MINISTRY OF HEALTH

NATIONAL NORMS, GUIDELINES, AND STANDARDS ON CROSS CUTTING ISSUES FOR HEALTH CARE PRACTICE IN TANZANIA

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FOREWORD

Under the Health Sector Reforms, it is the prime responsibility of the Ministry of Health to ensure provision of quality services by all concerned.

Towards this end, the Ministry of Health is required to state appropriate norms, issue relevant guidelines and set the requisite standards and oversee measures designed to ensure compliance thereto.

Specific service standards are usually initiated by the various disciplines. However, there are general or cross cutting issues, which pertain to all types of health services: the norms, guidelines and standards of which it is the responsibility of the Ministry itself to initiate.

Amongst these crosscutting issues identified and dealt with in this document are:

- Infection prevention
- Health Screening
- Counseling
- Information, Education and Communication (IEC)
- Health Management Information System (HMIS)
- Health System Research

Wide and extensive consultations with key stakeholders' were made under the auspices of the Inspectorate Unit of the MOH to develop appropriate norms, guidelines and standards for provision of quality health care services which is the subject matter of this document.

It is hoped that this guide will be made available to all health care service stakeholders who will help disseminate its contents and help ensure adherence and thus take a big step towards our common goal of ensuring quality health care services.

We also hope that all those who have access to this document will feel free and responsible to give their views, comments and suggestions so as to have it updated by making it more relevant and specific to our circumstances.

Mariam Mwaffisi
PERMANENT SECRETARY

ACKNOWLEDGEMENT

This document is a product of extensive and wide consultations with organizations and individuals with vested interest in quality health services in the country.

It is not possible to mention them individually, but suffice it to put on record our heartfelt gratitude to all those who have participated for their dedicated, responsible and valuable contributions without which the production of this document would have been extensively difficult.

However, at least one group deserves special mention. It is the workshop participants, who went out of their way to scrutinize, refine and edit the form and content of the final document. A list of the participants to the workshop is shown below.

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We would also like to extend our cordial gratitude in advance to all those who on being exposed to the document will feel it their duty to offer to us their constructive criticisms and comments aimed at improving the booklet.

Dr. G. L. Upunda
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LIST OF ABBREVIATIONS

CHMTs	: Council Health Management Teams
FPSP	: Family Planning Service Provider
GATHER	: Greet, Ask, Tell, Help, Explain, Return
HLD	: High Level Disinfection
HMIS	: Health Management Information System
HSIU	: Health Services Inspectorate Unit
HSR	: Health Systems Research
IDWE	: Infectious Disease Weekly Return
IEC	: Information Education and Communication
NGS	: Norms, Guidelines and Standards
NIDDM	: Non Insulin Dependent Diabetes Mellitus
NIMR	: National Institute for Medical Research
RHMTs	: Regional Health Management Teams
WHO	: World Health Organization

DEFINITIONS OF TERMS AS USED IN THIS DOCUMENT

NORMS

Established code of conduct pertaining to a certain theme or objective within a defined group or society.

GUIDELINES

Systematically clear statements to assist a health worker or client to provide or utilize health services in accordance with set norms.

STANDARDS

Specifications that, if attained, would lead to minimum acceptable level of quality in the health care delivery system.

INFECTION PREVENTION

This refers to placing barrier between the host and microorganisms (bacteria virus, parasites and fungi). The protective barriers can be physical, mechanical or chemical processes, which help prevent the spread of infective organisms from client to client, staff to client and vice versa.

HEALTH MANAGEMENT INFORMATION SYSTEM (HIMS)

This means a system of routine health data collection, analysis, use and reporting. Information use refers to its utilization in planning, budgeting and routine management. In this sense HMIS is vital for measuring health system performance on the basis of specific indicators.

HEALTH SYSTEMS RESEARCH (HSR)

Means original scientific inquiry into a health system intended to solve a particular health problem within the system or shed new light on some critical issues. Typical HSR studies utilize a combination of methods (quantitative and qualitative) as well as searching for provider and beneficiary perspectives.

COUNSELLING

This is a way used to help someone having a problem through direct talking or discussion to influence solve a problem, make rational decision, to prevent adverse consequences and / or attain a normal situation.

USERS OF THIS GUIDE

Tanzania is implementing Health Sector Reform (HSR). The process is influenced by a number of factors both internal and external. Some of these include: scarcity in health resources, advances in technology, emergence of new diseases, liberalization of provision of health service delivery and the need for advancing the national poverty reduction strategy

This guide is intended to be a reference document for norms, guidelines and standards for health care practice in Tanzania.

The document has been developed by the Ministry of Health to primarily assist all stakeholders in health care delivery system including:

- Policy makers, health managers and administrators in various health institutions;
- Health care providers and trainers;
- Program officers and those formulating guidelines;
- Both government and private health facilities and institutions including NGO's;
- Regional Health Management Teams and Council Health Management Teams;
- People working at community level to promote health e. g. Village Health Committees;
- Other individual groups, international bodies engaged in health matters not mentioned above.

BACKGROUND

The Health Sector Reforms focus on decentralization, liberalization, integration and coordination of quality health care services. Health Sector Reform measures need to be guided and regulated so as to avoid wide variation and haphazard development of health services of undetermined quality.

Among the key roles of the Ministry of Health (MoH) under the ongoing Health Sector Reform is to develop and supervise health services Norms, Guidelines and Standards (NGS) aimed at ensuring acceptable level of quality, equity of access, comprehensiveness, safety, efficiency, effectiveness, affordability and good managerial practice.

The responsibility of initiating the process of establishing NGS for various disciplines of health care practice rests on the respective specialties. However, there are certain services of general application to all disciplines of health practice for which appropriate NGS have also to be established.

These crosscutting services include Infection Prevention; Health Screening; Counseling; Information, Education and Communication (IEC); Health Management Information System (HMIS); Health System Research (HSR), and good managerial practice. Other cross cutting areas not however addressed in this document are Human Resource Development (including training), sound financial management and sustainability.
These areas are dealt with in other reform initiatives.

The responsible organ in the MoH for the development of NGS for the identified common functions is the Health Services Inspectorate Unit (HSIU) of the office of the Chief Medical Officer (CMO) which also undertakes capacity building and coordination of various organs at various levels to undertake supervision and inspection of various health service facilities to ensure compliance to set NGS. The main role of the Ministry of Health through this unit is to oversee quality health services provision, throughout the country.

SITUATION ANALYSIS

Available key health indices depict Tanzania's health status as unacceptably low.
Of even greater concern is the fact that over the last decade or so the situation is at best static. There are overt indications of a gradual but steady deterioration of the already pathetic situation in certain areas and for several population groups owing mainly to the impact of the new emerging diseases (particularly HIV / AIDS, a resurgence of Malaria and Tuberculosis); poverty in the country and an ill performing health care delivery system whose greater part remains unsustainable within the current resource complement.

The current estimates of selected vital statistics include an infant mortality rate of 99 / 1000 an under five mortality rate of 141 per 1000; a maternal mortality rate of 529 per 100,000 live births, a total fertility rate of 6.3 children, and a life expectancy at birth of 45 and 49 for male and female respectively (source…). Tanzania has a GNP per capita of 240
(poorest country in the world); and a per capita expenditure on health of US $ 36 per year (1999), it ranks 174 of 191 countries.

Against this background, the government has of late undertaken substantive drastic measures to redress the situation through the public service and sector reforms.

Through recent supervision, inspections and special studies the identified main problem areas of prime importance to be addressed through special initiatives are the following: -

- Health personnel development especially:-

  - understaffing of health facilities
  - poor staff mix
  - undue delay in staff development
  - poor motivation of health staff
  - inadequate training and retraining.

- Supervision and inspection deficiencies embracing –

  - inappropriate disjointed Norms, Guidelines and Standards
  - non existence of common formats / protocols for inspection and supervision.

- Inadequate community involvement in health care plans and services.

  - inadequate mechanisms to ensure effective community participation
  - poor mechanisms to harness address genuine patient complaints and concerns.

- Communication problems:-
  - deficient skills
  - scarcity of communication equipment and tools
  - inappropriate technology.

- Poor adherence to infection prevention measures-

  - lack of proper equipment and materials
  - non adherence to laid down procedures
  - inadequate supportive supervision
  - inadequate training.

- HMIS related problems:-

  - improper collection of health data
  - unskilled personnel
  - poor analysis of health data
  - improper storage
  - poor data handling
  - inadequate data use.

- Vertical programs related issues:-

  - lack of integration
  - inadequate coordination
  - duplication of functions.
- Professional ethics related issues

  - non adherence thereto
  - inadequate training
  - insufficiency of professional regulatory bodies

- Inadequate financial resources

  - only US $ 36 per person per year is available for health care in Tanzania (1999) (174/191).
  - questionable sustainability
  - Over dependence on government as the main funder of health services
  - Inadequate health financing alternatives.

JUSTIFICATION

The poorly performing unsustainable health care delivery system compounded with ongoing profound changes in the nations socio economic development strategies have led to reform measures currently being implemented.

Health Sector Reform has yet to address development and oversee compliance to NGS.

Whereas the major health disciplines undertake establishment of NGS relating to their areas of specialty, it is left to the MoH to establish and supervise NGS relating to cross cutting services.

The cross cutting services dealt with in this guide include: -.

- Infection prevention
- Health screening
- Counseling
- Information Education and Communication (IEC)
- Health Management Information System (HMIS)
- Health Systems Research (HSR)

The MoH has undertaken this effort to develop appropriate NGS to ensure and enhance quality health care. This will eventually contribute to the improvement of the health status of the community.

These NGS's also will serve the following purposes: -

- Ensure uniformity of the delivery of key health services.
- Form a sound basis for inspection and supervision of these services.
- Provide a tool for the assessment of performance levels of institutions and districts with regard to these services.
- Facilitate attainment of the goal to provide quality health services to the population.

COMMON PRINCIPLES WHEN CONSIDERING NGS

Beneficiary participation

The main users of this NGS are health care providers. However recipients of health services should have their voices heard on their satisfaction and needs in relation to health services.

Health care providers should therefore consult opinions of clients during the process of implementing these norms, guidelines and standards. This way the people are given a chance to contribute to the process of adjusting the NGS as and when necessary in addition to addressing their needs.

Equity

Access to health care means health care services are unrestricted by geographic, economic, social, cultural, organizational or linguistic barriers. Most commonly geographic barriers and poor economic status contribute to inequity of access. It is important to bear in mind equity in applying NGS. Observance of the equity principle means that individuals in a given population get a fairly equal chance of accessing and benefiting from the health service.

Equity does not only deal with fair distribution of health facilities (geographical access), as is the common center of attention: The principle also considers fair allocation of resources (funds and technical inputs).

Quality assurance

Essentially quality assurance is that set of activities that are carried out to set standards and to monitor and improve performance so that the care provided is as effective and as safe as possible.

At any time in moment, people will demand better quality of care. Yet scarcity of resources constrains the ability to produce better quality resulting in recourse to improving efficiency and effectiveness in utilization of currently available resources.

It is important to observe the following basic tenets of quality assurance:

- That it is oriented to meet the needs and expectations of the patient and the community
- It focuses on systems and processes
- It uses data to analyze health service delivery processes (input, process, output and outcome)
- It encourages team approach to problem solving and quality improvement
- It observes improved communication within the health system and with stakeholders and beneficiaries.

Acceptable technology

During these times of rapid and profound advancement in technology, resource constrained countries face an enormous challenge in acquiring appropriate technological inputs. When a given technology has been chosen and purchased a new challenge of maintenance and sustenance is encountered.

Choosing and acquiring a given technology requires careful scrutiny of not only the service benefits of the equipment/technique (life saving, relief of suffering and disability improved quality of life etc, but short term, medium and long term capital investment costs have to be reflected together with recurrent costs of the input. Acceptability of the technology should also bring into the picture the element of humane application, upholding of standards and quality of care as well as maintenance and sustainability of the input.

Efficiency

Health care resources are usually limited. At the same time the ability of clients to pay for health products and services is also limited for the majority of the population in Tanzania. It is therefore important to strive for providing the greatest benefit within the available resources by putting in place measures to improve quality while reducing costs. In principle the system would strive to provide optimal rather than maximum care by concentrating on what is necessary or appropriate. Efficiency avoids ineffective norms or incorrect service delivery. It also considers rational allocation of resources. Hence this NGS initiative is an attempt to improve technical efficiency.

