government Health Providers and adaptation of DOTS, Countries are expected to achieve the global targets (Ibid).

2.4 KEY OPERATION AREAS FOR DOTS STRATEGY IMPLEMENTATION

After the adoption of the DOTS Strategy (the WHO Policy Package for T.B Control), the world body requested members countries of which Zambia is one, to establish and sustain key operation areas indicated to them, in order that T.B is tamed to a point that it no longer poses as a public health threat.

A stepwise implementation of the key operation areas were recommended, with pretesting in demonstration zones before full implementation. The World Health Body, thereafter advocated the

adaptation of the key operation areas to local circumstance and being cautious of an overlap of steps mentioned below, in revising such local programmes. It was indicated that all DOTS programmes should aim at achieving geographical and total patient coverage in due course (WHO, 1994 – WHO/TB/94.179).

The basic operations for DOTS implementation in every country were to be:-

Establishment of a National Tuberculosis Programme (NTP) with a Central Unity – to guarantee the political and operational support for the provincial, district and sub district levels. This support must include the assurance of sustained local and external funding for all the essential aspects of the programme.

Prepare a programme development plan for the (NTP) based on findings of a systematic review of the prevailing situation with details on budget, sources of funding and responsibilities. Consider opportunities and challenges posed by Health Sector Reforms under the way – Health Sector Reforms and T.B control. Describing strategy for involving other health programme, other public sector institutions, non-Governmental Organizations and private sector, co-ordination of activities with HIV/AIDS programmes and joint HIV/AIDS and T.B programme. Support to different service providers is required in HIV prevalence populations.

Establish a **Recording and Reporting System** using standardized material, which provides, through sputum smear examination, clear information on type of disease case category and through cohort analysis, information on treatment results. This system is a tool to evaluate the essential aspects of the control programme and should be used in preparing an annual evaluation report on the programme.

Plan and Initiate a Training Programme covering all aspects of the policy package and prepare a plan for training Regional and District Primary Health Care Staff and Laboratory Technicians involved in the T.B programme. The strength and sustainability of DOTS programme would depend on timely, adequate and on going training of personnel, which ensures that the quality of services is assured and maintained. Implementation of the DOTS strategy cannot be successful without additional and improved Human Resources. Earmark adequate funding to make human resource development an integral part of DOTS implementation.

Establish a Microscopic Service Network with Binocular Microscopes and adequate ancillary equipment and with Laboratory Technicians trained in sputum smear microscopy. The microscopy network should also include laboratories at provincial levels with responsibility for quality control. With the first year, establish a reference laboratory. The laboratory should develop a system of quality control of sputum smear microscopy, conduct training courses and supervisory visits. If additional resources are available, establish culture and drug susceptibility testing in order to monitor drug resistance.

Establish Treatment Services with the Primary Health Infrastructure where directly observed short - course chemotherapy is given priority and patient education is provided.

Secure a Regular Supply of Drugs and Diagnostic Material based on previous case notification data. Organize the logistics support through a distribution system, which meets the Country's specific needs to guarantee the patient, uninterrupted intake of drugs throughout the course of treatment.

Design a Plan of Supervision of the Key Operations at the intermediate and district level to be implemented from the start of the programme.

2.5 DEFINITION OF TERMS, CATEGORIES OF PATIENTS AND TREATMENT REGIMENS:

DOTS. The Direct Observed Therapy – short course is the recommended strategy for T.B control. It comprises:-

Government commitment to ensure sustained, comprehensive T.B control activities.

Case detection by sputum smear microscopy among symptomatic self reporting patients to health services.

Standardized short-course chemotherapy using regimens of six to eight months, for at least all confirmed smear positive cases. Good case management includes daily observed therapy (DOT) during the intensive phase for all new sputum positive cases, the continuation phase of Rifampicin – containing regimens and the whole re-treatment regimen.

A regular, uninterrupted supply of all essential anti-T.B drugs.

A standardized recording and reporting system that allows assessment of case finding and treatment results for each patient and the T.B control programme performance overall.

Categories of Patients for Registration on Diagnosis to Start DOTS

New: Patient who has never had treatment for T.B or took anti Tuberculosis drugs for less than one month.

Relapse: Patient previously treated for T.B who has been declared cured or treatment completed, and is diagnosed with bacteriologically positive (smear or culture) Tuberculosis.

Failure: Patient who, while on treatment, is sputum smear positive at 5 months or later during the course of treatment.

Return after Default: Patient who returns to treatment with positive bacteriology, following interruption of treatment for two months or more.

Transfer In: Patient who has been transferred from another Tuberculosis register to continue treatment.

Other: All cases which do not fit the above definitions. This group includes chronic cases: patient who is sputum positive at the end of a re-treatment regime.

Note: Although smear negative pulmonary and extra-pulmonary cases may also be relapses, failures or chronic cases, this should be an event, supported by pathological or bacteriological evidence.

2.6 TREATMENT REGIMENS

CATEGORY	TYPE OF TB	REGIMES	
		CHILD	ADULT
I	Sputum +ve Smear (new)	-	2HRZE/6EH
II	Sputum +ve smear (Retreatment)	-	2/SHRZE/1HRZE/5HRE
III	Sputum -ve smear and extra-pulmonary	-	2HRZ/6EH
PAEDIATRIC I	Smear -ve + extra-pulmonary	2 HRZ/4HR	-
II	Smear -ve + extra-pulmonary (retreatments)	2SHRZ/10HR	-

S – Streptomycin, R – Rifampicin, Z – Pyrazinamide, H – Isoniazide,
E - Ethambutal

2.7 TARGETS FOR T.B CONTROL ESTABLISHED BY THE FORTY-FOUR WORLD HEALTH ASSEMBLY (1991)

- 7.1 To cure 85% of the sputum smear positive T.B cases detected.
- 7.2 To detect 70% of the estimated new sputum smear positive T.B cases (from an estimate 65%- 85% of all new pulmonary cases diagnosed).

2.8 CASE DEFINITION

A Case of Tuberculosis:- A patient in whom Tuberculosis has been bacteriologically confirmed or has been diagnosed by a Clinician (Note- any person given treatment for Tuberculosis should be recorded).

A definite T.B Case:- A patient with positive culture for the mycobacterium Tuberculosis complex. In countries where culture is not routinely available, a patient with two sputum smear positive for AFB is also considered a definite case.

A Definite Case by Localization and Bacteriological:-

(a) Pulmonary Tuberculosis, Sputum Smear Positive (PTB+)

Two or more initial sputum smear examination positive for acid-fast bacilli (AFB) or

One sputum smear positive for AFB plus a radiographic abnormalities consistent with active pulmonary Tuberculosis as determined by a Physician or

One sputum smear positive for AFB plus a sputum culture positive for mycobacteria Tuberculosis.

Pulmonary Tuberculosis, Sputum Smear Negative (PTB)

Case of Pulmonary Tuberculosis which does not meet the above definition for smear positive T.B.

Note: In keeping with good clinical and public health practices, diagnostic criteria should include:-

- At least three sputum smears negative for AFB and
- Radiographic abnormalities consistent with active Pulmonary Tuberculosis, and
- Decision by a Clinician to treat with a full course (not half) of anti Tuberculosis chemotherapy.

Extra-Pulmonary Tuberculosis

Tuberculosis of organs other than lungs e.g. Pleura, lymph nodes, abdomen, genital – urinary tract, skin, joints and bones, meningitis etc. Diagnosis should be based on one culture positive specimen, or histological or strong clinical evidence consistent with active extra-pulmonary Tuberculosis, followed by a decision by a Clinician to treat with a full course of Anti-Tuberculosis chemotherapy (A patient diagnosed with both pulmonary and extra-pulmonary should be classified as a case of pulmonary Tuberculosis).

A Tuberculosis, Suspect

A person who presents with signs and symptoms suggestive of T.B, in particular cough of long duration – 3 or more weeks.

Case Detection

Activity of identifying infectious cases, mainly among adults attending an out-patient health facility for any reason, with cough of 2 or 3 weeks and more, through sputum smear examination.

2.9 TREATMENT SUCCESS AND CURE RATES

Treatment success is defined as the proportion of registered patients who were cured plus the proportion of those who completed treatment. The figures are to be reported as percentages of all registered cases, so that the six possible outcomes (listed below) plus the fraction of cases not evaluated sum up to 100%.

If the number registered is not provided, we use the number notified for the cohort as a denominator. If the sum of the outcomes is greater than the number registered (or the number notified), if the number registered is not provided) the sum of outcomes is used as a denominator. Although treatment outcomes are expressed as percentages, they are usually referred to as rates.

2.10 DEFINITIONS OF TREATMENT OUTCOMES

Cured: Initially smear positive patient who has negative smear in the last month of treatment and on at least one previous occasion.

Completed Treatment: Patient who has completed treatment but does not meet the criteria for cure or failure.

Died: Patient who died during treatment, irrespective of cause.

Failed: (failure) – smear positive patient who remained smear positive or became smear positive again at least 5 months after the start of treatment.

Interrupted Treatment: (defaulted) – Patient who did not collect drugs for 2 months or more at any time after registration.

Transferred Out: Patient who was transferred to another reporting unit and for whom treatment results are not known.

Successfully Treated: The sum of cases that were cured and that completed treatment (expressed as a percentage of the number registered in the cohort. (a cohort is a group of patients diagnosed and registered for treatment during a given time period, usually one quarter of a year).

2.11 FAILURES IN IMPLEMENTING THE DOTS STRATEGY IN SOME COUNTRIES ALREADY USING IT

Since the introduction of the DOTS strategy in the early 90s' considerable progress has been made in global Tuberculosis control. By 2000, 148 countries had adopted the WHO DOTS strategy for T.B control and 27% of the global T.B cases were treated under DOTS.

Although considerable, this progress has not been enough. An estimated one third of the world's population is already infected. Each year, an estimated 8.4 million new cases are produced from this reservoir of infection and 1.9 million people die of the disease. The poor and marginalized in the developing countries are the worst affected. 95% of all cases, and 98% of deaths from T.B occur in resource poor countries. Even within countries adopting the DOTS strategy, much needs to be done to expand the service to the whole population (WHO/CDC/TB/2002.297).

A report of the adhoc committee on tuberculosis epidemic convened by WHO in London in 1998, commended the achievements of a few countries with a high burden of T.B. Identifying the major constraints to DOTS implementation, the committee recommended a multi sectoral approach to T.B control. Subsequently, in the late 1998, a global partnership was launched linking health, social, and economic sectors, in the fight against T.B.

It was found that several challenges impede sustainable implementation and expansion of T.B control activities. Many of these stemmed from a weak political or administrative will, failing to elicit the required health system and societal response to T.B. General public health services need to enhance their capacity to sustain and expand DOTS implementation without compromising the quality of case detection and treatment.

Community involvement in T.B case and patient care approach need emphasis and promotion, to improve both access to and utilization of health services, issues that have been neglected too. Collaboration and synergy among the public, private and voluntary sectors are essential to ensure T.B diagnosis and treatment, a task the Ministry of Health has

taken up single handedly. The increasing impact of HIV on the incidence of T.B especially in the sub-Sahara Africa has brought failures in treating and controlling T.B. This needs new partnerships and approaches, some of which are already indicated above.

A surge in drug-resistance forms of T.B in the former Soviet and many other parts of the world requires effective implementation of the DOTS strategy to prevent occurrence of new multi-drug resistant (MDR-TB) cases, as well as measures to cure existing MDR-TB cases. Sustaining DOTS programmes will also entail the integration into primary health care and adoption to ongoing reforms within the health sectors worldwide (WHO/T.B/98.245.1998).

2.12 KEY OPERATIONAL AREAS THAT HAVE BEEN OVER LOOKED TO PRODUCE GOOD RESULTS

Information, Education, Communication and Social Mobilization

Information, Education, Communication (IEC), advocacy and social mobilization constitute essential elements for furthering DOTS implementation and expansion. Appropriate communication of information to the community and patient education improve health seeking behaviour, treatment adherence and treatment outcomes. IEC campaigns should be used where well functioning DOTS programmes are in place, and avoided where they are not well coordinated. In countries and areas not achieving high cure rates, advocacy strategies and not IEC, should be the for first priority to encourage governments and its administrative structure to first support establishment and expansion of DOTS. Social mobilization is necessary to sustain support for T.B control. This is best accomplished when many partners are mobilized to demand effective T.B control for their communities (WHO/CDC/T.B/2002.297).