Effectiveness

The ability of a health practice to produce desired results is a measure of its effectiveness. Service delivery norms and procedures/guidelines, when correctly applied, produce the desired result contingent upon appropriate technological support and appropriateness of the setting.

When setting norms and outlining guidelines it is important to consider the level of effectiveness required reaching a desired quality standard. At implementation of norms and guidelines the local capacity (human, financial, material) has to be balanced against the workload at hand to achieve effectiveness of a given technique.

Safety

This involves both the provider as well as the patient. Essentially, from the quality perspective, it means minimizing the risks of injury, infection, harmful side effects, or other dangers related to service delivery. For example patients must be protected from hospital acquired infection (e.g. transfusion related, injection related, sepsis etc.). Iatrogenesis has to be checked through correct application of norms and set procedures.

OBJECTIVES

Broad Objective

To establish national norms, guidelines and standards on cross cutting issues so as to improve quality of health care practices in Tanzania.

Specific Objectives

To establish norms of health practice with a view to ensure quality and provider/client responsiveness and safety pertaining to cross cutting issues in health.

To outline guidelines on cross cutting issues in health practices with a view to achieve integration and cohesion of health services for enhanced impact.

To establish standards of practice pertaining to cross cutting issues in health so as to minimize variations in practice and improve quality of care

6.0 CROSS CUTTING ISSUES IN HEALTH CARE PRACTICES

6.1 INFECTION PREVENTION

INTRODUCTION

Infection or sepsis continues to be a major problem worldwide. In Tanzania for instance, it is still one of the five direct causes of maternal death. Treating an infection is costly and even when successful, it may leave long lasting and debilitating conditions. Infection prevention is therefore one of the pre-requisites for ensuring safe health care delivery. Infection may be acquired from different ways; either from a patient, a relative or a fellow staff. It may also be acquired from other environmental factors such as polluted air, contaminated water, food, drugs, furniture, medical equipment and other surrounding objects. Before going further it is necessary at this point to define some important terms.

Infection: Is invasion of the body by harmful organisms (pathogens), such as bacteria, fungi, protozoa, viruses or rickettsiae.

Prevention: Precautionary, protective measures.

Infection Prevention: Precautionary, protective measures taken to avoid invasion of the body by harmful organisms. It relies on placing a physical, chemical or mechanical barrier between the host and the harmful organisms.

SITUATIONAL ANALYSIS

THE CURRENT STATUS OF INFECTION PREVENTION IN TANZANIA:

Infection Prevention in Tanzania is hampered by a number of factors. Special studies, inspection and supervision have identified the main problems in this area to be:-

Deficiency of equipment and materials

In recent years there has been a progressive decline in provision of equipment and materials in health facilities for prevention of infection. At times, health workers have had to resort to old and obsolete methods of infection prevention. For example achieving high level disinfection by boiling is practiced in many facilities before carrying out procedures instead of proper sterilization. Likewise lack of chemicals for sterilizing delicate equipment is often substituted by disinfection, or cleaning of equipment is done before decontamination in proper solutions.

Lack of guidelines and standards for certain procedures

A number of procedures have no laid down guidelines and standards on Infection Prevention leading to haphazard practices.

Non adherence to laid down procedures

Inspite of clearly stipulated guidelines and standards in certain procedures there is non adherence to them for a number of reasons. Due to shortage of equipment, health workers may be forced to re-use the equipment before adequate sterilization is achieved. Disposable equipment is often re-used.

Inadequate knowledge and skills among health workers

At times failure to attain the set standards is due to lack of knowledge and skills of the provider despite the presence of necessary pre-conditions. Studies have shown that some staff are not allocated to their proper area of training making it difficult for them to practice optimally.

Inadequate supportive supervision

With proper supportive supervision a number of factors that could lead to infection can be minimized. Lack of supportive supervision has been identified at all levels of health care delivery.

GUIDING PRINCIPLES AND RATIONALE

Need for Infection Prevention

Infection is the leading cause of morbidity and mortality in Tanzania as it is in many other developing countries. The picture is different in the developed world where infection rarely features as a cause of morbidity and mortality.

The mainstay of infection control is its prevention. Established infection is difficult and costly to deal with. The emergency of HIV/AIDS epidemic has complicated the whole picture by increasing the number of people at risk for infection. It has also destroyed the cultural relations that existed between people before its emergence. The social economic status at individual and national level has been adversely affected. Therefore, the importance of preventing infection cannot be overemphasized.

OBJECTIVES

Main Objective

To decrease the rate of infection by preventing the spread of harmful micro organisms, attaining a state of asepsis and educating the public.

Specific Objectives

1. To conduct operational research for identifying root causes of infection spread.
2. To update health providers knowledge and skills related to infection prevention.
3. To ensure adequate and appropriate provision of necessary equipment and materials.
4. To educate the public on environmental factors related to hygiene and sanitation.
5. To formulate policy on environmental health impact assessment.
6. To enforce supportive supervision at all levels of health care.

Norms, Guidelines and Standards

In order to achieve the above mentioned objectives it is imperative that norms; guidelines and standards are set and adhered to

Challenges	Norms	Guideline	Standards
Identifying the nature and extent of infection.	• Conducting operational research • Community involvement in root cause analysis and implementation.	• All health units should conduct operational research. • Research findings to be submitted to CHMT. • All units to utilize research findings. • Health workers to ensure community participation in research.	• Every unit to conduct at least one research every year. • Findings to be submitted yearly. • Develop plan of action on identified problem(s). • The research committee to have at least one member from the community.
Improving knowledge and skills of health workers on infection prevention.	▪ Appropriate training on infection prevention.	▪ Training of pre-service health workers. • Continuing education to health workers.	• Incorporate Infection prevention in all pre-service curricula. • All health workers to undergo at least one training on infection prevention in every five years.
Hand washing and gloving	▪ Proper hand washing before and after every procedure. • Proper wearing, removing and disposal of gloves.	▪ Ensure continuous supply of soap and clean water. ▪ All staff should wear gloves prior to any risky procedures. ▪ A separate pair of gloves should be used for each client.	▪ Wash hands with soap and clean water before and after every procedure. ▪ Procedural steps for wearing, removing and disposing gloves followed (Appendix 1).
Use of disinfectant/ antiseptic	▪ Disinfection is done before and after every procedure.	▪ Ensure availability of disinfectant or antiseptics ▪ Instruct staff to clean skin with antiseptic before and after aseptic procedure	▪ Skin is cleaned with antiseptic before and after all aseptic procedures.

		▪ Antiseptics should be used for disinfecting equipment and client's skin.	
Decontamination and Cleaning	• Decontamination and cleaning of equipment after every procedure.	• Ensure availability of decontaminating materials at every unit. • All instruments should be decontaminated before cleaning and high level disinfection or sterilization.	▪ All instruments are decontaminated by chlorine releasing solution as per WHO recommendation. (Appendix II) • All decontaminated instruments are cleaned thoroughly with soapy water and brush and rinsed with running water
High Level Disinfection.	▪ High level disinfection of equipment for aseptic procedure.	▪ All instruments which will come into contact with mucous membrane or broken skin during aseptic procedure should undergo high-level disinfection or sterilization.	All instruments for High level disinfections undergo one of the following processes: ▪ Boiled for 20 minutes or Soaked in either 2% glutaraldehyde or 8% formaldehyde for 30 minutes ▪ Soaked in 0.5% bleach (Chlorine releasing compound for 20-30 minutes) see (Appendix. III)
Sterilization	• Sterilization of equipment to be used for invasive procedures.	• All instruments, which come in contact with tissues beneath the skin, should be sterilized.	Instruments should be sterilized by one of the following processes: • Dry heat. (Keep Instruments in oven At 170 ^{o}C for one hour) ▪ Steam: Instrument should be autoclaved at 121^{o}C at 70 kpa. • Soaking in 2% glutaraldehyde for 10 hours or

			• Soaking in 8% formaldehyde for 24 hours. (See Appendix IV)
Traffic flow and Activity Pattern.	Where aseptic procedures are conducted, traffic flow and activity pattern be minimized.	Minimize traffic flow and activity pattern in all aseptic areas and units for preparing sterile equipment.	▪ All the rooms for aseptic procedures labeled and doors and windows are kept closed. ▪ Operating theatre is accessible to theater staff only. Other people shall enter only by special permission, when absolutely necessary. ▪ Separate theatre rooms are provided for septic and clean procedures. ▪ Individuals entering operating theatre wear special boots, clothes, aprons caps and masks. ▪ Sterile gowns and gloves are worn before every surgical procedure. • All theatres are designed to allow unidirectional flow of materials and personnel. • All theatres are provided with sluice room • All theatres are fumigated and kept closed for at least 24 hours following septic procedures.

			▪ Sterile instruments are stored in a clean, dry place. ▪ Protective eye wear are worn during procedures.
Waste Disposal	• Proper handling of waste material.	• Ensure availability of puncture proof containers, bins with foot operated lids, trash bins, pits and incinerators for waste disposal. • Waste materials should be disposed of in accordance with the 1990 WHO guidelines. • Ensure availability of sanitary facilities for disposal of liquid wastes.	• All solid waste (dressings, lab specimens etc) are burnt or disposed of in a pit latrine (Ventilated Improved pit latrine) or in hygienically controlled sanitary landfill (WHO 1990). • All sharp items are disposed of in a puncture proof container, which must be burned, and buried. • Human tissue remains are incinerated or buried. • All liquid waste is disposed through impervious conduits and hygienic toilet facilities or VIP's as appropriate.
House keeping	▪ Clean and tidy health delivery places and surroundings...	▪ Ensure availability of manpower and materials for cleaning. ▪ The environment inside and outside health facilities should be kept clean and tidy. ▪ Regularly repair the infrastructure	▪ Floors and surfaces are scrubbed clean daily and after each procedure. ▪ Grass is cut short and gardens attended daily. ▪ Non functioning instruments and equipment s are disposed of immediately and appropriately.

			• Separate eating places for staff are provided within hospital premises.
Provision of equipment and materials	• Adequate and appropriate equipment and materials • Maintenance and repair of equipment. • Equipment and materials security.	• Ensure provision of the necessary equipment and materials for infection prevention. • Regular checkup, servicing and repair of equipment. • Ensure security of equipment and materials.	• Equipment and materials for infection prevention is present all the time at each health unit. • All equipment is always in good and working condition. • Updated inventory list kept according to stores regulations. • Yearly auditing and reporting of all equipment.
Provision of clean water	▪ Adequate supply of clean water made available in all service rooms	▪ Ensure provision of clean water for hand washing, bathing and scrubbing. • Ensure provision of clean drinking water.	▪ Clinical staff maintains high level personal hygiene when handling patients. ▪ All surfaces within reach of patients is cleaned and scrubbed with water and antiseptic. ▪ Availability of clean and safe drinking water for clients and staff daily.
Community involvement in infection prevention	▪ Community awareness and participation in infection prevention	▪ Educate the public on infection prevention. • Assist community to form health committees.	▪ Appropriate to health education public gathering. • Provide IEC materials (brochures, booklets, posters) in all health facilities and within the community.

			• Use of audiovisual facilities to educate the public on infection prevention. • Each village to have primary health care committee.
Environmental health impact assessment	• Policy on Environmental health	• Ensure formulation and implementation of policy on environmental health impact assessment.	• Enact laws, regulations and by laws to enforce environmental protection.
Supportive supervision	• Regular supportive supervision at all levels	• To ensure regular supportive supervision at all levels • Equip supervisors with the necessary tools for supportive supervision.	• Reports on supportive supervision to be submitted annually as per guidelines.

REFERENCES:

1. INTRAH: Infection Prevention in Family Planning and MCH Clinics. (1996)

2. Ministry of Health: Family Planning Procedure Manual - (1995)

3. JHPIECO: Infection Prevention for Family Planning Services Programs: - A problem Solving Reference Manual – (1992).

APPENDIX I

HOW TO PUT ON STERILE GLOVES TO AVOID CONTAMINATION

1. Prepare a large, dry area to open gloves
2. Obtain correct size of sterile gloves
3. Wash hands and dry well. Lightly powder hands (not gloves), if inside of gloves not powdered.
4. Break open other sterile supplies
5. Open outer glove wrapper and lay gloves package out on clean surface, with cuffs facing you. Take care not to touch the inner surface of wrapper if you intend to use it as a sterile field.

6. Pick up a glove by the folded – back cuff. Be careful to touch only the inside portion of the cuff (i.e. the side which will be touching your skin when the glove is on).
7. While holding the gloves as shown, slip the other hand into the glove. Pointing the fingers of the glove to the floor will keep the fingers open by gravity. Be careful not to touch anything; holding the gloves above waist level will help.
8. If the first glove is not fitting correctly, wast to make any adjustments until the second glove is on. (Then you can use the sterile fingers of one glove to adjust the sterile portion of the other).

9. To pick up the second glove, slide the fingers of the gloved hand between the folded cuff and sterile portion of the second glove. This is very important, in order to avoid contaminating the gloved hand with ungloved hand.
10. Place second glove on ungloved hand by maintaining a steady pull through the folded cuff.

11. Do not attempt to adjust cuffs once gloves are on, since this risks contamination.
12. Adjust position of glove fingers until gloves fit comfortably.
13. Always keep gloved hands above waist level and in sight to avoid accidental contamination.

14. If a glove becomes contaminated, stop and ask yourself if the glove will touch a sterile tissue. If so, either remove that glove and re-glove, or put another sterile glove over the contaminated glove.
15. When removing gloves, avoid allowing the surface that was sterile to come into contact with your hands (the exterior of the gloves is now contaminated).
16. If contaminated gloves are un-torn and not punctured, put in a container for cleaning (and later disinfection or sterilization). If gloves have become torn, put into a .05% bleach solution before discarding, to avoid accidental contamination of workers responsible for refuse removal.

APPENDIX II

HLD METHOD: SOAK OBJECTS IN CHLORINE – RELEASING SOLUTION

All chlorine–releasing solutions are excellent high–level disinfectants. Four chlorine–releasing solutions bleach, calcium hypochlorite, sodium dichloroisocyanurate, chloramines) are discussed here.

INSTRUCTIONS (for **all** chlorine-releasing solutions):

1. Pre-clean all instruments needing high level disinfection.
2. Correctly dilute solution with (preferably boiled) water. Dilution instructions are listed above for each type of chlorine compound.
3. Completely cover clean items in solution for 20 – 30 minutes.
4. Remove with disinfected large forceps / pickups.
5. Carefully rinse with filtered, sterile water.
6. Air dry
7. Store in a disinfected dry, covered container.

INSTRUCTIONS FOR DILUTION OF CHLORINE RELEASING COMPOUNDS

The disinfectant power of all chlorine-releasing compounds is expressed as available chlorine (% for solid compounds; % or parts per million (ppm) for solutions) according to the concentration level. The amount of available chlorine required in solutions for high-level disinfections depends on amount of organic matter present since chlorine is inactivated by organic matter such as blood and pus.
WHO recommends a 0.5% (5000 ppm, 5 gm/litre) dilution for all soiled equipment or spills of body fluids. A dilution of 1% (1000 ppm, 1gm / litre), however, is sufficient for clean medical equipment. When the chlorine is to be diluted with contaminated (non-boiled, impure or unfiltered) water

APPENDIX III

METHODS OF HIGH LEVEL DISINFECTION (HLD)

HLD Method 1:BOIL OBJECTS

After water reaches a rolling boil, continue boiling objects for 20 minutes with the lid in place.
20 minutes boiling time is sufficient to kill all organisms in the water except endospores.

Instructions

1. Pre-clean all instruments to be high level disinfected. (NOTE: Do not use this method for needles or syringes).
2. Completely submerge pre-cleaned objects in the water (putting syringes into a net bag with a pre-cleaned weight will guarantee that syringes remain submerged make sure there are no air pockets inside syringes or other instruments).
3. Close lid over pan and bring water to a rapid boil.
4. Start timer or note time on clock and record time when boiling began on high level disinfection log.
5. Boil for 20 minutes. Do not add any more instruments to the pot during this time.
6. Remove objects with previously sterilized or disinfected large forceps / pick-ups.
7. Place objects to dry in a disinfected rack. Once dry, store in a sterile / disinfected container.

Advantages

- Inactivates most bacteria, fungi, parasites and viruses, including HIV (Virus causing AIDS).
- Heat source, clean water, and pan with cover are commonly available.

Disadvantage

- Boiling alone is not reliable for killing bacterial endospores (e.g. clostridial endospores which cause gangrene or tetanus). The highest temperature that boiling water will reach is 100^0C (21^0F) at sea level. At higher altitudes, water will boil at a lower temperature. However, for all practical purposes, a full 20 minutes exposure of pre-cleaned objects to a rapid boil will kill almost all microorganisms except endospores (Tietjen, 1992).

HLD Method 2 SOAK OBJECTS IN 2% GLUTARALDEHYDE SOLUTION OR 8% FORMALDEHYDE SOLUTION

Instructions

1. Pre-clean all instruments needing high-level disinfection.
2. Cover clean items completely with an undiluted solution for 20-30 minutes.
3. Remove with disinfected large forceps / pickups.
4. Carefully rinse with boiled (not chlorinated) water.
5. Air dry.
6. Store in a disinfected, dry, covered container.

Advantage

- Formaldehyde and glutaraldehde (for example, Cidex ® , or Metricide®, or Omnicide® are not easily inactivated by organic materials. However, objects should still be cleaned before being immersed in any disinfectant solution and the soap thoroughly rinsed off.

Disadvantages

These solutions:

- Must be replaced every 2 weeks or sooner if solution becomes turbid (cloudy)
- Are expensive.
- Will cause skin irritation if not completely rinsed off.
- Do not reliably kill mycobacterial spores when used for only 2- 30 minutes.
- Vapour released from formaldehyde is toxic. Formaldehyde should be used only in well-ventilated areas.

NOTE: Hydrogen peroxide 6% is another chemical disinfectant, but WHO does not recommend it for use in tropical areas, because it is not stable in heat or light, is expensive, and corrodes metal (WHO, 1988).

STETILIZATION

"Sterilization" is the complete elimination of **all** live microorganisms (viruses, fungi, parasites and bacteria), including bacterial endospores. Those objects which will enter a patient's bloodstream or must be sterile. The preferred methods of sterilization are autoclaving and dry heat. Boiling and "cold sterilization" (by overnight soaking in a high level disinfectant) are described below, since dry heat or autoclaving are not always possible.

Sterile equipment will not remain sterile unless **properly stored**. Sterile equipment should be either left carefully packaged in the dry sterile wrapping, or stored dry in a sterile container with a tight fitting lid. Sterilized equipment can be stored submerged in 70% alcohol, in a sterilized container. Change the alcohol weekly when the container is resterilized. Where alcohol is not available, dry storage in a sterile or high-level disinfected covered container is best**. Avoid using antiseptics for storage,** since pseudomonas and other common bacteria have been shown to grow in Hibitane®, Savlon®, Zephiran® and other antiseptics. (Block, 1983, p 402, 409). (For a list of common antiseptics, see section 7.)

THREE METHODS OF STERILIZATION

Sterilization Method 1: DRY HEAT (Adapted from: WHO, 1990; Perkins, 1969, and Tietjen, 1992.) Dry heat and steam are the preferred methods of sterilization.

Instructions

1. Decontaminate, clean and dry all instruments to be sterilized.
2. If desired, wrap instruments in cotton cloth or metal foil (wrapping will help prevent recontamination of sterilized instruments prior to use) (Tietjen, 1992).
3. Put instruments into oven (Do not put plastic or rubber items in oven).
   Do not overload the dry heat oven. Preheat oven to 170^{0}C (340^{0}F). Lower temperatures require longer sterilization times (see below).
4. Once the desired temperature is reached, begin timing (Perkins, 1969):
   - 170^{0}C (340^{0}F): 60 minutes
   - 160^{0}C (320^{0}F): 120 minutes
   - 140^{0}C (285^{0}F): 180 minutes
5. The total cycle time will be about one hour longer, depending on the amount of time the oven requires to reach the desired temperature (preheating), and the time required for the oven to cool down after the required sterilization time is achieved.
6. Remove loose items after cooling with sterile forceps / pickups, and store in dry, covered containers.
7. Weekly (and as needed) monitor the effectiveness of the dry heat sterilizer with a biologic indicator strip, containing Bacillus subtilis (Tietjen, 1992, p 67).

Advantages:

- An ordinary electric household oven is satisfactory for dry heat sterilization
- Kills all microorganisms, including HIV
- Especially good in humid climates
- Wrapped items are not in danger of contamination from moist wrapping
- Leaves no chemical residue

Disadvantages:

- Requires oven and electricity or other fuel source
- Cannot be used for plastic syringes or rubber items (steam sterilization preferred for these).

Sterilization Method 2: STEAM

Steam sterilization is performed by using an autoclave or a pressure cooker.

Instructions

1. Decontaminate all instruments to be sterilized
2. Pre-clean all instruments to be sterilized.
3. All instruments (scissors, hemostats, etc) should be open during steam sterilization. To help prevent dulling of sharp points and cutting edges, wrap the sharp edges and needle points in gauze before sterilizing.
4. If using an autoclave, it is best to wrap clean instruments or other clean objects in cotton cloth, a double thickness muslin, or double thickness paper wrapper or newsprint. (Unwrapped instruments are only sterile if used immediately after removal from autoclave, unless kept in a covered, sterile container). Do not overload the steam sterilizer.
5. If using a pressure cooker or kerosene powered autoclave, bring water to boil until steam escapes from pressure valve only; turn down heat just enough to keep steam coming out of pressure valve. Do not allow to boil dry; steam should always be escaping from pressure valve.
6. Sterilize for 30 minutes for wrapped objects, 20 minutes for unwrapped objects; time with the clock. The temperature should be 1210C (2500F); the pressure should be 15 pounds per square inch (15 Ibs/in2) or 106 kPa (1 atmosphere above atmospheric pressure). Always check the manufacturer's instructions).
7. After the 30 minutes have elapsed, slightly open lid to allow steam to escape.
   Allow instrument packs to **dry completely** before removal (damp wraps around instruments can draw in bacteria, viruses and fungi from the environment); drying may take another 30 minutes.
8. Ideally, a steam sterilizer log should be kept, noting" time instruments removed". A log can help ensure that the required amount of time will be observed, even when multiple, new or hurried workers are responsible for overseeing the sterilization.
9. Remove dry, sterilized objects with previously sterilized large forceps/pickups. Objects wrapped in sterile cloth or paper is considered sterile for one week. Unwrapped objects must be placed immediately in a dry, sterile, covered container.
10. Weekly (and as needed) monitor the effectiveness of the steam sterilizer with a biologic indicator strip, containing Bacillus stearothermophilus (Tietjen, 1992, p 67).
    *__NOTE__: If using a pressure cooker:
    Steam should escape from the pressure valve, **not** from either the safety valve or from under the edge of the lid.
    - If steam escapes from the safety valve instead of the pressure valve, the pressure valve must be cleaned and inspected.
    - If steam escapes from under the lid, the gasket (rubber circle) must be cleaned and dried or replaced.
    - If steam escapes from safety valve or under the lid, the autoclave or pressure cooker is not working correctly, and is merely a boiling pot.

Advantages

- Inactivates all microorganisms (bacteria, fungi, parasites and viruses) including HIV (the virus that causes AIDS).
- Inactivates all bacterial endospores, including those causing tetanus and gangrene.
- Where there is no electricity, kerosene-powered steam autoclaves can be used.

Disadvantages

- Requires source of heat (fire, kerosene or electricity).
- Requires an autoclave or pressure cooker, which must be maintained in working condition.