Involving Private and Health Care Providers

Effective involvement of private health care providers is imperative in order to achieve total geographical and patient coverage for DOTS implementation. The private health sector comprising private practitioners, voluntary and non-profit organizations, professional societies, private hospitals and corporate health providers, offers major opportunities to further DOTS implementation. By involving them, DOTS programmes can enhance patient access and acceptance. Involvement of the private sector in DOTS implementation, may be achieved in such approaches. For this reason, however, T.B programme managers should initiative and maintain dialogue with private providers at all levels, solicit

their representation on advisory and monitoring bodies, encouraging development of locally relevant models of private sector involvement at district level and below, include guidelines on private providers involvement in the national T.B control frameworks (Ibid).

Economic Analysis and Financial Planning

Many National T.B programmes continue to be implemented under severe financial constraints. They have to compete with other health programmes for budget allocations from Government and donors. In recent years there have been efforts to rationalize the allocation process through application of economic analysis. For instance, cost effectiveness seek to relate the economic costs of health interventions to their outcomes which may be T.B specific indicators such as cure rates. T.B programme managers should familiarize themselves with the main types of economic analyses and understand how they are undertaken and how they can be used. This can equip them to convince policy makers about relative benefits of investing in DOTS implementation.

The development of a sound financial plan for DOTS implementation and expansion, is a key task for T.B programme managers. Effective budgeting has to ensure that sufficient funds will be available for all activities required to implement the five DOTS components.

This includes both sufficient funds for T.B-specific activities and any other contemplated investment required in general health services for DOTS implementation (Ibid).

Operational Research

Programme based operational research should be an integral component of DOTS implementation. Designing and conducting locally relevant operational research can help identify problems and reasons for weak performance and determine workable solutions. This would facilitate sustaining and strengthening DOTS implementation, expanding it effectively and establishing productive collaborations and sustained partnerships.

Organization of Laboratory Services

If a Tuberculosis laboratory is to function, motivated and dedicated staff are crucial. Laboratory personnel must be fully aware of their important role in Tuberculosis control and must become fully partners in the Tuberculosis programmes. Training laboratory technicians in the

microscopic diagnosis of Tuberculosis is, accordingly, an essential activity under the revised Tuberculosis control strategy.

One of the biggest problems that arise in laboratories in developing countries concerns supply, maintenance and repair of equipment, the supply of consumables and transport. Solutions to these problems require fairly intensive technical training, a knowledge of laboratory administration and management and the development of interpersonal skills.

It takes much longer but is at least as important – to teach peripheral microscopists how to use their microscopes properly, (including maintenance and repair) and how to conduct the day to day training of a microscopic laboratory.

Before the introduction of effective anti-Tuberculosis drugs, the bacteriology of Tuberculosis was usually confined to examinations of smears at bacteriology departments of general hospitals or at Tuberculosis dispensaries and Tuberculosis clinics only. Following the introduction of anti-Tuberculosis chemotherapeutic agents after World War II, patients rapidly became non-infectious and were no longer isolated. T.B patients were treated in general hospitals, as out patients and the bacteriology moved away from specialized laboratories into those of more pathological departments. Unfortunately, this resulted in sub optimal methods in some laboratories while others were hampered by lack of experience and interest.

The obvious advantage of exclusive laboratory services lies in dedication to Tuberculosis bacteriology (often lacking in integrated services unless motivated). Any technique will give better results when it is applied by specially trained workers as their own activity, than by persons who apply it occasionally and as one among many activities.

However, the only way in which Tuberculosis control can be applied on a community-wide scale in any country is through the general health services and within the framework of primary health care. Peripheral laboratories (and in some countries even regional laboratories) for Tuberculosis should therefore, be integrated within the public health laboratory system. The first aim is to achieve "quality", through continuous training and supervision (WHO/LAB Services/Part 1-1998).

CHAPTER THREE

3.0 METHODOLOGY

This chapter outlines how the study was designed to take place, the population that was studied, the sample taken in the study, the sampling method and technique and the data collecting tools that were used to come up with answers as to why Kabompo District was constantly failing to attain a 60% cure rate of TB sputum positive patients at 2 months and 85% cure rates at 8 months respectively, in the past five years, 2000 to 2004.

3.1 RESEARCH DESIGN

This study was designed to gather both qualitative and quantitative data. In qualitative data, the process was designed to be open-ended in order to accommodate people's views of their lives, experiences and interactions, in their own terms and natural settings (Merriam and Simpson, 1995).

The researcher was to be the prime instrument of the analysis. The study was designed to involve field work with people and institutions, to collect descriptive views of data. The study was to use questionnaires, interview guides and a check list, to provide data for the study.

It was desired that quantitative data would be found as prescribed responses as standard figures to determine qualities of the data. To find quantitative data, the numbers of patients and percentages of cure results would be found in record books and be analysed. This study was planned to find both primary and secondary data, of which the primary data sources would be human sources and the secondary sources would be written documents that were used to store information, such as: registers, treatment cards, patient's files, and data from aggregational and analytical forms.

3.2 POPULATION

The population of the study was to be the number of health institutions in the District, providing not only ordinary health care services but those that were involved in DOTS Implementation. There are (2) two hospitals and (13) thirteen rural health centers in the district that were targeted. The hospitals, that are called Treatment Centres(TCs), initiate the DOTs programmes and later transfer patients to rural health centers, called Supportive Units (Sus), for continuation.

The two hospitals and thirteen rural health centers were only health institutions to be found in Kabompo district.

3.3 SAMPLE POPULATION

A sample population or universe represented the characteristics of the phenomena, population or universe under study in term of behaviour, perceptions and events that were part of it (Shanon, et al, 1995).

Statistical investigations or research studies are conducted by investigating only a small portion/part of the universe or every unit of the universe. When a small part of it or a group of units are taken into consideration, it is called a sample method or enquiry. When the whole is taken, it is called a census enquiry (Ghoshi, 1992).

A sample method was therefore used in the study to afford a quick study of the characteristics of the population and to afford a small number of enumerators who would easily be available. It was required that the study should take a short time, with limited resources and to exact little error.

A sample size of (8) eight health institutions was therefore taken for the study, comprising the two hospitals and (6) six rural health centres.

3.4 SAMPLING METHOD AND TECHNIQUE

A random sample method (probability) was used in the study, in which (6) six RHCs, out of the (13) thirteen available, were picked. In random the individuals or parts/units are selected from the population in a way to afford every individual or unit of the population the same chance of being selected for the study. Before sampling, the units should be homogeneous so that the samples are representative of the whole. The universe should all be clearly defined (Ghoshi, 1992).

In this study, a lottery method was be used. In this method, the names of individuals or units were written on slips of paper and are put in a box, mixed and shaffled, and finally picked by an independent person.

For the sake of homogeneity, the rural health centers were placed on a stand of common characteristics. Health centers with more than five (5) sputum positive patients, current on record, in the last eight (8) months, were enlisted for the study. The names of the centers were written on pieces of paper that were again mixed with the names of the other centers that had few patients or none. The selection then followed

without replacement. The health centers that were selected for the study were Kasamba, St. Kalemba, Ndungo, Mumbezhi, Kabulamema and Nkulwashi.

The two (2) hospitals were incorporated in the study without a mode of selection because of the limit in number. A non-random (non probability) method was used to selected patients as respondents to the study for the reason that the number of sputum positive patients was expected to be smaller than that of the sputum negative ones.

In order to obtain accurate and reliable information from the health workers, the number of study was limited to the departments of the two hospitals that had associations, directly or indirectly with TB patients and DOTS implementation such as the TB wards, the department of environmental health, O D screening rooms, the pharmacy and the laboratory. These too were selected through a non-random method because of the small number of respondents to choose from.

A sample size of eighty (80) respondents was targeted in the study. Twenty (20) of the respondents were health workers who were to respond to questionnaires. Fifty (50) of the other respondents were patients who had completed there treatment in the last 8-12 months, of which ten (10) each were selected from the two hospitals and five (5) each from the six (6) RHCs, to make up the number. The patients were selected by use of a table of random numbers.

3.5 INSTRUMENTS

The study used semi structured questionnaires, with many closed ended (structured) questions and a few open ended ones. These were answered by the health workers. Two interview guides containing open ended questions, were together with a check-list, used to consolidate the study findings. One interview guide was for patients and the other was for managers.

3.6 ANALYSIS AND RESULTS

Bless and Achola (1998), say, " Analysis of any data collected is a sure way of bringing orderly structure and meaning to the mass of data collected. It is a systematic way of arriving at conclusions." In this study, data was to be analysed through the following ways:

- (a) Data from questionnaires – This was analysed through the use a manual tabulated of frequency and percentages of occurring responses.
- (b) Data from interview guides was treated in a similar manner.
- (c) A check list was used to obtain supportive data on the availability of operational strategies, availability of equipment and data collecting tools.
- (d) Record reviews were done to obtain quantitative data on patients entered for treatment, on cure rates, accuracy and reliability of records entered.

CHAPTER FOUR

4.0 FINDINGS AND DISCUSSIONS

4.1 DATA ANALYSIS AND INTERPRETATIONS

In undertaking to analyse the data that was collected by use of questionnaires, interview guides, and a checklist, the researcher's task will be to present the interpreted data and the results.

The study administered twenty (20) questionnaires on the health workers and all were received and analysed. Ten (10) managers/in-charges were interviewed. Forty-two patients out of fifty (50) expected patients were interviewed. The other eight (8) could not be accessed because they were not present in their areas of habitation. Therefore only seventy-two (72) of the desired eighty (80) respondents were accessed.

4.1.1 QUESTIONNAIRES FOR HEALTH WORKERS

Table 1 Sexes of respondents

Sex	Frequency	Percentage
Male	15	75
Female	5	25
Total	20	100%

75% of the respondents were male trained workers and 25% were females. Male workers were more than females.

Tables 2 Age ranges of respondents

Age	Frequency	Percentage
25 – 30	3	15
30 – 35	7	35
35 – 40	4	20
40 – 45	4	20
45 – 50	2	10
Total	20	100%

35% of the workers were in the age range of 30-35 years. 20% were of ages between 35-40 years and 40 – 45 respectively. Only 10% were above 45 years and 15% below 30 years of age.

Tables 3 Service age at the institutions

Service Age	Frequency	Percentage
5 – 15	10	50
15 – 25	3	15
25 – 35	5	25
35 - 45	2	10
Total	20	100%

The workers had served long enough to give reliable data about what happens at institutions. 50% of them had served at the institutions between 5 – 15 years. 25%, had served between 25 to 35 years and 10% had served above 35 years.

Table 4 Marital statuses of respondents

Status	Frequency	Percentage
Single	4	20
Monogamous	14	70
Polygamous	0	0
Divorced	0	0
Widowed	2	10
Total	20	100%

Most of the respondents were either single or married. 70% were married to one wife or husband. 20% were single workers and 10% lost their spouses (widowed).

Table 5 Education attainments of respondents

Education	Frequency	Percentage
Primary school	0	-
Junior sec. school	3	15
Senior sec. school	3	15
General cert. of Education	2	10
College	11	55
University	1	5
Total	20	100%

The workers can be relied upon to understand what was requested on the questionnaires, because of their literace rates. 55% had gone to colleges of health sciences, 15% each had been to junior and secondary schools respectively. 5% had reached the university level.

Table 6

Professional qualifications

Knowledge	Frequency	Percentage
Doctor	1	5
Health inspector	-	-
Clinical officers	2	10
Environment Health Technical	3	15
Registered Nurses	1	5
Enrolled Nurses	5	25
Other qualifications	8	40
Total	20	100%

40% of the respondents fell under the other qualifications, like the lab. Technicians, Pharmacy Technicians and classified daily workers carrying out certain roles. 30% were nurses, 15% Environmental Health Technicians. 5% were doctors.

Table 7

Knowledge of TB in general

Knowledge	Frequency	Percentage
Nothing	-	-
A little	4	20
Enough	10	50
More than enough	6	30
Total	20	100%

All workers knew to some degree what TB was. 50% had enough knowledge, 30% more than enough and 20% had little knowledge but need more.

Table 8

Knowledge of operational keys in DOTS implementation

Response	Frequency	Percentage
Yes	15	75
No	1	5
Some how	2	10
Not sure	2	10
Total	20	100%

75% of the workers agreed that they knew the operational keys to DOTS implementation. 10% were not sure if they knew and 5% indicated that they did not know.

Table 9 How they are involved in the DOTS implementation

Responses	Frequency	Percentage
Not sure	2	10
Never been involved	2	10
Give drugs to patients	6	30
Making diagnoses	3	15
Supplementing to diagnosis making	7	35
Total	20	100%

35% of the respondents were involved in activities that contributed the diagnoses of TB, such as case detection, health education, lab. Investigations etc. 30% gave drugs to people. 10% were either not sure of their involvement or have never been involved.

Table 10 These involved in DOTS implementation at the institutions

Responses	Frequency	Percentage
Clinical officers	1	5
Nurses	4	20
Doctors	-	-
TB focal person	9	45
Everybody	5	25
No body	1	5
Total	20	100%

45% of the health workers indicated that TB focal persons (particular individuals) were the ones that dealt with DOTS implementation. 25% indicated that everybody was involved. 20% said the nurses were involved.

Table 11 Availability of an operational DOTS unit at the institution

Responses	Frequency	Percentage
Yes	16	80
No	3	15
Not sure	1	5
Total	20	100%

80% of the workers agreed that there were DOTS units at the institutions. 15% said there were none and 5% of them, were not sure.

Table 12 Availability of literature on TB/DOTS implementation at the institution

Responses	Frequency	Percentage
Yes	10	50
No	3	15
Some how	5	25
Not sure	2	10
Total	20	100%

50% accepted that literature on TB/DOTS was readily available. 25% indicated that what was available was somehow not very informative. 10% were not sure if there was any such information on DOTS implementation.

Table 13 People that give support to TB programmes

Responses	Frequency	Percentage
Health workers	4	20
Relatives of patients	7	35
Non governmental organizations	8	40
All of the above	1	5
None of the above	0	0
Total	20	100%

40% of the TB support population came from non governmental organizations, especially the home care givers and the voluntary TB supporters. 35% of the support came from patients.

Table 14 Are patients followed up in their homes

Responses	Frequency	Percentage
Yes	14	70
No	1	5
Not sure	5	25
Total	20	100%

70% of the respondents accepted that TB patients were followed up in the their homes as a supportive measure to treatment. 25% were not sure if they are every followed up. 5% say patients are never followed up.

Table 15 Do all patients with cough of more than 3 week undergo sputum examinations

Knowledge	Frequency	Percentage
Yes	16	80
No	-	-
Not sure	2	10
Sometimes	2	10
Total	20	100%

80% of respondents indicated that all suspected TB patients pass through the laboratory for sputum examinations. 10% are said the practice is only done at sometimes and another 10% were not sure if all suspected patients are ever sent for sputum investigations.

Table 16 Reliability of microscopic services to give good TB sputum results

Responses	Frequency	Percentage
Reliable	10	50
Very reliable	7	35
Fairly reliable	2	10
Not reliable	0	0
Not sure	1	5
Total	20	100%

Sputum smear microscopy are considered by the respondents as being reliable, 50% say so. 35% indicate that the examinations are very reliable. Only five percent are not sure.

Table 17 Times a sputum positive patient should give sputum for examinations during treatment period

Knowledge	Frequency	Percentage
Once before treatment	1	5
At the start and at the end	1	5
Start, middle and end of treatment	15	75
Many times	1	5
Not sure	2	0
Once only	0	10
Total	20	100%

75% of the respondents agreed that patients are sent at least three times before the end of treatment. This is at the beginning, in the middle of treatment and at the end. 10% feel patients are examined once only.

Table 18 When is a sputum positive patient said to be cured

Responses	Frequency	Percentage
When treatment is completed	0	0
When no longer coughing	0	0
Negative sputum at 2 and 5 months	5	25
Negative sputum at 2, 5 and 8 months	15	75
When no longer producing sputum	0	0
Total	20	100%

75% of the health workers did indicate that sputum positive patients were said to have been cured when three sputum examinations became negative at 2, 5 and 8 months. 15% thought that a patient was cured when sputum smear examinations were negative at 2 and 5 months.

Table 19 Supervision of DOTS implementing supportive units

Responses	Frequency	Percentage
Yes	9	45
No	5	25
Not sure	4	20
Sometimes	2	10
Total	20	100%

45% of the workers did agree that DOTS implementing supportive units were supervised. Another 25% indicated that they were never supervised. A 20% of the workers were not sure if they were ever supervised.

Table 20 Other health departments and organizations involved in DOTS implementation

Responses	Frequency	Percentage
OPD	10	50
Laboratory	0	0
Pharmacy	4	20
District Health Office	0	0
Health Inspectors Office	0	0
X-ray department	0	0
None of the above	2	10
All of the above	4	20
Total	20	100%

50% of the workers answered that it was the out-patient department that was only involved in the implementation of the DOTS programme. 20% indicated that it was the pharmacy department. Another 20% did respond that all the above were involved.

Table 21 Information to patients on DOTS before the start of treatment

Response	Frequency	Percentage
Yes	15	75
None	0	0
Not sure	2	10
Only sometimes	3	15
Total	20	100%

75% accepted that patients were given enough information before treatment was started. 15% agreed that this is done only at times. 10% were not sure if information was ever given.

Table 22 Motivation of the TB focal person

Response	Frequency	Percentage
Not sure	9	45
Not motivated	3	15
Quite motivated	5	25
Very motivated	1	5
Very demotivated	2	10
Total	20	100%

45% of the workers responded that they were not sure if the TB officer was ever motivated. 25% agree that he was quite motivated, while 10% feel the TB focal person was very demotivated.

Table 23 Laboratory Staff whether considered as full partners in DOTS implementation

Response	Frequency	Percentage
Yes	12	60
No	4	20
Perhaps	1	5
Only during needy times	3	15
Total	20	100%

70% of the respondents said that the laboratory staff were full partners in DOTS implementation. 20% said no, and 15% indicated that they became partners when need arose only.

Table 24 Monitoring and supervision of the TB focal person and the laboratory staff to improve service delivery

Response	Frequency	Percentage
Provincial Health Office	4	20
District Health Office	4	20
Doctor at KD Hospital	6	30
Sister in charge at Loloma Mission Hospital	6	30
Total	20	100%

30% of the workers responded to say it was the doctor at KDH, who supervised the officers. Another 30% said it was the sister in-charge at Loloma Mission Hospital while 20% each went for the District Health office and the provincial health office.

Table 26 Are TB patient' records entered and kept well from the beginning to the end of treatment

Response	Frequency	Percentage
Yes	10	50
No	4	20
Only at OPD	0	0
Only in the ward	0	0
Only in the Lab	0	0
In all three places	6	30
Total	20	100%

50% of the respondents indicated that there was good entering and keeping of patient' records from the beginning to the end. 20% have said there was no proper entering and keeping of patients records.

Table 27 Reliability of data collecting and analytical tools

Response	Frequency	Percentage
Quite reliable	8	40
Very reliable	5	25
Not reliable	3	15
Not sure	4	20
Total	20	100%

The data collecting and analytical tools were complimented to be reliable. 40% said the tools were quite reliable. 25% said the tools were very reliable, but 20% said they were not sure.

Table 28 **Those who may benefit from a training on DOTS implementation**

Response	Frequency	Percentage
Ward Nurses	2	10
Laboratory staff	0	0
Clinical officers	0	0
TB focal person	2	10
Doctors	1	0
District managers	0	5
All of the above	15	75
Total	20	100%

75% of the respondents saw that all members of staff at the two hospitals would benefit from courses on DOTS implementation. 10% indicated that it was the TB focal person who needed training on DOTS implementation. Another 10% were in favour of the nurses.

Table 29 **Form of support given by the local administration to DOTS programmes**

Response	Frequency	Percentage
Supply drugs	9	45
Provide transport	5	25
Provide allowances	3	15
They motivate workers by giving tasks	3	15
Total	20	100%

Figure 29 provides that 45% of the workers knew the local administration to provide drugs. 25% indicated that the administration supported by providing transport for DOTS programmes. 15% each, said the administration provided allowances and somehow motivated workers.

Table 30 **Were periods of drug shortage long?**

Knowledge	Frequency	Percentage
Yes	6	30
No	1	5
Sometimes	11	55
Not sure	2	10
Total	20	100%

55% responded that the lengths in which drug shortages were experienced were sometimes long. A 30% agreed that they were indeed long. 10% were not sure while 5% indicated that there were no long period.

Table 31 Evaluation of TB/DOTS porgrammes

Response	Frequency	Percentage
Yes	11	55
No	9	45
Total	20	100%

On evaluation of TB/DOTS implementation programmes, 55% agreed that it was always done. 45% on the contrary said there was none at all.

Table 32 Availability of budget plan for TB/DOTS programmes

Response	Frequency	Percentage
Yes	9	45
No	4	20
Not sure	7	35
Total	20	100%

45% said that budget plans for TB/DOTS implementing programmes were available while 20% said there were none.

Table 33 Completion of treatment regimes by TB patients

Response	Frequency	Percentage
Yes	7	35
No	8	40
Not sure	5	25
Total	20	100%

40% of the respondents indicated that patients did not complete their treatment regimes. 35%, said they did finish while 25% were not sure.

Table 34 **How conclusions are made for sputum positive patients to be termed cured**

Response	Frequency	Percentage
Sputum -ve at the end of treatment	8	40
No more cough at the end of treatment	3	15
Clinical picture plus a sputum -ve, at the end	9	45
If patient no longer has complaints at the end	0	0
Total	20	100%

45% indicated that a former sputum +ve patient was said to have been cured after treatment, if by clinical picture the patient no longer had evidence of TB plus a sputum smear that became negative on a final examination. 40% only indicated the presence of a negative smear examined at the end of treatment.

Table 35 **Need for further sputum examination after 2 months of patient treatment and when he can no longer produce sputum**

Response	Frequency	Percentage
Yes	17	85
No	3	15
Total	20	100%

85% of the workers desired that even when sputum production had stopped, patient was expected to give out a specimen after 2 months treatment. 15% indicated that there was no need because there would not be any sputum but saliva.

4.1.2 INTERVIEWS FOR PATIENTS

Table 1 **Ages of Patients interviewed**

Ranges	Frequency	Percentage
5-15	4	9.5
15-25	9	21.4
25-35	3	7.1
35-45	5	11.9
45-55	9	21.4
55-65	7	16.7
65-75	5	11.9
Total	42	100%

21.4% of the patients interviewed fell in the age range of 15 to 25 years. Another 21.4% were those between 45 to 55 years. 11.9% of the patients were between 65 to 75 years.

Table 2. Sexes of the Patients

Sex	Frequency	Percentage
Male	17	40.5
Female	25	59.9
Total	42	100%

59.9% of the patients were females and 40.5% males. Females were more than male patients.

Table 3 Marital Status

Statuses	Frequency	Percentage
Single	15	35.7
Monogamous	13	30.9
Polygamous	1	2.4
Divorced	9	21.4
Widowed	4	9.5
Total	42	100%

35.7% of the patients were single while 30.9% were married to one partner. 21% were divorced. Only 2,4% of patients were from a polygamous marriage. More than half of the patients were not married at the time of being sick

Table 4 Educational level

Education	Frequency	Percentages
Primary schools	18	42.9
Secondary schools	8	19.0
College	1	2.4
Literary classes	3	7.1
Not been to school	12	28.6
Total	42	100%

28.6% of the patients interviewed had never been to school before and 42.9 patients had only ended at primary school. 2.4% had college education. More than half of the patients were illiterate

Table 5 Knowledge of TB disease by patients before illness

Response	Frequency	Percentages
Yes	26	61.9
No	15	35.7
Not sure	1	2.4
Total	42	100%

61.9% of the respondents had knowledge of TB disease 35.7% did not know. 2.4% were not sure if they knew TB or not.

Table 6 Realisation that they were suffering from TB

Response	Frequency	Percentages
Yes	5	11.9
No	37	88.1
Total	42	100%

88.1% of the patients did not know that what they were suffering from was TB, while only 11.9% knew.

Table 7 How those that did not know, came to know they had TB

Response	Frequency	Percentage
Told by Hospital staff	33	78.6
Told by friends in the community	5	11.9
Own knowledge	4	9.5
Total	42	100%

78.6% of the patients were informed by the health staff that they had TB. 11.9% by friends in the community.

Table 8 How did the hospital staff find the TB

How found	Frequency	Percentages
Sputum exams	27	64.3
X-ray	7	16.7
Both sputum and X-ray	5	11.9
Other ways	3	7.1
Total	42	100%

64.3% of the patients' TB was found after sputum examinations, 16.7% by use of x-ray and 11.9% by use of both sputum and x-ray means of investigations.

Table 9 Information to patients before start of treatment

Response	Frequency	Percentages
Yes	27	64.3%
No	15	35.7
Total	42	100%

Information to patient was asserted to have been given to 64% of the patients interviewed. 15% were not informed about what to expect.

Table 10 Patients' response to treatment

Response	Frequency	Percentages
Very good	33	78.6
Poor	9	21.4
Total	42	100%

78.6% of the patients did respond very well to treatment and 21.4% did not benefit at all.

Table 11 Were patients cured?

Response	Frequency	Percentages
Yes	29	69
No	13	31
Total	42	100%

69% felt cured at the end of their treatment regimes and 31% were not because they maintained their complaints.