STERILIZATION METHOD 3:

COLD STERILIZATION WITH 2% GLUTARALDEHYDE OR 8% FORMALDEHYDE

When steam sterilization and dry heat sterilization are not possible, or when objects (such as laparoscopes) would be damaged by steam or dry heat, objects which will touch sterile tissues can be sterilized by soaking for a long time in available "high-level disinfectants." High-level disinfectants are chemicals which can, in 20 to 30 minutes, kill all live virus, bacteria, and fungi, except bacterial endospores (forms of bacteria which are very difficult to kill due to their coating). Some high-level disinfectants which can be used for sterilization include glutaraldehyde, formaldehyde and hydrogen peroxide. Those which cannot are listed below. WHO also does not recommend high-level chemical disinfectants for the sterilization of needles or syringes.

Instructions for Cold Sterilization with 2% Glutaraldehyde (Glutaral or Dialdehyde) Solution or 8% formaldehyde (as 20% formed or formelin) solution:

1. Decontaminate all instruments to be sterilized
2. Pre-clean all instruments to be sterilized
3. For glutaraldehyde
   - Aqueous solutions of glutaraldehyde must first be buffered (alkalinized) to a pH of 7.5 to 8.5, to act as a "high-level disinfectant." Activate a new glutaraldehde (glutaral) solution by adding the powder or liquid supplied with the solution; this renders the solution alkaline (WHO, 1988).
   - In this alkaline state, glutaraldehyde is stable for only 2 weeks after opening.
   - Then the solution must be replaced. Discard the solution sooner if it becomes turbid (cloudy).
   - 2% glutaraldehyde should not be diluted
4. For formaldehyde:
   - A commercially available solution of formaldehyde (which will contain 35 – 40% formaldehyde) must be diluted with boiled water 1:5 (final solution contains about 8% formaldehyde). Do **not** dilute with chlorinated water.
   - Gaseous paraformaldehyde is also available in the form of tablets which can vaporize, for use in sterilization of endoscopes and other instruments.
     A concentration of 1 to 2 grams of paraformaldehyde (tables) per cubic yard of closed airspace is required. The air must be humid. The exposure time will depend on the room temperature (Taylor, 1969).
5. For glutaraldehyde or formaldehyde solutions, cover clean instruments and other clean objects completely with the solutions. For gaseous formaldehyde, follow the instructions of the manufacturer.
6. Allow to soak at least 10 hours in glutaraldehyde, and at least 24 hours in formaldehyde.
7. Remove objects from solution with sterile large forceps/pickups, rinse in sterile water, air dry, and wrap in sterile paper or cloth without touching either the sterilized instruments or the inside of the sterile wrap.

Advantages

- Solutions are not readily inactivated by organic materials
- Both glutaraldehyde and formaldehyde can kill bacteria, fungi, parasites and viruses, including HIV, within 30 minutes.
- Overnight soaking in glutaraldehyde, and 24 hour soaking in formaldehyde, also kills bacterial endospores.
- Glutaraldehyde is commonly found under such brand names as Cidex ®, Metricide ®, or Omnicide ®.
- Are useful for items which would be damaged by heat sterilization (e.g. laparoscopes).

Disadvantages

- Glutaraldehyde and formaldehyde are chemicals which cause skin irritation, thus all equipment s soaked in either must be thoroughly rinsed with sterile water after soaking.
- Glutaraldehyde and formaldehyde are expensive.
- Vapors released by formaldehyde are toxic and cause irritation of the eyes, respiratory tract and skin. This limits its use as a disinfectant. If used, good ventilation and avoidance of skin contact are essential.
- When formaldehyde is mixed with chlorine, a dangerous gas (bis-chloro-methyl-ether) is produced.

HEALTH SCREENING

1. Introduction

Definition of Health Screening:

Health Screening is defined as the use of presumptive methods to actively detect unrecognized health risks or asymptomatic disease in order to permit timely intervention or knowing the health status of an individual (s).

Health Screening is a particular kind of early detection practice, in which inapparent risk factors or unrecognized diseases are actively looked for.

A screening procedure can be thought of as a test; it does not necessarily involve the use of laboratory procedures.

Scope of Health Screening

Health Screening techniques include enquiry, observation, and physical examination with and/or without the use of instruments, as well as laboratory investigations.

Screening activities can also be carried out for research purposes. The information gained may be helpful in population monitoring and program evaluation that is for reassessing existing priorities and setting new ones.

The effective use of health screening depends on the existence of prior epidemiological knowledge of the natural history of, and major risk factors for diseases in the general population, as well as on knowledge of the distribution of important risk factors (socioeconomic, environmental) in local populations. This prior knowledge is needed to identify the groups likely to be at greatest risk who should be given priority to receive screening and appropriate follow-up (i.e. definitive diagnosis and effective intervention).

Regardless of whether health screening is conducted at the individual level in health facilities or in a household or community setting, screening may detect risks that require preventive action at the individual, household, or community level.

A population based approach to screening should assist providers of health care to determine the most appropriate level or levels at which timely action should be taken.

Routine environmental surveillance is an important form of early detection involving assessment of environmental conditions in order to detect potential causes of adverse health effects before damage has occurred. Examples include workplace, marketplace, or neighbourhood surveillance for inapparent health hazards and routine monitoring of drinking water, waste disposal, and housing conditions. Continuous surveillance of inapparent environmental hazards with timely intervention to prevent hazardous exposure of individuals, families, and communities is essential for health promotion and disease prevention. A detailed consideration of environmental surveillance should be seen as complementary to health screening.

Situation Analysis

In Tanzania health screening has been going on for decades during and after the colonial era and especially more so after 1974 when among other health system reforms, MCH services were formally established. Different health programs have been incorporating health screening as one of the components. Such programs include MCH, School health, TB and Leprosy, Expanded Program on Immunization, Environmental Sanitation, Communicable and Non-communicable Disease Control, Food and Nutrition just to mention a few.

On the other hand, health screening has been conducted on voluntary as well as compulsory basis. Such situations include; medical examinations for candidates recruited in different professions and enrolment of students going for studies.

At the present time health screening is conducted by various disciplines and sectors in different institutions and community level for the purpose of containing diseases, hazardous situations or environmental monitoring.

Success on health screening is determined by certain information on which segments of population are at greatest risk, the will and resources to reach the segments of population in greatest need. Other preconditions include; education of the public and health workers, adequate and functional infrastructure for organization of services, testing, availability of acceptable technology, follow up and treatment of persons with abnormal results.

To facilitate the afore going process of events, an information and communication system capable of ensuring referrals between different levels of care is an essential factor. It also requires sufficient levels of technological development to provide effective management of health screening and provide services for those at risk and already affected. Nevertheless, the above cited programs have been performing health screening activities to some satisfaction.

Activities related to health screening in Tanzania are conducted in an uncoordinated manner for the reason that there are no clear cut policies, guidelines or standards. Thus the need to establish norms, guidelines and standards on health screening.

Rationale and Guiding Principles of Health Screening

The use of health screening needs to carefully address the question of whether or not it is advisable to use screening at that particular time under the prevailing conditions or whether other strategies could provide better alternatives.

The following criteria should be systematically applied in the order in which they are presented when health screening needs to be considered.

1. Public health importance
2. Availability of effective interventions
3. Safety and ethical considerations
4. Community acceptability and individual rights consideration
5. Feasibility within existing resources and political will
6. Strengthening the existing health system
7. Cost effectiveness.

1. *Whether the condition to be detected is of* ***public health importance***

The magnitude of the suffering of the society should be large enough to warrant special effort. Priority be directed to conditions with significant impact on the quality of life and survival of a large proportion of the population. Devastating rare conditions should be screened only after common causes of significant suffering and disability have been addressed.

2. Whether there are ***effective preventive or curative measures*** *to deal with the conditions when it is detected at an early stage*

Intervention may be carried out wholly or primarily within the health sector. It may require action at policy or program level, involve community mobilization, or consist primarily of clinical attentions of individuals. In some cases there is no benefit to be achieved from intervening before the onset of symptoms.

3. Whether there is ***safe, ethical, and efficacious method*** *for detecting the condition at a sufficiently early stage to permit effective intervention*

Some conditions may require invasive tests with risks outweighing the benefits while other methods of screening may violate ethical principles. The screening procedure must be accurate i.e. highly sensitive and specific. If there are no safe and ethical methods of screening and timely intervention the possibility of using screening should be rejected and alternative approaches adopted to address the problem

4. *Whether the screening and definitive diagnostic procedures and* ***appropriate interventions are acceptable to the populations*** *in need of the services*

Screening and diagnostic procedures, or treatments that are inconvenient, uncomfortable or invasive, violate cultural taboos or results in social stigmatization or economic hardship are likely to be insufficiently used by the public. Community involvement is paramount in introducing acceptable services. Infringement of human rights as a result of enforcement or non-enforcement of screening is an important element in acceptance.

5. Whether it is ***feasible*** *to carry out the relevant screening, diagnostic, and timely intervention procedures in a population fashions* ***with existing resources*** *or with resources that could be obtained during the planning period, given* ***sufficient political will.***

It is necessary to estimate the total resources and costs involved in screening diagnosis and effective interventions. Special costs must be considered in special settings (e.g. epidemics) in which the essential criteria for implementing screening could be temporarily shelved.

Much as it may be more sustainable to use existing resources and systems, screening services should be targeted according to known distribution of risks in the entire population and not according to convenience of health care providers or the demands of the more privileged sectors of society.

6. Whether the adoption and implementation of the screening, diagnostic, and timely intervention procedures ***strengthen*** **the development of the** ***health system*** *and overall social development in a manner consistent with primary health care principles.*

Screening and timely interventions should contribute to increase equity in the allocation of health resources. It should result in improved health status of the population and more so to those in greatest need.

7. *Whether, the **cost** of screening and timely intervention operations is warranted, given all the considerations covered in the preceding items above, in comparison with **alternative use of resources.***

   Will the operation divert resources from other measures? What other alternative ways are there of addressing the problem? Are these better?

   The costs and benefits of the proposed screening and intervention activities must be weighed against those of alternative strategies, taking into account both direct and indirect, as well as immediate and future benefits.

THE GOAL

To increase the likelihood of health screening being used as a tool within a defined strategy and not being used when alternative methods would be more productive.

OBJECTIVES

Main Objective

To intervene in a timely manner and deal with any inapparent risks or disease detected, subject to confirmation by other detection methods if the screening procedure is not diagnostic in itself.

Specific Objectives

1. To educate the public on advantages and importance of health screening.

2. To achieve early detection of risk factors, disease condition and timely intervention.

3. To sensitize the health providers on advantages and importance health screening.

4. To encourage the inclusion of health screening activities in supportive supervision at all levels of health care delivery.

5. To establish a sustainable national health screening strategy.

MATRIX FOR HEALTH SCREENING

CHALLENGES	NORMS	GUIDELINES	STANDARDS
1. Reproductive and Child Health			
Antenatal (Ante partum)			
Ante partum assessment	• Baseline information at booking and subsequent visits. • Baseline physical examination at subsequent visits. • Mandatory investigations at booking and subsequent visits if need arises.	• Thorough history and proper physical examination should be done at booking. • All clinics should be equipped with essential tools for proper assessment. • Examination should be done at each subsequent visit. • All investigations should be requested by skilled personnel at booking and at subsequent visits if necessary or need arises.	• All clinics have qualified and skilled personnel. • All essential working tools available. • History and physical examination done with ethical consideration. • Procedures done as per guidelines. • All clinics equipped with essential laboratory tests and reagents. • All laboratories have qualified and skilled personnel and perform the essential laboratory tests
Intrapartum			
Labour ward admission	• Admission to labour ward to include history, physical examination.	• All delivery units to provide room for history taking and physical examination. • All admission to be done by skilled personnel.	• All admission rooms must have essential equipment and materials for examination. • All delivery units must have skilled personnel as per MoH guideline.