Table 12 Distances covered by patients to and from the health institution

Response	Frequency	Percentages
Affordable	10	23.8
Near	19	45.2
Far	13	31.0
Total	42	100%

Most of the distances traveled by patients were said to be near the health institutions by 45.2% of the respondents. 10% said they were affordable, but 31% indicated they were far.

Table 13 Who undertakes home visits of patients?

Response	Frequency	Percentages
Hospital workers	0	0
RHC workers	2	4.8
Community health workers	5	11.9
Voluntary organizations	23	54.8
None of these	12	28.5
Total	42	100%

Hospital workers did not follow up any of their TB patients but most of this task was done by 54.8% of voluntary organizations like the TB care/supporters, home based care groups etc. Only a 4.8% of the follow ups were done at RHC level.

Table 14 Any longer periods of drug shortages?

Response	Frequency	Percentages
Yes	16	38.1
No	26	61.9
Total	42	100%

62% of the patients interviewed indicated that periods of drug shortage were not very long. 38% said the periods were long.

Table 15 Discouraging factors experienced during treatment

Response	Frequency	Percentage
Health workers	3	7.1
Community members	1	2.4
Family members	2	4.8
Long period of chemotherapy	0	0
Drug effects	2	4.8
None of these	34	80.9

81% of patients did not get discouraged in any way during their treatment periods. 7.1% felt put off by health workers who were dealing with them. 4.8% were discouraged at times to continue taking drugs because of the drug effects.

Table 16 Lengths of drug interruptions

Response	Frequency	Percentage
4 weeks - 8 weeks	4	9.5
8 weeks –12 weeks	10	23.8
12 weeks – 16 weeks	2	4.8
16 weeks – 24 weeks	0	0
Less than 4 weeks	26	61.9
Total	42	100%

61.9% experienced a shortage of drug’s of less than 1 month. 23.8% had shortages of drugs for a period of 2- 3 months.

Table 17 Relationships with health workers and treatment supporters

Response	Frequency	Percentages
Good	0	0
Very good	32	76.2
Not good	10	23.8
Total	42	100%

24% of the patients’ relationships with the supporters and health workers were not good while 76% enjoyed very good relationships.

Table 18 Knowledge of when treatment was to end

Ranges	Frequency	Percentages
Yes	27	64.3
No	15	35.7
Total	42	100%

64.3% of the patients know when there treatment would come to an end and only 35.7% did not know.

4.1.3 INTERVIEWS FOR MANAGERS

Table 1 Institutions managed

Institution	Frequency	Percentage
RHCs	6	60
Hospitals	4	40
Total	10	100%

60% of the managers/in-charges were those RHCs and 40% were from the hospital.

Table 2 **Age distributions of the respondents**

Ages	Frequency	Percentage
25 – 35	2	20
35 – 45	5	50
45 – 55	1	10
55 – 65	2	20
Total	10	100%

50% of the respondents were of ages between 35 to 45 years, while 20% were of 25 to 35 years and 55 to 65 respectively.

Table 3 **Sexes of the respondents**

Sex	Frequency	Percentage
Male	6	60
Female	4	40
Total	10	100%

60% were male respondents while 40% were female.

Table 4 **Professional Qualifications**

Qualifications	Frequency	Percentage
Doctor	0	0
Clinical officers	2	20
Nurse	6	60
Environmental Health Technicians	1	10
Hospital administrator	1	10
Total	10	100%

60% of the respondents were nurses and 20% clinical officers, with a 10% representation of the hospital administration and another 10% of environmental health technicians.

Table 5 **Any focal person who is responsible for TB/DOTS Implementation**

Response	Frequency	Percentage
Yes	7	70
No	3	30
Total	10	100%

70% agreed that they had TB focal persons and 30% indicated that they did not have.

Table 6 Is the focal person given power and resources to Implement DOTS programmes.

Response	Frequency	Percentage
Yes	5	50
No	5	50
Total	10	100%

50% of the respondent said the focal person had power and resources to carry out DOTS programmes. Another 50% said he had neither the resources nor the power.

Table 7 Availability of DOTS units in the catchment area that carry out DOTS programmes.

Response	Frequency	Percentage
Available	3	30
Not available	7	70
Total	10	100%

70% indicated that there are no DOTS units in the catchment area. 30% agreed that DOTS units were available.

Table 8 Times DOTS units are expected to submit reports to the supervising level

Response	Frequency	Percentage
Monthly	4	40
Quarterly	0	0
Not sure	6	60
Total	10	100%

60% of the respondents were not sure if their report was needed from them or not, because they had not been doing so, while 40% said reports were submitted monthly.

Table 9 Initial training for TB focal persons before carrying out DOTS programmes

Response	Frequency	Percentage
Yes	2	20
No	8	80
Total	10	100%

80% of the respondents indicated that no initial training was given apart from the general knowledge attained at various health training schools. 20% said the TB focal persons were given initial training.

Table 10 Intersectoral involvement in implementing DOTS

Ranges	Frequency	Percentage
Yes	7	70
No	3	30
Total	10	100%

70% of the in charges agreed that they involve other sectors of the institution and community in DOTS programmes. 30% indicate that other sectors are never involved.

Table 11 Who makes TB diagnoses and prescriptions

Ranges	Frequency	Percentage
Nurse	2	20
Clinical officer	4	40
Doctor	4	40
Total	10	100%

40% of the respondents said it was the Doctor and the other 40% said it was the clinical officers. 20% said it was the nurses especially at Loloma Mission Hospital that had no clinical officers, no doctors.

Table 12 How they do arrive at their diagnoses

Response	Frequency	Percentage
Sputum exams	3	30
X-rays	1	10
E.S.R	0	0
Signs and Symptoms	1	10
Sputum and X-ray exams	2	20
Sputum and ESR	1	10
Sputum and clinical picture	2	20
Total	10	100%

30% of the answers indicated that sputum examinations were the main diagnostic criteria while 20% indicated a combination of both sputum exams and the clinical picture of the disease. Another 20% indicated the use of both sputum and X-ray examinations.

Table 15 Record keeping of TB patients' information before, during and after treatment

Response	Frequency	Percentages
Yes	10	100
No	0	0
Total	10	100%

A 100% of the respondents said that patients' details were entered and kept before treatment started, during treatment and were amended after treatment.

Table 16 **Constancy in the supplies of drugs to institutions**

Response	Frequency	Percentage
Yes	3	30
No	5	50
Very irregular	2	20
Total	10	100%

50% answered that the supply of drugs were never constant while 30% indicated the supplies were constant.

Table 17 **Follow up programmes of patients by the institutional workers**

Response	Frequency	Percentage
Yes	5	50
No	3	30
Sometimes	2	20
Total	10	100%

50% agreed that TB patients were followed up by health workers of the particular representative institutions, and 30% said patients were never followed up.

Table 18 **Times operational DOTS units are supervised**

Response	Frequency	Percentage
Quarterly	2	20
Monthly	0	0
Weekly	1	10
None	7	70
Total	10	100%

70% of the respondents indicated that DOTS units were never supervised. 20% indicated that they were supervised quarterly per year.

Table 19 **Availability of supervisory programme plan**

Response	Frequency	Percentage
Yes	2	20
No	5	50
Not sure	3	30
Total	10	100%

50% indicated that there were no supervisory programme plans in their institutions while 30% of the respondents were not sure if the focal persons ever had supervisory plans. Only a 20% of the respondents said their institutions had.

Table 20 Microscopic net work that provides quality sputum examinations

Response	Frequency	Percentage
Yes	4	40
No	6	60
Total	10	100%

40% said there was a net-work of microscopic sputum examinations but 60% said there was none apart from microscopic examinations done at the two hospitals only to which all patients flocked.

Table 21 Information to patients before treatment

Response	Frequency	Percentage
Yes	8	80
No	2	20
Total	10	100%

80% of the respondents agreed that patients were given enough information before treatment. 20% said that patient were not well informed.

Table 22 Is support given to DOTS programmes by the local administration?

Response	Frequency	Percentage
Yes	7	70
No	3	30
Total	10	100%

70% of the respondents indicated that the local administration supported DOTS programmes while 30% said no.

Table 23 How the local administration supports the DOTS Programme

Response	Frequency	Percentage
Drug supplies	3	30
Holds workshops on DOTS	2	20
Provides transport and other logistics	3	30
Provide allowances	2	20
Total	10	100%

30% said the local administration provided drug supplies. Another 30% indicated the provision of transport and other logistics while 20% indicated allowances and holding workshops.

Table 24 How institutions have reduced long distance to hospital by patients for DOTS

Response	Frequency	Percentage
Patients travel to the hospital	1	10
Drugs are taken to RHCs	2	20
TB supporters, monitors do administer drugs to patients	4	40
Patients are persuaded to go to Hospital during follow ups	3	30
Total	10	100%

40% of the respondents indicated that drugs were given to TB supporters and monitors to give to patients so that they don't need to travel long distance. 30% said patients were persuaded to walk to hospitals and RHCs during follow up discussions.

Table 25 Budget plan for DOTS implementation at institutions

Response	Frequency	Percentages
Yes	6	60
No	4	40
Total	10	100%

60% of the respondents indicated that there were budget plans for DOTS implementation but institutions had no funds. 40% said there were no budget plans.

Table 26 Evaluations of DOTS implementation programmes at Institutions

Response	Frequency	Percentage
Yes	2	20
No	8	80
Total	10	100%

80% acknowledged that there were no evaluations done while 20% indicated that evaluations were carried out.

Table 27 Incorporation of DOTS activities in primary health care infrastructure.

Response	Frequency	Percentage
Yes	5	50
No	5	50
Total	10	100%

50% of the respondents accepted that DOTS implementation was incorporated in the primary health care infrastructure and the other 50% said no.

FINDINGS FROM THE HOSPITAL RECORDS

LOLOMA MISSION HOSPITAL

QUARTERLY REPORTS FOR 1 YEAR

4 TH QUARTER, 03	1 ST QUARTER, 04	2 ND QUARTER, 04	3 RD QUARTER, 03
AT 2 MONTHS SCR = 60% SNDR = 0 NCR = 20% MR = 20% DR = 0 TR = 0 NER = 0	SCR = 76% SNDR = 0 NCR = 0 MR = 0 DR = 0 TR = 0 NER = 14%	SCR = 76% SNDR = 0 NCR = 24% MR = 0 DR = 0 TR = 0 NER = 0	SCR = 44.4% SNDR = 11.1% NCR = 22.2% MR = 22.2% DR = 0 TR = 0 NER = 0
AT 8 MONTHS CR = 50% TCR = 25% FR = 0 MR = 0 DR = 0 TR = 25% NER = 0	CR = 0 TCR = 22% FR = 0 MR = 22% DR = 0 TR = 45% NER = 11%	CR = 11.1% TCR = 33.3% FR = 0 MR = 22.2% DR = 11.1% TR = 22.2% NER = 0	CR = 50% TCR = 8% FR = 0 MR = 25% DR = 0 TR = 17 NER = 0

KABOMPO DISTRICT HOSPITAL

QUARTERLY REPORTS FOR 1 YEAR

2 ND QUARTER, 03	3 RD QUARTER, 03	4 TH QUARTER, 03	2 ND QUARTER, 04
At 2 MONTHS SCR = 33.3% SNCR = 66.7% NCR = 0 FR = 0 DR = 0 TR = 0 NER = 0	AT 2 MONTHS SCR = 79% SNCR = 21% NCR = 0 FR = 0 DR = 0 TR = 0 NER = 0	AT 2 MONTHS SCR = 0% SNCR = 67% NCR = 0 FR = 0 DR = 33% TR = 0 NER = 0	AT 2 MONTHS SCR = 71.4% SNCR = 28% NCR = 0 FR = 0 DR = 0 TR = 0 NER = 0
AT 8 MONTHS CR = 50% TCR = 0 FR = 0 MR = 25% DR = 0 TR = 25% NER = 0	AT 8 MONTHS CR = 31% TCR = 37% FR = 0 MR = 13% DR = 0 TR = 9% NER = 0	AT 8 MONTHS CR = 33% TCR = 67% FR = 0 MR = 0 DR = 0 TR = 0 NER = 0	AT 8 MONTHS CR = 0 TCR = 85% FR = 0 MR = 0 DR = 0 TR = 14.3% NER = 0

Meanings of Abbreviations

SCR = Smear Conversion Rate DR = Defaulter Rate FR = Failure Rate
SNCR = Smear not done Rate NER = Not evaluated Rate DR = Death Rate
NCR = None Conversion Rate CR = Cure Rate TR = No evaluation Rate
MR = Mortality Rate TCR = Treatment completion Rate NER = No Evaluation Rate

LOLOMA MISSION HOSPITAL

CURE RATE/SPUTUM CONVERSION RATES AND TREATMENT COMPETION RATES

	QUARTERS	PERCENTAGES
SCR	3 rd Quarter 2003	44.4%
	4 th Quarter 2003	60%
	1 st Quarter 2004	76%
	2 nd Quarter 2004	76%
CR	3 rd Quarter 2003	50%
	4 th Quarter 2003	50%
	1 st Quarter 2004	0%
	2 nd Quarter 2004	11.1%
TCR	3 rd Quarter 2003	8%
	4 th Quarter 2003	25%
	1 st Quarter 2004	22%
	2 nd Quarter 2004	33.3%

KABOMPO DISTRICT HOSPITAL

CURE RATE/SPUTUM CONVERSION RATE/TREATMENT COMPLETION RATES

	QUARTERS	PERCENTAGES
SCR	2 nd Quarter 2003	33.3%
	3 rd Quarter 2003	79%
	4 th Quarter 2003	0%
	2 nd Quarter 2004	71.4%
CR	2 nd Quarter 2003	50%
	3 rd Quarter 2003	31%
	4 th Quarter 2003	33%
	2 nd Quarter 2004	0%
TCR	2 nd Quarter 2003	0%
	3 rd Quarter 2003	37%
	4 th Quarter 2003	67%
	2 nd Quarter 2004	85%

The figures for both hospitals, as represented by the samples shown, have higher sputum conversion rates (meaning within 2 months of treatment-previously sputum positive patient smears were negative). Treatment completion rates are also higher than the cure rates, resulting from unexamined sputum in the last month of TB treatments (8 months), while patients successfully completed their courses of treatment and were healed. On the other hand cure rates were less than and sometimes as equal to the treatment completion rates. If both the TCRs and CRs were to show the successes scored in defeating and reducing the spread and fatality of the TB germs, the result would be tremendous.

4.2 DISCUSSIONS

Many elements had come out of this study, but the researcher's concern is to establish and make mention those that give direction to the objectives set in the study. The study would move along the lines of the assumptions in order to find answers to the objectives (see chapter one, page 1-3).

The study in Kabompo, therefore, was undertaken to determine the factors that prevented the District TB programmes, to attain the required 60% of sputum positivity reduction at 2 months' treatment of patients and 85% cure rate at 8 months respectively.

The following, in consonant with the objectives and assumptions, were the findings of the responses from questionnaires, check list and interviews, including findings from sampled aggregational forms.

4.2.1 Motivation

The questionnaires that were administered, achieved responses that suggest that the TB focal person and other workers involved in TB/DOTS implementation were not motivated enough to do their tasks well. Apart from carrying out tasks because one was employed, there was no job enrichment, which involves increased autonomy (freedom to plan, carry out programmes, and suggest better ways of carrying out a function), being able to share tasks or delegate, making a function not only interesting but challenging and rewarding, to have access to resources and have power to suggest how the available resources can be spread out for utility. Most of these lacked.

45% of the respondents were not sure whether the TB focal person was motivated or not. 15% indicated that the focal person was not motivated. When a large percentage of respondents are not sure of what goes on in a certain situation, it is expected that things are not visible or simply not taking place (Table 29). During the continued interviews, what came to

light was that the TB focal person was fixed at the OPD and never undertook outreach activities, like visiting health centers to assess TB programmes, especially programmes that would need claiming of allowances. Plans were not executed due to none, availability of funds.

4.2.2 Intersectoral/interdepartmental co-operation

Interaction of the focal person with other institutional workers was available. Workers like the nurses in the wards, doctors, clinical officers and many more, participated in one way or another in DOTS implementation. Non health workers, such as those in voluntary organizations became the majority who were helpful to the programme, health workers were not involved in the day to day TB activities, but only when need arose.

The Adhoc committee of the world health organization in London, in 1998, recommended that a multisectoral approach to TB control was necessary. The involvement of government departments, private health sectors, health workers, community involvement, and many more was very essential. Instead the OPD got more involved in the DOTS programmes than other departments within the institutions.

A difference was noted also on the roles taken by voluntary groups like the TB community health providers. At Kabompo District Hospital, home care givers were trained and given drugs to take to their DOTS patients under their supervision, while at Loloma Mission Hospital, the TB care givers, only followed up patients to encourage them to go to hospital, despite the distance to the hospital.

4.2.3 Data Collecting and Record Keeping Tools

50% of the respondents acknowledged that data gathering tools were well constructed and gave reliable data. This is indicated in Table 26 and 27, which facilitated evaluation of data quarterly (Table 31). 55% of the respondents having accepted that evaluation is done, but their evaluation meant the quarterly reports that are submitted as part of continuous assessment.

One other area that has been over looked in providing good control results in TB/DOTS implementation, is operational research (Item 12.4 of chapter two). It is indicated under this item code that designing and conducting locally relevant operational research can help identify problems and reasons for weak performance and determine workable solutions. It enables too, to analyse budget allocations from the government and

donors, so that economic costs of any health interventions undertaken relate to outcomes or vice versa; in TB, specific outcomes like the poor cure rate could be analysed.

Literature and books, though not being very informative and recent, were available. A short in-service course had just taken place from which more reading material was provided to various cadres to update their knowledge (Table 13).

Just as literature without a prior orientation or training is like entering into a canoe and expecting to cross a river without a paddling stick, is not useful. All TB focal persons at the two hospitals and also those in the RHCs, began to carry out TB programmes without a form of orientation which could have constantly led to poor treatment outcomes. 75% of the respondents indicated that all workers needed some training in DOTS (Table 28), including the TB focal persons.

Treatment approaches and regimes are every time changing as time evolved and so workers were expected to receive constant up dates before undertaking major TB programmes.

4.2.4 Support from Other Workers in Implementing DOTS Programmes

Support, as defined in the active study dictionary, means to help someone, to encourage or to approve of someone's ideas or actions because you want them to succeed (New edition 1991). It does not mean participating in one's activities only. Someone can participate even when he does not approve of an action. Many people (fellow workers) participated occasionally but left the bulk of work for the TB focal persons at the two hospitals who were themselves over burdened with many other general duties and shifts, making it impossible for them to concentrate and perfect TB activities and records.

Support from the management was not clearly defined. Interest in TB activities was mostly shown at the end of each quarter when continuous assessments were done. The activities of the TB officers and the laboratory officers, the main participants, were never supervised or monitored. At the end of the quarter, only the production of low rates were questioned, without looking into the factors affecting results. Interpersonal links were avoided. There was a difference in the way TB outreach programmes were executed under the management of the two hospitals. At Loloma Mission Hospital, the focal person is in management of the hospital and so he is able to present his plans which are quickly accepted. The focal person is provided with resources including

allowances, to conduct outreach programmes alone and thereafter brings a report to the management. On the other hand, the focal person in Kabompo is not in the management. His requests were subject to scrutiny and were mostly not approved causing a deficiency in making follow ups of patients in RHCs, failure in going round to collect and update data, and no concerns were shown to encourage follow-ups until when data was needed for district reports. Supervision of RHCs, was done by the continuous assessment team that visited centers at each end of the quarter, that did not include the TB focal person, who was not given any feed back at the end of such tours to help him update his records.

4.2.5 Supervision of Patients

Supervision of patients' treatment by home care givers was well done, though a few patients claimed they were left to take drugs on their own. Apart from observing patients swallow their drugs follow up visits were undertaken in order to encourage them in their own home environments, to continue seeing the importance of finishing their treatment courses.

At Kabompo Hospital, patients lined up with other patients at the OPD for them to enter the room where all patients received their drugs. After staying long on the line, they would be finally given their tablets and made to swallow before other patients who would complain that the health worker wasted time on one patient. A few others were supervised by TB supporters who were trained and given to supervise and monitor reactions daily. Those that were very sick and others who came from far places were admitted and later discharged to continue at the nearest health centers.

Loloma Mission Hospital had a different approach in a way. Like Kabompo, most of their patients were admitted and received drugs under DOTS within the hospital, supervised by the hospital staff. A few others were requested to walk to the hospital daily till the end of the 2 months. TB supporters' roles were to make sure their patients returned to the hospital only.

While patients at Kabompo got frustrated on the lines as they paved their way to the treatment room, those at Loloma would be tired of walking to the hospital daily, especially for those who were told to do so, who had to walk some distances from their homes.

4.2.6 Budget Plans

Budget plans were available in all institutions visited for the study. They were reflections in the budgets for the year but the actual intended programmes were not undertaken due to lack of funds. Only one Rural Health Centres (Nkulwashi) reported to have met community members, in which funds were involved. The many others, all hoped the disbursement of the World HIB/AIDS/TB drugs that were reported to be available in the district would facilitate the carrying out of the planned programmes, with only three months to go before the end of the year.

While this was a general feature in all the institutions, it would be termed to be a matter of lack of priorities by the health institutions and the district management, because funds were expected to be given on all meaningful and cost effective programmes.

Other than funds not being provided, the element of the institutions not having working programme plans was general. While responses indicated that there were programme plans, physical checks elicited none. If any, TB programmes were carried out haphazardly and on impulse. The development of sound financial programme plans for DOTS implementation and expansion, are keys tasks for a TB programme manager.

4.2.7 ILLITERACY

Many patients that were treated for TB and using the DOTS strategy, were illiterate. 42% had only gone up to primary school while 28.6% of the patients had never been to school. While many agreed that they new about TB before they became sick and well informed about the disease and the mode of treatment, it is possible because of illiteracy, for the patients to under value the knowledge attained in search of traditional advice and witch-finding, though this has not come out in the study and cause refusal to give out sputum for further examinations. This could have affected the keeping of instructions, the choices of priorities in life, and the results of TB treatments too, in one way or the other.

4.2.8 Evaluation of TB Programmes

80% of the (managers) respondents indicated that TB programmes were not evaluated. Some form of evaluation took place through looking at figures of patients and their responses to treatment as a way of obtaining information to use in reports.

Evaluation, according to Weiss (1972) is a source of knowledge and direction. It tells which programmes work and which do not. Evaluation

helps to point out better ways of formulating of institutional programmes directions. Borg and Gall (1983) also states that research is a diligent search or inquiry, a scientific investigation and study to discover facts.

The fact that TB programmes have been taking place for many years with poor cure results should have provoked the need to discover the causes through evaluative studies.

4.2.9 Regular Supply of Drugs

While drug shortages were not severe, evidence was found which indicated that drugs were sometimes out of stock over periods of one to 2 months, and at time more. This would have prevented patients from far places coming back for treatment in a desired period after getting disappointed during earlier visits.

Maintaining good drug stocks meant also passing through RHCs to check on stocks, organise, distribute, reallocate extras from one place to the other, to maintain stock; evenly. This was not done over long periods. Both the pharmacist (pharmacy technician) and the TB focal persons were not given turns to adequately carry out this function, especially during visits of health institutions, by the district teams.

Mostly, drug shortages in the district were due to late submission of quarterly reports to the Central Board of Health in Lusaka. A late submission in one month will cause a drug shortage flowing into the next month because the drug distributions was done once every middle of the month.

4.2.10 Laboratory Services

Only the two hospitals carried out sputum examinations. All the other institutions had none but plans were there to establish more examining centres, which would also be treatment centres. All patients in the district had to go where it was near and felt compelled to go. For many patients, traveling to the hospital for sputum investigations only at the end of 2, 5, and 8 months of treatment would have been a bother, especially when they were already feeling well, and the distances were considered too long.

Some resented going back because they would be expected to give sputum for examinations when they no longer produced sputum or had stopped coughing, which was a common feature among many patients on a multi-drug therapy (a combination of drugs). Much emphasis was put

into examining at least the first and last sputum for TB germs for one to be termed as cured, which was usually not possible.

Patients who completed treatment successfully but failed to give the last sputum smear for examination were not considered as cured despite feeling well, but labeled as having completed treatment only. Those that could not give out sputum were still given containers and expected to bring sputum, these went away and never returned because for them the period of treatment was over and the patients felt well enough to avoid further challenges and requests to offer sputum.

The insistence on the rigid rule to call those that have responded well to treatment and feel cured after completing their period of therapy, to having completed treatment, than having been cured, because of inability to give a last sputum for examination at the last attempt, was another factor that reduced the cure rate despite the sputum conversion rate being high at 2 months (changes of sputum from being positive to negative). Apart from failure to come and give sputum, the distance to laboratory facilities was on itself a burden to some patients. There were only two laboratory examining facilities in the district, and in the vicinities of the two hospitals. The many people scattered in the district came to compete with other patients that needed other examinations daily, putting a burden on the laboratory staff who were overworked and overloaded with work; causing laboratory sputum examinations to be second rate activities expected to be undertaken by the staff, rendering to the length one such a sputum examination took and of course the risks contained of contracting the disease, thereby forcing patients to wait for their sputum results for one week or more.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.0 CONCLUSIONS

The purpose of this study was to determine the factors that caused the failure of the district health system to attain the required cure rates of 60% at 2 months and 85% at the end of 8 months respectively. The study set out some objectives to be achieved in the study with the help of questionnaires and interview guides. Analysis of the responses would there after follow to give answer to the poor performance, resulting in low cure rates of TB patients in Kabompo.