Labour monitoring	• Labour monitoring using partogram.	• All deliveries should be monitored by the use of a partogram. • All delivery units should have essential equipment and supplies. • All deliveries should be attended by qualified and skilled personnel	• All delivery room have adequate partogram forms. • All delivery units equipped with essential equipment and supplies as per guidelines. • All deliveries have properly filled partogram.
Management of third stage of labour	• Active management of third stage of labour.	• Third stage of labour should be conducted by active method.	▪ Active management of third stage of labour to be managed according to standard procedure.
Management of fourth stage of labour.	• Close observation for post partum mothers for 1-3 hours.	• Thorough examination of birth canal, uterine contraction, vital signs (BP, PR, T, RR, pallor and initiation of breast feeding.	▪ All delivery units have qualified skilled personnel and equipped with essential equipments and supplies.
Post partum			
Post partum care	• Care of mothers during puerperium • Established routine	• All mothers post delivery must be attended by competent personnel.	▪ All mothers attended within 24 hrs, and at the 7th day, 14th day, 28th day, and 42nd day post delivery.
Newborn			
State of the new born	• Newborn health status assessed using APGAR score system.	• All newborns should be assessed by qualified and skilled personnel using APGAR scoring guidelines	• All scoring for newborns must be done according to standard APGAR score guidelines. • APGAR SCORE below six newborns placed under intensive care unit

Physical examination (include sex, weight, maturity status)	• Newborns to be physically examined	• All newborns should be examined by qualified and skilled personnel.	• All delivery units must have qualified and skilled personnel in perinatal care
Immunization at birth	• Newborns are vaccinated against tuberculosis and Poliomyelitis.	▪ All newborns should be given BCG vaccination and Polio before discharge	▪ BCG and Polio vaccine available to all delivery units and MCH clinics. ▪ BCG and Polio vaccination given by qualified and skilled personnel according to standard procedure.
Infants			
Prevention of infectious diseases.	• Infants to be immunized against tuberculosis, diphtheria, pertusis, tetanus, poliomyelitis, hepatitis B and measles.	▪ All infants should be vaccinated: *At birth: BCG and Polio O* *1 month:DPTHB1,Polio 1* *2 months:DPTHB2,Polio2 3 months:DPTHB3,Polio3* *9 months: Measles*	▪ All vaccines available in all MCH clinics. ▪ All vaccination done by competent personnel, according to standard procedures. • All vaccines stored according to standard procedure including maintenance of cold chain.
Health status assessment.	• Infants be examined physically and nutrition status recorded on monthly basis.	▪ All infants must have anthropometric measurements taken when reporting to clinic.	▪ Nutritional assessment and management done by qualified and skilled personnel, using standard procedure

Children under five years age			
Health status assessment.	• Under fives weight, eyes, muscle wasting, presence or absence of oedema to be monitored on monthly basis.	▪ All under five years should be physically examined and record taken on monthly basis	▪ Nutritional assessment and management done by qualified and skilled personnel, using standard procedure
2. School age Children			
Medical examination (including visual, hearing, mental, neurological, urinalysis, stool, haemoglobin, blood group and physical examination.	• School children to be medically examined at entry and when need arises.	▪ All new school entrants should be medically examined by qualified medical practitioner. • All school age children to be screened according to school health program.	• Medical practitioners to do the medical examination available. • Essential equipment, reagents and supplies available. • Privacy, confidentiality and individual rights observed on each medical examination.
3. Communicable diseases			
Communicable diseases (e. g. cholera, malaria, TB, HIV / AIDS, plague etc.)	• Special programs for special risk groups put in place.	• All special groups or special situations should be dealt with according to existing program guidelines. • Adequate measure to contain communicable diseases should be taken	• Skilled personnel in special situations made available. • Equipment and supplies for special situation made available.

4. Non-communicable diseases			
Detection of cervical and breast cancer	• Regular examination for cervical and breast cancer in reproductive health clinics	• All women more than 20 years or previous history of sexually transmitted infections or high parity to be screened for carcinoma of the cervix. • Guidelines for routine self examination by women should be disseminated widely	• All women between 20-30 years are screened every 3 years. • All women above 30 years should be screened yearly. • Guidelines for self examination of breasts availed to all women
Senile cataract	• Examination of Elderly people for cataract.	• Health education should be undertaken to the community for cataract examination.	• Availability of adequate health education program on cataract diagnosis.
5. Special situations			
Disease surveillance in special conditions / situations.	• Screening to be done according to need or demand	• Screening should be conducted by competent personnel • All screening procedures should be done using standard equipment/supplies and methodology.	• All screening done according to laid down procedures and regulations.

6.3 THE COUNSELLING SERVICES

Introduction

Over the years counselling services have been carried out by vertical programs mainly Family Planning and National AIDS Control Programs. Individual counselling has also been carried out by health workers in an attempt to persuade clients to follow a particular course of action. With the advent of HIV/AIDS in the country and of other new diseases and with the decline of moral and cultural ethics in the society, the demand for counselling services is now greater than before.

Counseling is defined as a service offered to someone with a problem or a group of people with a common problem or anticipated problem and usually conducted through direct talking, discussion or other forms of communication so as to help the individual or group make rational decisions and give them the confidence to put their decisions into practice.

Counselor is any person who has acquired formal or informal counseling skills on a specific problem or condition, or a given set of conditions.

Conditions amenable to counseling

The following are the most common conditions/situations amenable to counseling; chronic illnesses e.g. HIV AIDS, terminal diseases such as cancer, crises in life e.g. rape, bereavement; orphans, psychosocial problems, pregnancy, Sexual Transmitted Infections (STI), health workers in difficult situations, adolescents and youths associated problems, special groups with unique social problem e.g. refugees, prisoners etc. and acute conditions posing great danger to life e.g. accidents, emergencies and disasters.

Types of Counseling

Being a special service, counseling is provided at all levels of health service delivery on the basis of the problem/condition identified. In this regard, counselling may be supportive (e.g. in patients with AIDs), in crises following death of a close relative; persuasive (e.g. to encourage a patient to take drugs, food etc), and preventive (e.g. to prevent a person from getting harm).

Situation Analysis of Counseling

Although counseling services have always been part and parcel of the health care delivery system, generally there have not been formal guidelines on counselling. Existing guidelines exclusively address specific problems of AIDS, family planning etc.

Reports of recent inquiries have revealed that there is grave deficiency in knowledge and skills in counseling at different levels of services delivery. Counseling services at all levels have been fragmented and are inadequately supervised. Planning, budgeting and supervision for counselling activities were left solely to vertical programs and to individual NGO's whose skills in counselling are questionable.

Informal counseling has for a long time been conducted in the communities with little or no recognition from the formal health sector. With the current emerging situations/conditions there's a need for co-ordination of formal and informal counselling services. The enquiries also revealed a deficiency of confidentiality and of accountability in counseling services.

Rationale/Guiding Principles

Counseling is an important and sensitive service which is necessary in many conditions for effective health care delivery. The emergence of new conditions requiring appropriate behavioural change to deal with has greatly increased the need for counseling. The setting and subsequent adherence to these guidelines on counseling, it is hoped, will offer the direly needed pointers to the content and direction of this all important set of services. The establishment of counseling norms, guidelines and standards is a paramount opportunity to ensure better management, coordination and uniformity of counseling services in the country. Thus the need for strengthening and streamlining counseling services specifically for the said conditions.

Broad Objective

To establish norms, guidelines and standards on counseling services throughout the country so as to make these services uniform and up to date.

Specific objectives

- To streamline and intergrate counseling services with other social and health care services at all levels so as to enhance their impact.
- To ensure that counseling services are incorporated amongst health care services offered at all levels.
- To provide mechanisms for establishment, monitoring and evaluating counseling services at various levels.
- To identify conditions most amenable to counseling services.
- To define the roles and functions of counselors in the health care delivery system.

THE MATRIX OF COUNSELING SERVICES

At Community Level

Challenges	Norms	Guidelines	Standards
Capacity Building	• Appropriate knowledge and skills for counselors.	• Village leaders should list formal and informal counsellors • Community based counsellors should undergo a basic course on counseling • Relevant authority should provide counseling materials according to conditions needing counseling. • Community based counselors should be provided with counseling materials • Community based counseling services should be coordinated at the dispensary level by a competent health staff.	• An updated list of the names, location of counsellors and their specific areas for counseling in place. • Two competent counselors established per "Kitongoji" or "Mtaa". • Counseling materials provided every year and when needs arises. • At least 1 member of staff at dispensary level assigned coordination of counseling activities.
Counseling methods	• Knowledge and use of counseling methods in place	• Community based counsellors should use client counsellor interaction skills e.g. (GATHER).	• Use of standardized counseling interaction skills established.
Confidentiality	• Observation of confidentiality in counseling	• The counselors shall ensure that the counseling environment facilitates confidentiality of the process. • Confidentiality of personal details should be maintained.	• Counseling environment maintains audio-visual privacy • Provide a room for counseling.
Referral System	• Specified responsibilities and functions relating to counselling.	• Community based counsellors should have instructions on their responsibilities, functions and limitations in close observance of codes of conduct.	• clients appropriately referred to the next level.

	• Specified indications for referrals	• Clear referral system should be outlined.	• Codes of conduct on counseling services established • Functioning referral system

2. Frontline Health Facility Level

Challenges	Norms	Guidelines	Standards
Capacity Building	Appropriate knowledge and skills amongst counselors	• A guide on counseling should be available at all frontline health facilities • Every frontline health worker should be exposed to the fundamentals of counseling • Relevant counseling materials should be stated for each type of health facility • Frontline health facility counselors should be provided with relevant counseling materials	• All frontline health facilities have a guide / pamphlet on the fundamentals of counseling. • Every health facility has at least and counselor.
Counseling methods	• Knowledge and use of counseling methods.	• Frontline Health Facility counselors should use client-counseling interaction skills including "GATHER" • Frontline health facility Counselors should prepare reports and submit to Council Health Management Team (CHMT)	• Standardized counseling reports to CHMT's quarterly • Use of standardized counseling interaction skills.
Confidentiality	• Observation of confidentiality.	• Counselors should not reveal clients information without prior consent • The counsellors shall ensure that the counselling environment facilitates confidentiality of the process	• Counseling environment maintains audio-visual privacy • Personal details of the client should not be revealed without prior consent.

Referrals System	• Specified referral system at the facility	• A clear referral guidelines should be provided • Frontline health facility counselors should be provided with clear and specific responsibilities and functions.	• Two qualified and skilled counselors at each frontline health facility level. • Standardized responsibilities and functions of counsellors at frontline health facility level assigned.

3. District Level

Challenges	Norms	Guidelines	Standards
Capacity building	• Appropriate training program for counseling services. • Uniform counseling curricula • Adequate counseling materials and supplies for all health units.	• The CHMT should plan for capacity building on counseling as part of district health planning • Council plans should be developed in accordance to the national counseling guidelines. • The CHMT should adapt the National guideline on counseling to local / district circumstances. CHMT's should develop and acquire counseling materials and supplies.	• 2 persons l trained in counseling per health facility, village and hamlet. • Counseling elements or principles integrated in all training. • Training on counselling adhere to national guidelines with necessary adaptations to local situations. • All health units have access to a defined set of counseling materials and supplies.
Supportive supervision	• Counseling to be an integral component of orthodox health care services	• CHMT should incorporate counseling services in their supervision checklists / formats.	• Routine supervision / inspection format incorporates counseling elements.

			• Frequency of reporting on counseling established at least quarterly.
Resources for counseling services	• Allocation of adequate resources for counselling activities	• CHMTs should mobilize and allocate resources for counseling services	• Resources for counseling activities allocated in the budget by every CHMT.
Council health plans	• Counseling activities in all Council health plans	• CHMTs should incorporate counselling activities in comprehensive Council health plans	• Counseling activities incorporated in each Council health plans
Dissemination of counseling guidelines	• Accessibility to counseling guidelines	• CHMTs should ensure the accessibility of counseling guidelines at facility and community levels.	• Each frontline health facility and every hamlet to have access to counseling guidelines

4. Regional Level

Challenges	Norms	Guidelines	Standards
Dissemination of counseling guidelines	• Counseling guidelines in all health facilities	• RHMTs should ensure the availability of counseling guidelines at each Council.	• Each Council has counseling guidelines
Facilitate implementation of National Guidelines on counseling by Councils	• Presence of Counseling activities in Council Health Plans	• RHMTs should ensure incorporation of counseling activities in Council Health Plans	• Counseling activities incorporated in each Council Annual Health Plans
Supportive supervision	• Supervision of counseling services as an integral part of the health care services.	• RHMT's should conduct supportive supervision on counselling with other health care services	• Supportive supervision to each council in-corporate counseling service.