Resulting from the analysis of the responses already presented, the researcher came up with many factors that worked together concomitantly.

The first factor that came out is that of not motivating the TB staff. Motivation is defined as an internal feeling or state that initiates and sustains behaviour towards a good management of a task. Dale Beach (1980) also defines motivation as the willingness to expend energy to achieve a goal or a reward.

Three characteristics for motivation to take place, that are essential are:

- (a) there must be some environmental determinants to produce and support behaviour.
- (b) The internal wish, urge, desire, feeling, needs or motives that triggers the needed action or behaviour.
- (c) The incentive goal or object value that attracts the worker to perform better (goal attainment).

These were found not to be there and somehow overlooked.

The second factor that the study elicited was that of not according enough time to the TB/DOTS programmes because of extra duties with no specific time to plan and coordinate such programme requirements, while being expected to do so, therefore causing the TB staff to do what could be achieved and not what was required to be achieved.

The third factor is the unplanned allocations of the staff to programmes to which they are not adequately oriented; especially the work of a TB focal person. This task requires good orientation to the task and of course, a form of training

towards this objective task, is of an advantage. It was discovered that knowledge from literature/books and that attained at medical schools were basically theoretical and not practical. The time taken to understand what was expected, and that in which good outcomes could be observed, would be full of erroneous misrepresentations, including poor data collecting, analysis and interpretations.

The fourth factor towards poor cure results was the handling of patients. Further discussions showed that patients were never at ease, lining up for drugs (especially at Kabompo Hospital) every day with other patients, to receive drugs that would be swallowed there and then. This caused defaulting in some and in others poor response and hence low cure rates. More patients were at task having to wait for days to obtain sputum results so that those from distant places, decided not to come and spend more time doing nothing.

The fifth factor is that of reduced intersectoral co-operations within the institutions and outside such institutions. Relationships within the hospital workers were not encouraging. All TB patients were considered to be for the TB focal person and the nurses on a treatment ward. If not available, patients would pend until that person came back despite how long it took. There were no programmes to link them together towards DOTS implementation. Many departmental workers got involved in certain functions, not convinced that they did their genuine role but, a service to the officer responsible.

Other government departments were not mobilized towards improving DOTS implementation in the District. Much help came from voluntary aid organizations. Much more needs to be done in this area. It is shown in chapter two, and item 12.2 that effective involvement of both the private sector and health care providers is imperative in order to achieve total geographical and patient coverage for DOTS implementation. This all means that there was need for more people to get involved in reaching out to patients, to mobilize them or offer supervisions and monitoring of progress, in order to afford a good cure rate.

The sixth point is that of not having any supervisory plan for supportive units, like the RHCs. This would contribute to the raising of cure rates in that the company of a TB focal person and a laboratory technician traveling to a RHC would not only reduce the distance to the hospital but encourage patients to bring sputum samples for examinations and re-examinations near their homes. Such a move would not only improve on this determinant for cure rates but would facilitate immediate updating of data in RHCs.

There cannot be any valid supervisory plans of key operation areas without expenditure. No expenditure as it was found, was directed towards the

supervision of health centres. The financial plan for the year was not touched as a result of none availability of funds.

Supervisory visits to RHCs would have made it possible to see patient referred to them, who could not make it to the hospitals at the time data was needed. Even if there were monthly returns to be submitted by individual centers, which was never done too, the need to go and physical review patients, assess drug requirements, assess the abilities of the health centre personnel to deal with TB patients, assessing how recording and data gathering instruments were handled, and also help to correct and give new knowledge, where it lacked, would have been moves towards improving DOTS implementation and raise TB cure rates. More to it, community health workers and volunteers could have been trained to look after their patient and a programme set to supervise them oftenly enough until the services are completely incorporated into the primary health care infrastructure, if the drug supply was to improve too.

In general, the implementation of DOTS strategy and programmes was not doing well. The TB/DOTS implementing programmes suffered many set backs ranging from staff concerns to administrative ones.

Staff dealing with TB programmes were rushed into activities without training and orientations, felt not motivated by the local administration, and had not enough time to plan and achieve good results due to over working in other health sections on daily basis.

On the other hand, the administration has not established any monitoring plan, to correct and achieve good results, evidenced by the workers not even knowing who supervises and monitors the duties of the TB officer and the laboratory officer. Hospital workers feel the two officers are supervised by the district health office, the DHO feels supervision comes from the doctors, the doctors think it is the district office, while the officers concerned feel they are supervised by the provincial office.

Despite seeing repeatedly, the low cure rates, there has been no effort to address the problem by both the local administration and the TB officers which may suggest being unconcerned with the programme or poor relationships between staff and management. Despite a few not having been given clear information, it is established through the many responses analysed that patients were well informed about TB and DOTS at the start of treatment. Variation could have come later especially that many different officers continued with the patients in the wards, at OPD and at home. It is not established how the influence of the friends and families contributed negatively towards their sputum examinations and the length of treatment regimes but responses indicate that

most of the patients were not in any way prevented from continuing to the end of their treatment.

Many patients complained of wasting more time lining up for drugs at OPD and others at the laboratory, citing that investigations took many days to come out.

The major reasons for not achieving the desired percentages as required by specific objective (b) can be traced after the sputum examinations at the end of two months. Patients who were under strict supervision were let to continue on their own for the next 6 months. After patients were let to take drugs on their own, at home, the end results were an increase in the patients with high treatment rates. This suggests two possibilities:

- (a) Many patients soon stopped producing sputum and would only produce saliva at the end despite being persuaded or forced to do so. This ended into failure of the laboratory staff to show that patient sputum was negative finally.
- (b) Many people chose not to come to the two hospitals for the last sputum examinations, because they felt there was no need after completing drugs at their respective RHCs and the hospitals. After being told that they were receiving the last drugs after which they should come for their final examination, many felt no need to expose themselves to more sputum examinations.

Little time was used to put in order TB programmes, records and plans because the TB officers did not stick to one task. Staff shortages had not caused the TB/DOTS implementers not to specialize in doing one task adequately. For every programme to achieve better results, the need to spend time and money cannot be ruled out. In this case, no meaningful amounts had been used on TB programmes to facilitate changes or improvements. Transport for support visits was not oftenly offered. TB officers were not accepted to accompany the assessment teams to RHCs, when need arose to follow up patients and find information for updating records.

Drugs on the other hand were centrally supplied from the Medical Stores in Lusaka, at no cost because even the cost transportation of the same was catered to. No evaluations were done, no local supervisions suggestions and improvements were contemplated. In conclusion, the little that is put in corresponds to the little that comes out. Improvements would therefore need a multi dimensional, multi-sectoral and encouraging approach including determinations by the workers and the local administration to work together to increase inputs in order to arrive at corresponding outputs..

5.1 RECOMMENDATIONS

The researcher analysis of the study, in the view of the study's objectives, identifies four major findings to which recommendations are given. In the light of achieving many of these, if not all, the TB/DOTS implemented programmes will improve and bear good results.

The first and foremost factor which has surfaced through the questionnaires, interviews and follow-up discussions, is one of using staff that are not motivated. The workers, especially the TB focal person, is not motivated to do good work. In order to address this problem of motivation, the management should address three elements of motivation, to come up with a motivated work force.

A GOOD WORKING ENVIRONMENT

TB begin with, the creation of a good working environment, for the TB focal person is very essential. Along this fact are such things like affording the focal person an office space at the district health office to provide to the District office at close quarter and short notice, information on TB programmes. This will afford the officer enough time to discuss over TB matters with the planners and the directorate.

The other aspect of a good working environment, is that of giving the focal person a voice by which TB/DOTS undertakings can reach those intended to hear, know and do. The focal person should be included in the district health management team so that the officer can be able to contribute effectively towards the expansion and improvements of the TB programmes, on behalf of the district, and because the officer is a district TB focal person, the should be able to give out inputs on TB issues during DHMT meetings.

There was, as found during the study, utter confusion with regard to which sector looked after the TB programmes, whether the department with its programmes were independent or fell under the jurisdiction of a certain order. The TB focal person and other members indicated that the TB programme was an asset of the district health office, while the DHO said the TB programmes belonged to the OPD and the OPD management considered TB programmes to be part of the hospital. Programmes and suggestions about TB/DOTS implementations could therefore not be accepted without reservations at all levels. The OPD had no capacity to house TB programmes though the TB focal person operated from there. The hospital management's finances had their own ceilings which could not accommodate outside programmes though it could afford to look after TB admitted patients. The district health office could not accept TB programmes because it belonged to the OPD. A complete cycle of what can be termed as "Health politics", left the whole programme not attended

to, the staff demoralized and not motivated, while it was expected of them to perform well.

If the focal person will be given an office space at the district health office, it will give weight upon the responsibilities inferred on the officer as being well accepted and able to receive support, a sense of commitment, a sense of contribution, a source of progress and awareness to achieve the best. In all, changing the working environment will induce a change of attitude towards work and there after produce a certain behaviour towards a goal achievement. This will address the physical environment of the worker.

MOTIVATION

The second element of motivation is the internal wish, urge, desire, the feelings, the needs, of course the motives that triggers action-oriented behaviour. This takes into account giving freedom to the focal person to make decisions that would be accomplished without restraint, with minimal supportive supervision and not over supervision to be under close supervision. It looks at the desires of the officer that the management recognizes the worker' accomplishment or desires to accomplish, with equaled support. The focal persons wish to reach higher heights in knowledge about his job, the desires to innovate, the urge to be creative, especially towards achieving total mobilization of the societal involvement, should be supported without undue bias, suppression or conflicts. If put in place, this approach would create and bring into effect mutual support, interdependent relationships, good communication and increased morale.

On the other hand, conflicting ideas, conflicting wishes and approaches have an aspect of not only lowering output but also lowering morale. Bittel (1980) defines morale as "the amount of voluntary co-operation demonstrated by an individual or a work group and of the intensity of the desire to attain a common goal." We see in this definition, "voluntarism" or "voluntary co-operation". If one is demotivated, or has wishes not satisfied, he or she becomes un-co-operative and does not volunteer to do better, a result mostly seen where indecisions and conflicts surmount .

Reuk (1966) defines conflict as a "consistent, cumulative divergence or incompatibility of interests and functions with an interdependent system, so destructive to the system so that one of the contending forces or members, has to give way or bring change to the whole system."

The consistent cummulative poor TB cure rate could be a possible result of one contender giving way by not putting in enough of personal energy and time, if we go by the above definition. The social psychological environment should here be prepared to encourage increased performance. The third element of

motivation is that of providing incentives. The incentive goal attracts the worker to attain the desired objective value.

The study has revealed that chances were not made available for the workers undertaking TB (DOTS programmes to go on outreach programmes that would enable them to earn an extra source of income, (an allowance), especially those associated with the district hospital, unlike Loloma which had a plan to offer extra allowance immediately when chance arose. It is a solidly accepted fact that motivated performance increases if there is a positive relationship between good performance and rewards. It is more probable too, that the lack of it could have caused the continuous drop in performance. If the individual worker perceives that the extra effort will meet a reward, he or she will do everything to get it. The local administration should therefore, not overlook what one's improved social economic stand can do to propel him or her to better performance. In times when one's economic stand is critical, the worker given a task, will do it badly because the mind concentrates on problem solving, let alone spending extra time meant for work, in getting ends meet for betterment of the family.

TRAINING

Training of personnel before taking responsibilities of managing TB/DOTS programmes is essential. The concern for effectiveness should be matched by commensurate education efforts management puts in, to orient the focal person and other workers. During normal duties, it was noted, many health workers considered TB/DOTS activities as belonging to specific officers and so did little to participate or learn, when instantly given to be contact persons, based on the theoretical knowledge received at a training school or through reading literature, it took long to learn. Knowledge in TB, approaches in diagnoses, treatment categories and regimes have undergone so many changes that one cannot be relied upon to do good work after a long time of not practicing.

A sensitivity training is a recommendation that may improve personal effectiveness of the district TB focal persons. A sensitivity training consists of a laboratory type of a programme designed to provide learning opportunities to individual employees to expose their knowledge and behaviour, to give and receive, to experiment with new knowledge and develop awareness, accept self and become sensitive to the new challenges. This is done as a participatory training before a state of psychological success, self esteem and interpersonal competence is achieved, before the complete handover. This should take a specific period and not to mean the quick hand over of duty and resources, which has been the case usually.

In addition to this sensitizing training, the focal person should be exposed to more in-service courses or seminars, and if possible to undertake study tours of other districts to take note of how TB programmes are managed elsewhere.

There should be a deliberate programme by the district health management team to put in place a local supervisory programme that is supportive. Supervisors that would work together with TB officers to identify where problems are and do more as to suggest solutions to the eminent problems.

There should be a deliberate programme to identify deficiencies in the technical applicability of knowledge to boost performance. The laboratory officers, the clinician and the record keepers should be monitored often enough to instill a sense of responsibility. Apart from seeing the workers doing their work before a microscope or with a patient at a diagnostic table, the supervisors may come up with some observed deficiency to enable them to, prepare to talk or teach on such a need and later make a follow up to see whether the idea/knowledge taught, or an error corrected is now being followed. This does not mean subjecting workers under close supervision but to be exposed to supportive supervision, in which sense, the workers learn from the supervisors and not receive blames from the supervisors.

Apart from the TB focal person and the laboratory staff being supervised especially, because of their major roles in the DOTS implementation, the RH centre staff should also be supervised by them often enough. This would enable the TB officer in particular to teach the Health centre staff too. Apart from this, a TB focal person can utilize such a visit in particular, to update records, monitor the drug stocks and the use of such drugs and the RHC officers. This may need good approach to officers being supervised to build good relationships and interdependence, and so this cannot be achieved through quick checks in books and their after leaving behind a chain of orders that do not provide answers to the why and how questions that arise later. The TB focal person should often spend enough time out to help the programme succeed.

EVALUATION

What was found to mean evaluation in the responses to the data collecting instruments used in the study, was the analysis and interpretation of quarterly TB data in order to realize the extents of the treatment outcomes, especially the emphasis on cure rates.

Evaluation is more than this. Evaluation collects data or evidence on the worth or value of a programme, processes or technique used to achieve results. Its desire here is to establish a basis for decision making. Decisions that pertain to the selection of the most effective procedure, the resources used and the

organizational structure. Evaluation also looks at whether certain programmes, materials, treatment of an undertaking is feasible or not. In general, evaluation looks at the plans that were set, the resources used, the objectives set to arrive at a goal, whether the goal has been reached and what problems were faced, all these to culminate into making decisions towards improved performance.

Both the district office and the focal person did not come together collectively, or did not attempt on individual basis to evaluate TB/DOTS programmes. These programmes should therefore be subjected to evaluation to improve performance and cure rates.

Lastly, I recommend that a research study should in future be undertaken to determine whether, insistence on the last sputum examination after 8 months' treatment should be the determinant for cure rate.

The production of exudate (mucoïd sputum) is a manifestation of the body reaction to invasion by the TB germs and as a response of the body immunity against invasion. Humphrey and White (1963), in the book of immunology, write that when hypersensitivity has become established, both the tubercle bacilli and the tuberculo proteins (body secretions) act upon the body to produce toxicity. As a result, the tissues of the allergic body will become inflamed and undergo necrosis.

When a mass of necrotic (caseous) tuberculous granulation tissue with its contained bacilli and large amounts of tuberculo protein is suddenly liberated into the bronchiole of a highly allergic lung, the resulting sequel would be a violent exudative (secretions) pneumonia, and when liberated into the pleural cavity, an acute exudative pleurisy takes place. Firstly, sputum production will therefore be a resulting reaction in the lung to try and clear out the presence of both the bacilli and the tuberculo protein released by the body. Secondly, sputum is produced to soothe the necrotised tissue resulting from the inflammation due to the toxicity caused, as explained above.

When therefore, the germs are attracted and hit hard, with multi-drug therapy, there is a sudden reduction in their numbers and eventually their death, thereby reducing the immunological response to the microbes and to the inflammation, resulting in reduced production of exudates (sputum); that is expected to stop by the end of 2 months to 5 months. At 8 months most patients would have stopped producing sputum but saliva. Attempts to request a patient to produce sputum, other than give in a thick and jelly-like saliva, will be futile. It will only increase the longevity and to brand those cured as having completed treatment only because they can not produce sputum any longer. It will also continue to give honour to those who give false figures as doing well when evidently, no more sputum is produced among many patients, let alone those who do not respond to treatment due to other complications.

In future therefore, a study should be instituted, to specifically look at the immune system, in relation to sputum production at the beginning of

treatment, in the middle and in comparison to the end of therapy. This study will be needed to establish whether every patient was expected to produce sputum even after the accelerated effect of the antigen and antibody reaction was over.

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TIME SCHEDULE

NO	ACTIVITY	PERIOD IN MONTHS															
		JUNE				JULY				AUGUST				SEPT.			
1	Preparation of data gathering instruments			X	X												
2	Travelling to Kabompo to conduct study					X											
3	Briefing the DHMT						X										
4	Choosing and briefing research assistants					X	X										
5	Data collection						X	X	X	X							
6	Data analysis									X	X	X	X				
7	Writing draft report													X	X	X	
8	Wring final report															X	X

BUDGET PLAN

NO	DESCRIPTION	UNIT COST	QTY/PAX	DAYS	TOTAL
1	<u>PROFESSIONAL FEES</u>				
	Researcher's	K150,000 [sub]	1	4	K650,000
	"	K50,000 [lunch]	1	5	K250,000
	Research Assistants	K150,000	3	2	K900,000
					<u>K1,800,000</u>
					(SUB-TOTAL)
2	<u>TRANSPORT COSTS</u>				
	To Kabompo	K100,000	2	2	K200,000
	Transport costs during study	K800,000	-	1	K800,000
					<u>K1,000,000</u>
					(SUB-TOTAL)
3	<u>SECRETARIAL SERVICES</u>				
	Typing proposal	K2,000	30		K60,000
	Typing report	K2,000	60		K120,000
	Book binding [proposal]	K25,000	4		K100,000
	Book binding [report]	K25,000	4		K100,000
					<u>K380,000</u>
					(SUB-TOTAL)
4	<u>BOARD AND LODGE</u>				
	Break fast	K5,000	4	5	K100,000
	Lunch/supper	K10,000	4	5	K200,000
					<u>K300,000</u>
					(SUB-TOTAL)
5	<u>STATIONERY</u>				
	Paper ream	K25,000	2		K50,000
	Pens	K1,000	2		K2,000
	Box file	K15,000	1		K15,000
	File folders	K5,000	3		K15,000

6	<u>TOTAL</u>	1+2+3+4+5		=	<u>K82,000</u> <u>(SUBTOTAL</u> K3,562,000 + <u>28,496</u>
7	+ 8% CONTIGENCE		=		<u>K3,590,496</u>

APPENDIX A

A QUESTIONNAIRE FOR HEALTH WORKERS ON DOTS IMPLEMENTATION IN KABOMPO DISTRICT

To be answered by health workers with direct links with the T.B patients and their treatments.

Dear Respondent,

This questionnaire is intended to provide answers to the difficulties that Kabompo District is having in achieving high T.B sputum positive patients' cure rates of 60% at a two months and 85% at 8 months, when treatment is expected to end.

It is hoped that your answers will provide to this study, tangible findings which will benefit the District and in particular, the future of a successful DOTS implementation for our community and patients.

You are therefore, requested to be free to respond to the items of questions frankly and to the best of your ability. You are not expected to write your name because your confidentiality is highly valued in this study.

INSTRUCTIONS

To answer the questions that will follow, you are required to tick along side your answer of choice or write your answer in the space that is provided, thus.

Example

1. What is the Name of this Province? North-western Province.
2. What is DOTS?
 - a. Daily Observed therapy-short Course
 - ✓ b. Directly Observed Treatment-short Course

PART A: PARTICULARS

1. Name of Hospital.....
2. Name of Department.....

3. Sex
- a. Male []
 - b. Female []
4. Age:.....
5. Period of service at the institution?.....
- a. 5 – 15
 - b. 15 -25
 - c. 25 –35
6. Marital status
- a. Single
 - b. Monogamous
 - c. Polygamous
 - d. Divorced
 - e. Widowed
7. Educational attainment
- a. Primary School Certificate
 - b. Junior Secondary School Certificate
 - c. Senior Secondary School Certificate
 - d. General Certificate of Education
 - e. College Certificate/Diploma
 - f. University Degree
8. Professional qualification
- a. Doctor
 - b. Health Inspector
 - c. Environmental Health Technician
 - d. Enrolled Nurse
 - e. Registered Nurse
 - f. Clinical Officer
 - g. Other qualifications (specify.....)

PART B: QUESTIONS

9. How much do you know about DOTS?
- a. Nothing
 - b. A little
 - c. Enough
 - d. More than enough

10. Do you know the basic operation keys in DOTS implementation?
 - a. Yes
 - b. No
 - c. Not sure
 - d. Some how
11. How are you involved in the DOTS implementation?
 - a. Not sure if I am ever involved
 - b. I have never been involved
 - c. I give drugs to patients
 - d. I diagnose people for DOTS
 - e. I supplement in the diagnosis making
12. Who deals with DOTS implementation at your institution?
 - a. Clinical Officers
 - b. Nurses
 - c. Doctors
 - d. T.B Focal person
 - e. Every body
 - f. Nobody.
13. Is there any operational DOTS unit at your institution?
 - a. Yes
 - b. No
 - c. Not sure
14. Do you have literature for use to replenish your knowledge resource every time on TB/DOTS implementation.
 - a. Yes
 - b. None at all
 - c. Some how
 - d. Not sure
15. Who are the T.B supporters in your area?
 - a. Other health workers
 - b. CHWs
 - c. Relatives of patients
 - d. NGOs
 - e. None of the above

16. Is there any one who undertakes follow up visits of T.B patients in their homes as a supportive measure?
- Yes
 - None
 - Not sure
17. Are all suspected T.B patients with a cough lasting more than weeks sent for lab investigations before start of T.B chemotherapy?
- Yes
 - No
 - Sometimes
 - Not sure
18. How reliable are microscopic services to provide quality assured T.B sputum examinations?
- Reliable
 - Fairly reliable
 - Very reliable
 - Not reliable
19. How many times are T.B sputum positive patients referred to the laboratory, for microscopic investigations?
- Once, before the start of treatment
 - Twice, at the start and at the end of treatment
 - Three times, at the start, in the middle and at the end
 - Many times, to make sure T.B germs are no longer present
 - Once, after the start of treatment
 - Not sure
20. Apart from the T.B wards, which other department/organization is involved in DOTS implementation?
- OPD
 - Laboratory
 - Pharmacy
 - Health Inspector's Office
 - District Health Office
 - X-ray Department
 - All of the above
 - None of these
21. When is a sputum positive patient said to be cured?
- When he/she has completed treatment
 - When the patient is no longer coughing
 - When sputum examination at 2nd to 5th month is negative

- d. When the 2nd, 5th to 8th month sputum examination shows no bacilli
 - e. When the patient no longer produces sputum
22. Are supportive units (RHC) supervised to strengthen the DOTS implementation in your institution's catchment area
- a. Yes
 - b. No
 - c. Not sure
 - d. Sometimes
23. Are patients given enough information about DOTS before or at the start of their treatment?
- a. Yes
 - b. No
 - c. Not sure
 - d. Sometimes
24. If yes, what message is given?.....

25. How motivated is the T.B focal person in carrying out his/her T.B programmes in the District?
- a. Quite motivated
 - b. Very motivated
 - c. Demotivated
 - d. Very demotivated
 - e. Not sure
26. Are the laboratory staffs considered as full partners in the implementation of DOTS and T.B programmes in general?
- a. Yes
 - b. No
 - c. Perhaps
 - d. Only when there is need
27. Are the T.B focal person and the laboratory staff monitored on how they handle and achieve their results of T.B patients?
- a. Yes
 - b. Only the T.B focal person
 - c. Only the laboratory staff
 - d. Not sure

28. Who supervises and monitors these officers and how often?

29. Are T.B patient' records entered and kept well from the beginning to the end, in all supportive departments?
 a. Yes
 b. No
 c. Only at the screening room
 d. Only in the wards
 e. Only in the laboratory
 f. In all the three places mentioned above
30. How reliable are the data collecting and analytical tools in providing good conclusions?
 a. Quite reliable
 b. Very reliable
 c. Not reliable
 d. Not sure
31. Which of the following do you feel would benefit from a training of DOTS implementation?
 a. Ward nurses
 b. Laboratory staff
 c. Clinical officers
 d. The T.B focal person
 e. The Doctor
 f. The District managers
 g. All of the above
32. How does the local Administration support the DOTS implementation strategy?.....