5. National Level

Challenges	Norms	Guidelines	Standards
National guidelines an counseling	• Availability of national guidelines on counselling	• Vertical guidelines on counseling integrated and in line with National guidelines on counseling • National guideline on counseling should be updated.	• National guideline on counselling available at all levels. • Updated guidelines on counseling availed every 5 years.
Counseling activities in Council Health Plans	• Counseling activities incorporated in all Council Health Plans	• National level through RHMT should ensure incorporation of counseling activities in all Council Health Plans.	• Counseling activities incorporated in each Council Annual Health Plan.
Capacity building.	• Counselors with adequate knowledge and skills on counseling.	• MOH should facilitate training on counseling in more institutions within and outside the country. • MOH should include counseling in basic training curricula of all health cadres. • Recruitment and deployment of competent counselors.	• Each Zonal Training Centre has a course on counseling • Counseling to feature in curriculum in all institutions including University.

References

1. Guidelines and Standards for Counseling and Supervision
   The National AIDS Control Program
   Ministry of Health (1999)

2. A Guidelines for Counselors in Tanzania
   With special emphasis on HIV / AIDS / STDs Counseling
   Ministry of Health (1999)

3. Guidelines for home based care services in Tanzania
   National AIDs Control Program
   Ministry of Health (1999)

4. National course plan for training
   Home Based Care providers for persons living with HIV / AIDs and
   Other chronic illnesses,
   National AIDS control program,
   Ministry of Health (1999)

5. Skills manual for Hospital Based Counselors,
National AIDS Control Program,
Ministry of Health (1999)

6. Manual for Trainers of Hospital Based Counselors,
National AIDS Control Program
Ministry of Health (1999)

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National AIDS Control Program
Ministry of Health (1999).

6.4 INFORMATION, EDUCATION AND COMMUNICATION (IEC)

Introduction

Health Education and health promotion through Information Education and Communication (IEC) have a big role to play in all health related problems whether they are caused by diseases, draught, hunger or accidents. They are fundamental and act as the cogwheel for improvement of the health status of the community. The presence of pandemic, epidemic, endemic and re-emerging diseases such as HIV/AIDS, cholera, malaria and Ebola reaffirms the importance and need for enhancement of IEC interventions, in creating awareness and changing people's behaviour towards preventive, curative, promotive and rehabilitative health care services.

IEC is increasingly being used as a general term in communication interventions to promote health. Basically *Information* is referred to as the sum total of knowledge to be transmitted from an agent of change to population groups; *Education* is the act or process of acquiring knowledge and skills, and *communication* is the process of transferring feeling, attitudes, opinions and knowledge from an agent of change to population groups. In this document IEC will be used as a general term more often to reflect all health education and health promotion interventions.

Different terms are used for health communication and education interventions. *Health education* is any combination of learning opportunities designed to facilitate voluntary adoption of behaviour which will improve or maintain health. The use of the word voluntary in health education is significant for ethical reasons. It implies that health educators should not force people to do what they do not want to do. Instead efforts should be geared towards motivating people to adopt health behaviours and helping them to make decisions and choices for themselves.

Health Promotion is the process of enabling people to increase control over and to improve their health. The term is being used to draw attention to the need for both educational and market research based advocacy action to influence health. It calls for people to act as advocates for health through addressing political, economic, social, cultural, environmental, behavioral and biological factors.

Situation analysis

Over the years a wide range of health promotion activities have been carried out by different Primary Health Care (PHC) programs such as TB and leprosy, National Aids Control Program etc. IEC has usually been intensified on an ad hoc basis during outbreaks of diseases, emergencies and disasters with limited outcome. The quality of health education/promotion in the delivery of health services is still a major concern.

The current practice of health related IEC has often been poor due to the following reasons:

- Inadequate knowledge and skills on health education;
- low priority of IEC activities;
- inadequate integration of IEC with other health services;
- inadequate use of new technologies (especially the new communication technology)
- use of inappropriate methods and approaches for IEC;
- poor distribution, deployment, and status of trained health education staff;
- inadequate facilities, materials and equipment for health education;
- lack of culture specific health education messages; and
- inadequate supervision evaluation and monitoring of health education activities.

Rationale/Guiding Principles of IEC:

IEC activities are part and parcel of almost every kind of health service offered. For various reasons however, the impact of IEC activities has been very limited because of the afore mentioned reasons.

With the main focus of IEC being to influence behaviour, a range of key issues regarding behaviour change process must be well understood before conducting IEC.

Human behaviour:

IEC involves altering the way people think or behave about a particular issue. Before attempting this, a proper understanding of the influences of human behaviour must be observed. Educators must find out what people in the target audience know and feel and how they currently behave. This will assist:

- Avoiding the pitfalls of "victim blaming"
- Separate influences that are under the control of individuals from those that requires actions at community and national level
- Understand the motivation that influences individuals to come together for community action and social change.

What factors motivate people to change their behaviour?

- Physical stimuli – based on persons current physical state, fear of future pain and discomfort or memory of past
- Rational stimuli – based on knowledge and reasoning (if people have the facts, they may chose to do the right thing)
- Emotional stimuli – based on a persons intensity of feelings, of fear, love and hope
- Skills – person's capacity to adopt and continue anew behaviour
- Family and personal networks – Influence from family and peer
- Social structure – impact of social, economic, legal, technology and other factors on the daily life of a person

Process of behaviour change:

Often people take a long time to change their behaviour sometimes a person may intend to perform a behaviour but still not do so. It is rare that a person will adopt a new behaviour after hearing about it just once. Characteristic steps associated with the process of individuals behaviour change:

- Knowledge
  - Approval
    - Intention
      - Practice
        - Advocacy

Problems in promoting behaviour change:

- Not all the people who are exposed to health message will understand it;
- Not all who understands it will agree with it; and
- Not all who agree with it will change their behaviour. The audience that is exposed to a message will go on to practice the new behaviour.

Some of the factors contributing to these problems:-

- Poor analysis of the existing situation
- Availability of enabling factors
- Poor implementation.

Promotion of behaviour change works best when:

- Is user/client focused
- Emphasizes the process (existing)
- Based on informed choice
- Identifies audience segments
- Assists message development
- Stimulates advocacy
- Leads to wards sustainability

IEC must take it consideration the following:-

Summary:

- Empathy

  - Understand how people think and feel (understanding other peoples perspective) "value expectancy theory."

- Enabling factors

  - Consider influences of enabling factors such as time, money, equipment, skills or health services etc.

- Social pressure

  - Opinion and views of those around the target audience ("significant others")

- Culture and Behaviour

  - Shared characteristics (group)
  - Traditions – passed down from parents to children
  - Belief systems
  - Wide system of belief vs individual existence

Decisions must be made before and when implementing IEC activities to facilitate attainment of the intended impact. These decisions include:

What approach to use?

A decision has to be made as to the possible approach that suits the problem in question. The approach should involve empowering people in problem solving and decision making skills in order to build confidence in making their own informed decisions and choices. In a serious threat such as an epidemic where clear cut actions are needed, an approach to persuade people to adopt specific behaviour change might be considered.

Should the focus be on specific conditions/disease or Promote health?

In IEC planning a decision must be made as to whether to focus on prevention of particular conditions / disease e.g. malaria, diarrhoea or a broader approach be used (vertical or horizontal focus).

Who should the IEC be directed at?

An individual's behaviour is important for his / her health. It is very often that a person's behaviour is influenced by other persons in the family, community and social pressure groups. Target group for IEC interventions should be directed at persons who make decisions in the family or community i.e. "the gate keepers". It is also necessary to consider at what point in that person's or group's life is the best time to reach them.

It should be made clear that IEC materials shall emphasize 'learner interaction' as far as possible as well as use of peer groups and traditional communication channels that ensures ease of understanding amongst learners.

At what level should the intervention take place?

IEC activities may be implemented at any level among the following: individual, family, community, district, regions and at the national level. The level to operate will depend on the problems being faced, available resources and existing opportunities for delivery of the IEC services.

What Channel to work through?

A decision has be to made on the best way to reach the intended audience. For example school age children can best be reached through schools while women of child bearing age are often reached through reproductive and child health services. For the general population mass media e.g. radio is suitable

What method to use to reach your intended audience?

Although earlier decision on the target audience may have determined the choice of method, a specific IEC method must be decided on the basis of the channel to be used. If the intervention is through schools, then, a method involving classroom activities e.g. role play may be chosen.

What is the best timing for the IEC intervention?

The best timing for the IEC activity must be worked out on the basis of the intended achievements e.g. a large number of different groups may be involved within a short period of intensive activity.

Making all the above decisions will also involve following an IEC strategic design and planning. This encompasses studying the problem, gathering information on the audience (audience profile) and answering the following additional questions:-

What is the problem? What are the causes of the problems? What is the role of human behaviour? What is the role of IEC including government and political levels in relation to the problem? and what resources are needed to deal with the problem?

It is anticipated, that by answering the above key issues and through these guidelines, IEC activities will be streamlined and standardized at all levels of services provision.

General objective:

To develop norms, guidelines and standards for IEC services in the health care delivery system so as to enhance their impact on the health behavior of the community.

Specific objectives:

1. To identify the roles and functions of health educators
2. To identify prime conditions needing IEC interventions
3. To provide mechanisms for the monitoring and evaluations of IEC services
4. To build capacity on IEC at different levels.
5. To provide appropriate IEC services to various levels of health care delivery
6. To outline guidelines on the development and positioning of IEC messages and materials

TABLE MATRIX OF CHALLENGES, NORMS, GUIDELINES AND STANDARDS ON IEC

Challenges	Norms	Guidelines	Standards
Ensuring proper IEC plans and programs	• Clear IEC policy guidelines	• Councils should adhere to IEC procedure manual.	• Every district has a specific IEC plan(s) incorporated in the comprehensive district health plan.
Advocacy for IEC	• Prioritizing IEC	• IEC policy and guidelines should be available to leaders at all levels • Minimum mix of resources to be allocated for IEC at the district level should be stated. • National guidelines on IEC should be adhered to in the comprehensive district health plan. • National IEC policy and guidelines should give clear direction on IEC to districts.	• All leaders to have access to the IEC policy and guidelines • All districts have access to the minimum mix of IEC resources. • All districts have a comprehensive district health plan incorporating IEC • Focal person on IEC available in every CHMT.

Capacity building	• Integrated institutionalized capacity building on IEC • Continuing education on IEC a clear strategy	• Type and numbers of IEC personnel for each level should follow national IEC guideline. • Health educationists training and career structure should be developed. • The representation of IEC leadership in management organs at various levels should follow national IEC guidelines • The type and number of IEC personnel for each level should follow national IEC guidelines. • Health educators at the national and district levels should be trained in order to have computer literacy relevant to IEC.	• Specified categories of health cadres dealing with IEC present at various levels. • Qualified and skilled IEC personnel at various levels particularly at FLHF • Career structure is set by the government for the specific cadre. • All health services Management structure have to reflect IEC needs • Focal persons on IEC activities are computer literate
Effective IEC messages and materials.	• IEC messages and materials address the main public health problems: (current and potential) • Proper positioning for better utilization of IEC messages and materials.	• IEC messages should be based on identified and prioritized local health problems. • The stipulated process in health education procedure manual should be adhered to. • IEC messages and materials should adhere to national guidelines. • Categories of target audiences accessing IEC materials and messages should be identified.	• Clear link between inventory of public health problems and IEC messages. • All IEC materials and messages are developed in consultation with experts. • Audience specificity of IEC messages or materials practiced • Perception of people on various levels IEC materials monitored.

			• Periodic KAP studies on impacts of IEC interventions become routine practice. • Committee for developing and producing IEC messages and materials has at least one member from targeted audience.
Enhance multisectoral collaboration	• Basic knowledge and skills on the main subject matter of IEC widely circulated. • IEC activities, plans and programs to feature in all districts on a multi-sectoral facet	• IEC focal point person should ensure wide circulation of IEC materials to all leaders as relevant to their level. • Advocacy towards leaders in various sectors should emphasize adherence to national IEC guidelines.	• Correct updated information on IEC activities availed to leaders of various sectors. • All district health plans to incorporate IEC components that capture multi-sectoral initiatives.
Ensure adequate relevant research	• Need for, and impact of, IEC interventions to be subjects of research. • Relevant research findings to form the basis of IEC plans programs and activities	• Councils should plan and secure assistance to conduct IEC research.	• All IEC activities to have evidence based information and data. • Evaluation of all IEC interventions to be scientifically done. • One IEC research topic tackled every two years as routine practice.
Establish appropriate/supervision monitoring and evaluation mechanisms and strategies.	• IEC activities to be integrated in other health care services • Supervision and monitoring of IEC services to be undertaken along with the other health services	• Parameters (check list) for routine supervision monitoring and evaluation of IEC services should be set. • Periodic special assessment of the outcome and impact of IEC should be undertaken with special	• KAP studies and community surveys of IEC materials and processes undertaken.

	• Periodic assessment of the outcome of IEC interventions should be undertaken.	technical inputs.	

6.5 THE HEALTH MANAGEMENT INFORMATION SYSTEM (HMIS)

INTRODUCTION

Health Management Information Systems encompasses routine data collection, analysis, use, reporting and storage at all levels including levels of collection. Information use refers to its utilization in planning, budgeting and routine management. Health Management Information Systems is vital for measuring health system performance on the basis of specific indicators.

MTUHA is a Swahili acronym for HMIS, it stands for Mpango wa Taarifa za Uendeshaji wa Huduma za Afya.

This is a decentralized, integrated and functional system that covers all health programs and health care services at all levels.

HMIS vision is to have a highly performing health system capable of monitoring and evaluating the quality and accessibility of it's essential services and interventions as well as impact of sectoral reforms through an integrated and functional HMIS and its goal is to provide each level of health service with information which can be used for planning, budgeting and decision making.

The system also allows each level to accurately evaluate and then appropriately modify their activities in order for the health units to provide optimal health care and preventive health services for its communities.

SYSTEM COMPONENTS

1. Information need:
   - This specifies the types of data to be collected by whom, where and when.
   - This is part of comprehensive health plans e.g. MoH6y health policy, district health plans specific program plans etc.

2. Data Collection

3. Data storage

4. Data presentation, analysis and report writing

5. Dissemination and utilization

Situation analysis

HMIS/MTUHA is a decentralized, integrated and functional system in Tanzania. It is a facility based Information System which covers all levels of health care delivery from dispensary, health centre, district, region and national levels. All levels of health care delivery utilize HMIS/MTUHA books for data collection.

Data analysis, interpretation and utilization of information at the level of collection are still low. Interpretation of indicators in relation to local situation has not been well implemented especially at lower levels.

However MTUHA does not cover community based health data and other health related Information from other health systems and other sectors. For example there is limited linkage between HMIS/MTUHA and HSR and between HMIS/MTUHA and non health sectors contributing to health like Agriculture, Water Forestry etc. MTUHA/HMIS at present captures routine information while non-routine information is not captured.

Training of health workers on MTUHA/HMIS is generally well covered. Many health workers were trained on MTUHA and how to fill in the MTUHA books. However there is a need for a closer supportive supervision, on job training (continuing education), retraining and refresher courses on HMIS/MTUHA to equip them with adequate up-to-date knowledge and skills on HMIS/MTUHA practices.

There is lack of motivation for health workers to adequately collect the data and fill in the appropriate MTUHA books. This is attributed to inadequate number of health staff especially at lower levels contributing to increased workload and inefficiency in HMIS functions. At present there are 12 MTUHA books used for data collection/compilation

Rationale of HMIS

An Integrated and functional HMIS provides a highly performing Health System capable of monitoring and evaluating the quality and accessibility of its essential services and interventions, as well as the impact of sectoral reforms.

The system allows each level to accurately evaluate and then to appropriately modify their activities in order to provide optimal health care and health prevention for its communities.

Although HMIS is one of the cross cutting issues, there is a need to review norms, guidelines and standards that ensure uniformity across health programs and levels of health care services.

Broad objective

To ensure that there is a decentralized, Integrated and functional HMIS system in the country.

Specific objective

1. To build capacity for health workers to adequately manage HMIS functions.

2. To ensure health workers collect and keep proper records/data pertaining to their day to day activities.

3. To improve data handling (storage, analysis, interpretation) at all levels of health care delivery.

4. To train health workers on data use and writing of scientific reports.
5. To enforce mechanisms for prompt dissemination and utilization of information and reports and provide feedback at all levels.

THE HEALTH MANAGEMENT INFORMATION SYSTEM (HMIS) MATRIX

NATIONAL LEVEL

Challenges	Norms	Guidelines	Standards
Review Policy guidelines on HMIS	• Policy guidelines on HMIS be reviewed and periodically updated.	• HMIS unit should formulate and disseminate policy guidelines on management of health data cleared at policy level	• All health facilities adhere to update policy guidelines.
Enhance capacity Building on HMIS	• Competent personnel on HMIS available at all levels.	▪ Staff handling information should be adequately trained according to HMIS guidelines. • Health training schools curricula should include HMIS principles and concepts	• All health units to have at least one trained staff on handling health data. • Health service planning and management is informed by a well functioning HMIS
Proper data collection	• Legal and administrative support to facilitate data Management • Motivation of health workers on HMIS. • Health workers job descriptions include HMIS responsibilities with schedules.	• HMIS central office should formulate legal/administrative guidelines on compulsory documentation and processing of selected key health interventions. • MoH central unit should develop different motivating mechanisms. • All health units should adhere to formulated guidelines on compulsory documentation and processing of health data. • HMIS central unit to develop and operationalise a minimum health information package.	• All health units document and process all key health information. • All health units adopt the minimum information package.

Adequate data use	• Culture and practice of data use for planning, management, budgeting and decision-making at all levels established and sustained.	• All health units should use available data for planning, management and decision making.	• Budgets, plans, and decisions made at all levels on the base of evidence
Proper data handling	• Handling of health data at all level (including confidentiality of data)	• All health units should use appropriate affordable technology, and ensure confidentiality of data.	• All data kept in safe place and made available for appropriate utilization timely • National level should supply the computers at least Regional and district level to improve data handling and confidentiality.
System monitoring, supportive supervision and evaluation	• Mechanism for system monitoring, supervision and evaluation in place	• Quarterly and annual reports of HMIS activities should be generated at all levels • A decentralized integrated and functional HMIS should be used	• Program reviewed every 3-5 years found complaint with monitoring instruments
Linkages of HMIS with other systems for comprehensiveness of information utilization.	▪ Strengthened linkages between HMIS and other systems	▪ Guideline on Integration of Health services, systems and programs should be distributed. • Access to information from other systems should be improved.	▪ Improved Integration and linkages of related systems e.g. HMIS and HSR established.
Disseminations and Utilization of Information reports	• Prompt use of HMIS for informed decisions	• MoH central unit should compile HMIS data. • All levels should be involved in data handling and use of Information.	• HMIS information and reports used for planning, decision making and solving problems.

THE REGIONAL LEVEL

Challenges	Norms	Guidelines	Standards
Reliable and accurate records / data	• A system for monitoring and supervision. • Safe storing of information / data • Analysis and interpretation of data	• Use of HMIS book 1 & 2 should be emphasized as routine. • All reports should be audited before entering in a computer. • All HMIS data and reports Should be kept in a safe custody accessible to authorized personnel.	• Use of standard HMIS documents in recording or reporting. • Timely availability of HMIS data / reports to authorized personnel with confidentiality observed.
Utilization	• Timely use of Data / Information • Use data in planning, budgeting supervision and decision making	• HMIS data information should readily be accessible to the RHMT. • The RHMT should provide supportive networking between district and central HMIS. • The RHMT should discuss all reports from computer output • RHMT should be fully conversant with health management information system	• HMIS data accessible to RHMT members all the time • RHMT members discuss HMIS data in management meetings • RHMT Annual planning and budgeting reflects being informed by HMIS.
Document handling	• Confidentiality of documents handling. • Easy reach of documents and user friendly analysis. • Well trained personnel on document handling analysis and interpretations.	• Documents should be arranged according to reporting system • RHMTS should plan for team training in HMIS document handling, analysis & interpretations • Appropriate computer software program be used and linked with other levels.	• Net working of information system with HMIS central and Districts (CHMTS) • Well trained personnel on documents handling. • "Disclaimer note" on HMIS data attached.

Provision of feedback	• Timely / feedback report. • Feedback report accessible to every CHMT.	▪ RHMTS should have a standardized format for feedback to districts.	• Standardized format on feedback filled and sent quarterly to relevant fora.
Legal Enforcement's	• RHMTS adherence to professional codes of conduct and ethics. • Provision of HMIS data according to existing regulations.	▪ A disciplinary code of conduct should be enforced ▪ All health facilities should submit relevant key data regularly as by existing laws. • All private health service providers to provide relevant key HMIS data as required by existing regulation. • RHMT should submit report to central level and feedback to districts.	▪ HMIS data submitted to the (MoH) National level as per guideline.
Information management	▪ Minimum package on HMIS available.	▪ The minimum HMIS package should be disseminated to all districts.	▪ HMIS should be based on national Essential Health Intervention Packages.
System monitoring, supportive, supervision and evaluation	• Mechanism for system monitoring, supervision and evaluation in place	• The RHMT should support development and supervise a decentralized integrated and functional HMIS	Quarterly and annual reports of HMIS activities by RHMT reviewed every 3-5 years.
Linkages of HMIS with other systems for comprehensiveness of information utilization.	• Strengthened linkages between HMIS and other systems	▪ Guideline on Integration of Health services, systems and programs should be distributed. • The RHMT should access to information from other systems.	▪ Integration linkages of related systems e.g. HMIS and HSR, in an integrated framework.
Disseminations and Utilization of information reports	• Prompt use of HMIS for informed decisions	• All levels should be involved in data handling and use of Information.	• HMIS information and reports used for planning, decision making and solving problems.

		• RHMT should compile review and forward HMIS information to central level. • RHMT should provide HMIS feedback to districts and sensitize / motivate them to use their HMIS effectively.	

DITRICT LEVEL

Challenge	Norms	Guidelines	Standards
Recording of data	▪ Use district processing file guidelines (DPF).	• Each CHMT member and supporting staff should know how to record and process data in district processing file (DPF) and observe reporting routine.	▪ Routine reporting time schedule should known and implemented by members of CHMT. (Table D 1.3 of DPF)
Data utilization	▪ Each CHMT member and key supporting staff knows how to analyze, interpret and utilize data in the DPF. • Analysis, interpretation and utilization of data in the DPF.	• Use DPF for analysis until HMIS unit develops tools for data interpretation. Through discussion in the CHMT members will be able to understand the interpretations of information in DPF. • Each district should plan and carry out CHMT meetings focused on interpretation of HMIS data and reports • Before transferring the data in DPF all reports should be audited for consistency and accuracy of the data.	• Consistent, accurate data used at CHMT meetings • Processed data should be discussed at management meetings. • Summary of problems noted during supervision reflected in DPF table D1.5. • DPF readily accessible whenever needed. • HMIS component in District planning guideline used for planning and budgeting.

			• CHMT uses currently developed indicators on inputs and impact.
Document handling	Safe systemic custody / storage of documents	▪ HMIS to develop guideline on how to handle data meanwhile instructions provided during. HMIS training should be followed. ▪ Use instructions provided during HMIS training (flow of information)	• All HMIS document kept in safe and easily accessible custody and made available for appropriate utilization timely.
System monitoring, supportive, supervision and evaluation	• Mechanism for system monitoring, supervision and evaluation in place	• The CHMT should implement the decentralized integrated HMIS.	▪ Quarterly and annual reports of HMIS activities. Program reviewed every after 3-5 years.
Disseminations and Utilization of Information reports	• Prompt use of HMIS for informed decisions	• All CHMT members and other support staff should be involved in data handling and use of Information.	• HMIS information and reports used for planning, decision making and solving problems.