33. Are there any long periods in which drugs go out of stock?
 a. Yes
 b. Sometimes
 c. No
 d. Not sure
34. Are T.B and DOTS programmes ever evaluated within the institution?
 a. Yes
 b. No

35. Is there any budget plan to support the T.B/DOTS programme at the institution
- a. Yes
 - b. No
 - c. None sure
36. Do most of the T.B patients complete their treatment schedule?
- a. Yes
 - b. Not sure
 - c. No
37. How do you conclude that a patient is now cured?
38. If a patient has stopped producing sputum after the initial treatment (2/12) do you still send the patient for further sputum examinations?
39. Do you have any comment or further contribution to make on DOTS implementation?

.....

.....

.....

You have answered the last question

Thank you

INTERVIEW GUIDE FOR PATIENTS

Date of interview.....

Interviewer' name.....

PART A PARTICULARS OF THE PATIENT

Tick in the box ☒

1. Personal

- Patient's name.....
- Age
- Sex
 - a. Male []
 - b. Female []
- Marital status
 - a. Single []
 - b. Monogamous []
 - c. Polygamous []
 - d. Divorced []
 - e. Windowed []

2. Educational

- a. Primary []
- b. Secondary []
- c. College []
- d. Literacy classes []
- e. Not been to school []

PART B

3. Did you know about the T.B disease before you became sick?
- Yes []
 - No []
 - Not sure []

4. When you became sick did you know you had T.B?
- Yes []
 - No []

- If no, how did you know you had T.B?
- [] From the clinic/hospital
- [] From others in the community
- [] Own suspicion/knowledge

5. How was your T.B found at the hospital?

6. Did any one explain to you about the T.B disease and also tell you what you were expected to do?

Yes []

No []

If yes, what were you informed exactly?.....

7. Do you think you have benefited from the treatment you have received so far?

Yes []

If yes, do you feel you are cured/have been cured?.....

If no, why do you think you are cured?.....

8. Do you receive your daily drugs from some one or you pick and swallow on your own at home?

9. Do you think the distance to and from the hospitals is

Far []

Near []

Affordable []

10. As a patient, which cadres from the community/RHC/Hospital, come to visit you in support of your treatment at home?

[] CHW

[] Health workers from RHC

[] Health worker from Hospital

[] Other from voluntary organizations

[] None of these

11. Have you had some period without drugs because you did not go to get them or were out of stock from the source (RHC/Hospital).

Yes []

No []

If yes, how long?.....
What period of treatment was it (first 2/12 or the last 5/12)?

12. In the course of your treatment, did anyone try to discourage you from starting or continuing with your T.B treatment?
Yes []
No []
13. Which of these did discourage you?
▪ Health worker
▪ Community member
▪ Family member
14. How would you describe your relationship with the health workers/treatment supporters at the time of your treatment?
Very good []
Not good []
15. Do you know/did you know when you are/were expected to take your treatment and how long the course of treatment would take?
.....
16. Do you have any other comments you would wish to make over the treatment of T.B disease you are receiving/have received?
.....

END

INTERVIEW GUIDE FOR INCHARGES/MANAGERS ON DOTS IMPLEMENTATION

Date of interview.....

Interviewer's name.....

PART A – PARTICULARS

1. Personal

- Position of responsibility of the interviewee

.....

- Age

.....

- Sex

- a. Male []
- b. Female []

- Marital status

- a. Single []
- b. Monogamous []
- c. Polygamous []
- d. Divorced []
- e. Widowed []

2. Educational

- a. Primary []
- b. Secondary []
- c. College []
- d. University []

3. Professional

- Doctor []
- Clinical Officer []
- Environmental Health Technician []
- Nurse []
- Others (to be specified) []

PART B – QUESTIONS

4. Is there any body (focal person) who is responsible for T.B programmes and DOTS implementation at your institution?
Yes []
No []
5. Is the focal person given power and resources to implement planned DOTS programmes without restraint.
Yes []
No []
6. Are there any operational DOTS units within or around the catchment area of the institution that carry out the DOTS programmes effectively?
.....
7. How often are the operational DOTS units expected to report results of the treatment to the supervisory level?
.....
8. Has the focal person been trained or given initial orientation in carrying out T.B programmes/or learnt through try and error?.....
9. Is there any intersectoral or interdepartmental linkages in implementing the DOTS strategy?.....
10. Who makes the T.B diagnosis and the prescription of drugs for patients at your institution?.....
11. Does this person or individual follow any specified guidelines to arrive at such T.B diagnoses and prescriptions?
12. If yes, how do those who make diagnoses arrive at their conclusions?
.....
13. Are patients' details entered on record before, during and after treatment?
Yes []
No []
14. Is the supply of T.B drugs constant to allow none interruption to treatments of patients?
Yes []
No []
Very irregular []

15. Does the institution have a programme of following up patients in their homes/localities?
 Yes []
 No []
 Sometimes []
16. How often does the T.B focal person go out to supervise operational DOTS units?.....
17. Is there a supervisory programme plan to such operational units

18. Has there been any microscopic service network that provides quality assured T.B sputum examinations at the institution?
 Yes []
 No []
 Before []
 Not sure []
19. Are patients given enough supportive information about T.B and the manner of treatment (using DOTS strategy) before embarking on treatment?
 Yes []
 No []
 Not sure []
20. Does the local administration support the DOTS programme in the institution?
 Yes []
 No []
21. If yes, how?.....
 and if no why not.....
22. How has the institution tried to prevent the none completion of T.B treatment by patients who are distanced from the health institutions?

23. Is there any financial budget plan to carter for DOTS implementation at the institution?
 Yes []
 No []

24. Has there been any evaluation of DOTS implementation at your institution?
Yes []
No []
25. Is DOTS implementation incorporated in the primary health care infrastructure at your institution?.....
26. Do you have any suggestion or comment that you wish to say on DOTS implementation?.....

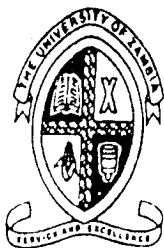
END

INSTRUMENTS (DATA COLLECTING TOOLS)

CHECK LIST FOR REQUIREMENTS IN IMPLEMENTING DOTS STRATEGY

1. Checklist No. (one for Hospital/two for RHC) indicate here.....
2. Health Centres/Hospital (name).....
3. Qualification of the in charge/Manager.....
4. Availability of the five elements of DOTS strategy::
 - a. Sustained political and Administrative commitment.....
 - b. Access to quality assured TB sputum microscopy
 - c. Standardised short course therapy to all cases of T.B. under Proper case management conditions, including direct observation of treatments.....
 - d. Uninterrupted supply of quality assured drugs.....
 - e. Recording and reporting system enabling out-come assessment.....
6. Basic operations for DOTS implementation in the Catchment's area.
 - a. Established T.B. programme control with a central unit
.....
 - b. Established programme plan.....
 - c. Availability of programme manual or information book for references
 - d. Established recording and reporting system.....
 - e. Any established local training programme.....
 - f. Microscopy service net-work.....
 - g. Treatment services, with primary Health infrastructure, where directly observed short course chemotherapy is guaranteed.
 - h. Regular supply of drugs and diagnostic materials
.....
 - i. Designed plan of supervision

6. Additional information
 - a. Information, Education, Communication and Social education and mobilisation on TB disease/DOTS implementation.....
 - b. Involvement of private, voluntary health care providers.....
 - c. Financial planning and economical analysis of TB/DOTS programmes.....
 - d. Operational evaluative studies done at the institution.....



THE UNIVERSITY OF ZAMBIA

SCHOOL OF EDUCATION

DEPARTMENT OF ADULT EDUCATION AND EXTENSION STUDIES

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P O BOX 32379
Lusaka, Zambia

Your Ref:

1st July, 2004

TO WHOM IT MAY CONCERN

RE: RESEARCH UNDERTAKING

The bearer(s) of this letter is a student in the Diploma/Degree in Adult Education. He/she has been requested to undertake research in your organization as part of his/her learning experience. Your help and cooperation in this regard will be highly appreciated by the department, as this will enable the student to link theory work, which is offered in the class, and practical work, which can only be obtained from organizations like yours.

I look forward very much to a favourable response in this regard.

Yours faithfully

D.M. Sibalwa

D.M. Sibalwa (Dr.)

**ACTING HEAD OF DEPARTMENT
ADULT EDUCATION AND EXTENSION STUDIES.**

DISTRICT HEALTH MANAGEMENT BOARD

ZAMBIA NATIONAL TUBERCULOSIS AND LEPROSY CONTROL PROGRAMME: TUBERCULOSIS TREATMENT CARD

Name _____
Address _____
Neighbourhood Address _____
or Nearby Landmarks _____
Treatment Unit _____ TB ID No. _____ Date of Birth _____ Sex (M/F) _____
(Orig. District ID Serial No./YR) _____
Date of Notification _____

Type of TB (Check)
Pulmonary ☐ Extrapulmonary ☐
Site: _____
Type of Patient (Check)
New ☐ Relapse ☐
Failure ☐ Transfer in ☐
Treatment Resumed (after interruption) ☐
Other ☐ Specify _____

1. INITIAL INTENSIVE PHASE - 2 MONTHS
c. Copy No. of Pills to appropriate Regimen below:

Category I
Adult
H R Z E
Category II (2 SHRZE / 1 HRZE)
S inj H R Z E
Category III
H R Z
Paediatric I
Child
H R Z
Paediatric II
S inj H R Z
Paediatric III
S inj H R Z

d. Negotiate DOT plan & Observer:
Directly Observed Therapy = DOT
DOT Plan: _____
Observer: _____
Observer's Initials: _____

a. Starting Weight: _____ kg
b. Circle the Weight Grp & No. Pills/weight:

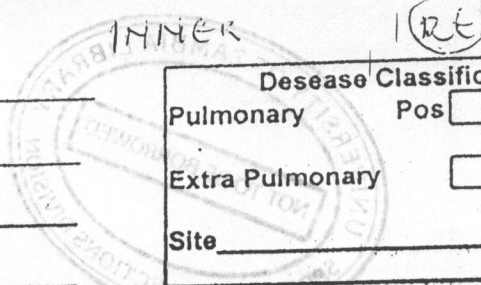
Weight:	HR	Z	Adults only
6-11 KG	1/2	1 1/2	E S
12-18 KG	1	1	1 0.50 gm
19-26 KG	1 1/2	1	1 0.50 gm
27-37 KG	2	1 1/2	1 1/2 0.75 gm
38-46 KG	3	2	2 0.75 gm
47-55 KG	3	2 1/2	3 1.0 gm
56-75 KG	4	3	4 1.0 gm
> 75 KG	4	4	4 1.0 gm

e. Weekly: copy DOT data from ID card - Goal: 60 DOT days (new), or 90 DOT days (retreatment)
Enter X on days when medication was swallowed under Direct Observation, use codes on all non-DOT days

INITIAL PHASE	Day of Treatment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Date T x Began:		29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Date Finished:		57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84
		85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112

DOT Plan: C = observed daily at clinic
DOT Score: Write No. days for intensive phase below:
New: 60 DOT days required _____ days to finish, OR
Retreat: 90 DOT days required _____ days to finish, OR
F = Failed full observation of intensive phase

* Include Days of TB Treatment in hospital wards.
E = 400 mg Ethambutol, H = 100mg or 75mg Isoniazid, R = 150mg Rifampicin
500 mg Pyrazinamide, S - 15 mg/kg streptomycin (Not for preg. Women)
* 100, 150a p1



(Lt)

NAME _____

ADDRESS:(in full) _____

SEX: M ☐ F ☐

DATE OF BIRTH _____

TB No. _____

HEALTH UNIT: _____

Type of Patient	
New <input type="checkbox"/>	Retreatment <input type="checkbox"/>

Desease Classification	
Pulmonary	Pos <input type="checkbox"/> Neg <input type="checkbox"/>
Extra Pulmonary	<input type="checkbox"/>
Site _____	

Date Treatment Started		
Day	Month	Year

Drugs Patients Receiving: (REGIMEN)	
Initial Intensive Phase	Continuation Phase
2EHRZ	6EH
2HRZ	6EH
2SHRZE 1HRZE	5RHE

NAME _____

ADDRESS:(in full) _____

SEX: M ☐ F ☐

DATE OF BIRTH _____

TB No. _____

HEALTH UNIT: _____

Type of Patient	
New <input type="checkbox"/>	Retreatment <input type="checkbox"/>

Desease Classification	
Pulmonary	Pos <input type="checkbox"/> Neg <input type="checkbox"/>
Extra Pulmonary	<input type="checkbox"/>
Site _____	

Date Treatment Started		
Day	Month	Year

Drugs Patients Receiving: (REGIMEN)	
Initial Intensive Phase	Continuation Phase
2EHRZ	6EH
2HRZ	6EH
2SHRZE 1HRZE	5RHE