HEALTH FACILITY LEVEL

Challenges	Norms	Guidelines	Standards
Reliable and accurate records / data	▪ Each information generated recorded accurately, timely and complete. • Scheduling of HMIS activities.	• Book no. 1 should be used as the guideline. • Health facility staff should observe accurate, timely recording and completeness. • Pre service and in-service training on HIMS be provided to all health personnel.	• Head of Health facility ensures availability of all HMIS records at his / her facility. • HMIS data be collected, compiled and analyzed by at least one-trained personnel at the health facility. • Accurate and Complete records available at the health facility

Data utilization	• HMIS data should be used for planning and budgeting. • Routine monthly, quarterly and annual meeting at all health facilities	• Book No. 1 should be used as guidelines • All health staff should know how to interpret the indicators • All health facilities should conduct regular staff meetings at which information from HMIS shall be discussed. • All norms, guideline and standards, on HMIS should be distributed and disseminated to all health facilities. • Feedback from higher level to lower level should be utilized to improve facility performance management and system information.	• Head of health facilities and MCH in-charge should at least have skills on computation and interpreting of HMIS data. • Information from indicators shall be generated quarterly and annually. • Regular staff meetings are conducted on monthly, quarterly and annually. • Regular feedback of HMIS issues from high level to lower level and Vise Versa.
Handling of Documents	• HMIS documents storage and use.	• All HMIS documents should be handled according to HMIS principles including accuracy, easy access or retrieval and confidentiality. • HMIS documents should be stored according to storage guidelines.	• All health personnel adhere to confidentiality of all HMIS data
Dissemination and Utilization	• Prompt use of HMIS for informed decisions	• All health workers should be involved in data handling and use of Information.	• HMIS information and reports used for planning, decision making and solving problems.

Linkages of HMIS and other systems for comprehensiveness of information utilization.	• To have strengthened linkages between HMIS and other systems	▪ Guideline on Integration of Health services systems and programs should be accessible to all health workers.	• Linkages of HMIS, HSR and other services within the integrated approach in place.
System monitoring, supportive, supervision and evaluation	• Mechanism for system monitoring, supervision and evaluation in place	• Facilities to be involved in the program review.	• Integrated and functional HMIS.

References

1. The Health Management Information System
   MTUHA Version 2.0
   Book 1: Guidelines manual
   Ministry of Health, (1998)

2. The Health Management Information System
   MTUHA Version 2.0
   Book 2: Health facility data book
   Ministry of Health, (1998)

3. The Health Management Information System
   MTUHA Version 2.0
   Book 10: Report book
   Ministry of Health, (1998)

MTUHA BOOKS

There are 12 MTUHA books used for data collection (see Appendix): -

1. Mwongozo
1. Takwimu za Kituo
2. Daftari la kutembelea vijiji / mitaa
3. Leja
4. Rejesta ya wagonjwa wa nje (OPD)
5. Rejesta ya wajawazito
6. Rejesta ya watoto
7. Kitabu cha kila siku cha uzazi wa mpango
8. Rejesta ya wagonjwa wa kuharisha (DTC)
9. Ripoti kutoka vituo vya huduma za afya
10. Rejesta ya kila siku ya wagonjwa wa kinywa na meno
12. Rejesta ya wazazi.

6.6 HEALTH SYSTEMS RESEARCH (HSR)

Introduction

What is Health Systems research?

A Health system is a set of cultural beliefs about health and illness that forms the basis for health seeking behaviour, and the institutional arrangements within which that behaviour occurs.

Research is the systematic collection, analysis and interpretation of data to answer a certain question or solve a problem. It is a systematic process of generating new knowledge. Research uses scientific method to discover facts and their interrelationships and then to apply the new knowledge in practical settings.

Health systems Research (HSR) refers to the generation of knew knowledge using scientific method to identify and deal with health problems. HSR is research aiming at optimizing the utilization of techniques and resources available in a country in order to promote health and health care delivery at all levels of the national system.

Health systems research is ultimately concerned with improving the health of the target population, by enhancing the efficiency and effectiveness of the health system as integral part of the overall process of socio-economic development. This gives, health systems research its characteristics or scope:

- it is problem and action oriented, and studies specific problems to find feasible, practical and affordable solutions;
- it is participatory, requiring active and continuous collaboration between those who identify the problems to be studied and who are the main potential users of the research results (the health systems managers) and those who search for the facts and suggest alternative solutions (the researchers);
- it is multi-sectoral, deriving its inputs from various social and economic sectors;
- it is multidisciplinary, requiring contributions from a wide variety of disciplines best obtained through team approach (which in itself presents technical and managerial challenges); and
- while its methodologies can be applied to similar problems in different countries, the findings and solutions to these similar problems are unlikely to be the same, due to differences in cultural, social, economic and political realities.

HSR aims to help solve practical problems, target resources on high priority areas, improve the efficiency and effectiveness of health policies and programs and reduce the cost of health care.

Thus HSR is an original science oriented inquiry into a health system intended to solve a particular problem within the system or shed new light on some critical issues. Health Systems Research focuses on health system problem(s) identification, studying and finding ways of solving them. HSR provides the evidence for systems change in provision of quality health care services using a science based approach.

Advantages

1. It is through Health System Research that norms, guidelines and standards of services provided would be set, evaluated and hence improved.

2. Through Health System Research different levels of health care delivery can develop capacity to identify and solve health and health related problems.

3. Health Systems Research provides scientific basis of information use in health management and improvement of health services.

4. Health Systems Research provides information that facilitates rational use of resources.

SCOPE OF HEALTH SYSTEMS RESEARCH

Typical Health System Research studies utilize a combination of methods (qualitative and quantitative) as well as searching for a provider and beneficiary perspective. (E.g. in KAP studies). HSR focuses on the entire health system in contrast to those areas of health research which deals on etiology / diagnosis and treatment of diseases.

Health Systems Research is applied mainly in identification of health systems problems as a whole and working out the appropriate intervention to solve the problems, thus improving efficiency of different programs.

Situation analysis

HSR is an important component in health sector reforms contributing towards provision of useful information for decision making regarding health care delivery in Tanzania.

Health Systems Research was initiated by WHO and implemented in developing countries including Tanzania. Recognizing its importance, the government established HSR unit in the Ministry of Health whose main function is to coordinate HSR activities, training personnel on HSR, prioritizing research problems at national level and monitoring HSR in Counrtry.

Efforts in HSR capacity building were made by the Ministry of health in the late 1980's through training of district health teams on HSR (e.g. in Iringa, Mwanza, Dodoma, Shinyanga, Kagera, Mara etc.). This training was not sustained, and hence at present there is inadequate capacity for HSR in all levels especially at districts and regions. Personnel lack the requisite knowledge, techniques and skills on HSR.

Most of research activities conducted were multisectoral, multidisciplinary including such areas like financial management, administration, referral system, environmental sanitation, health facility based researches, community based researches. To this end HSR realized the following studies:

- KAP studies e.g. on HIV / AIDS
- Drug supply
- Cost sharing / Health Financing
- Human Resources
- Continuing Education
- Compliance.

Also researches are conducted routinely in Training Institutions as partial fulfillment of the awards of the training programs (community based or facility based researches).

All levels face inadequacy of finances to carry out HSR. Most of district health plans do not have budgetary allocation for health system research.

Low Research culture is mainly attributed to:-

- Lack of awareness on importance of HSR (advocacy). This stems from the theoretical background of science education, failure to appreciate the role of research in socioeconomic development and its implication in planning, policy decisions and changing life styles.
- Weak coordination at all levels. The MOH, which is supposed to spearhead the HSR process, is understaffed.
- Poor HSR capacity at all levels. HSR methodology training is very inadequate and not included in annual plans especially at regional and council levels; trainers are very few even at national level. There are no initiatives to incorporate HSR methodology in pre service training curriculum.
- Intellectual isolation.
- Lack of motivation. Research productivity is not related to career advancement.
- Lack of finances. Very meager government allocation to HSR at all levels especially during planning and budgeting.
- Lack of multidisciplinary and interdisciplinary collaboration. The various departments undertaking health research have no guidelines showing their research priorities or research plans. Researchers within departments are working in isolation.
- Lack of appreciation of HSR findings for decisions making, planning. monitoring and evaluation.

There is poor coordination, networking and collaboration among various stakeholders in Health System Research. For example Institutions dealing with Research in Tanzania are NIMR, COSTECH, MOH (HSR unit) and University colleges. There is a need to strengthen collaboration with all Institutions dealing with research.

Health personnel lack access to information for instance access to HSR modules and access to literature review important for understanding of HSR concept and development of HSR research protocols.

Inadequate awareness/advocacy on the importance the HSR and low HSR culture has lead to low demand of HSR in Tanzania.

Rationale for Health Systems Research

Although there have been great advances in health science and technology over recent decades, the health of many millions of people, in the developing world particularly Tananzania, remains highly unsatisfactory and cause of deep concern. The growing discrepancy between increasing needs and stagnating means to serve them, requires a critical re-examination of health care delivery system as it is organized now through the Health Sector Reform and this has to be done at all levels of implementation. Such systemic analysis of the health system must be lead to problem solving activities which aim at improving the efficiency and cost effectiveness of services while at the same time safeguarding equity over the population and ensuring community participation in the care of its own health.

Health Systems Research seems to be the most adequate methodological tool to carry out such examination and there is a need to promote HSR capabilities especially at the regional and district levels. In order to promote the creation of critical mass of local managers in health or health related activities capable to develop and implement HSR, the MOH (HSR Unit) should organize training in HSR methodology on a continuous basis. Health Systems research is:

- important for provision of informed decisions in health care delivery.
- improve quality of health care delivery by identifying areas for improving programs efficiency and cost effectiveness.
- action oriented and enhances problem solving through fostering team work. Health Systems Research and other health researches complement the routine information collection system through the HMIS.

Thus the promotion of HSR should also take into consideration the challenges facing HSR, which are the basis for the development of norms, guidelines and standards, which are necessary for quality improvement and acceptability.

Broad objective

To ensure that health workers at different levels apply HSR in improving health services provision.

Specific objectives

1. To build capacity for HSR undertakings at all levels.

1. To avail adequate finances and other resources in support of HSR activities.

2. To ensure that health and non health workers are motivated to undertake HSR.

3. To improve coordination, and networking amongst health research institutions in the country.

4. To increase awareness on HSR among health and non-health workers.

EALTH SYSTEMS RESEARCH (HSR) MATRIX

Challenge	Norms	Guidelines	Standards
Capacity building	• Specialized HSR training Modules delivered by competent trainers. • Training focused on functional multidisciplinary team. • Training linked to priority and action oriented health system issues	• MoH HSR unit should identify health personnel in need of HSR training. • MoH HSR unit should ensure adequate number of HSR modules are produced. • MoH HSR unit should prepare a workable schedule for HSR training • HSR Unit should mainstream HSR in core curricula of training Institutions (e.g. in degree, advanced diploma and diploma course programs). • HSR Unit in collaboration with DHR should mainstream HSR knowledge in core curricula of Training institutions from certificate to higher levels.	• Qualified and skilled personnel in HSR at different levels (National, Zonal, Regional, District) in place and functioning.
HSR advocacy	• Policy makers, managers, health personnel and community are sensitized on importance of HSR	• MoH should develop a work plan for HSR advocacy. • MoH should develop HSR advocacy tools e.g. brochures, posters etc. • MoH should avail HSR guideline at all levels. • Regional / District health teams should motivate / encourage health workers to use HSR in solving their routine health system problems.	• Awareness on HSR at levels developed. • HSR applied in improving health care delivery at all levels.
Motivation of health and non-health workers to undertake HSR activities.	Health and non-health workers develop HSR research culture	• MoH and other sectors should be motivated to provide opportunities for short term (not less than 3 months) training on HSR.	• Significant proportion of CHMT and other workers are involved in HSR.

		• MoH and other sectors should be sensitized to assist in availing funds to execute HSR activities. • Provision of awards rewards for workers with good performance in HSR. • MOH to strengthen existing zonal C.E centers and incorporate HSR program.	• HSR activities conducted yearly • Service / program impact attributed to HSR.
Coordination, integration and networking in HSR	Improved coordination, integration and networking.	• NIMR, COSTECH, HSR unit, University colleges, TANHER council regions are machinery / bodies / institutions dealing with research in Tanzania and that their functions and roles are made known to the public through advocacy role of HSR Unit. • HSR Unit should ensure availability of research inventory and publications and avoid duplications in HSR. • MOH should promote the development of strategies for enhancing collaboration among research institutions. • Research bodies should ensure HSR governance and management at different levels.	• Quality HSR studies conducted at different levels (e.g. cleared / approved protocol / consent confidentiality, research execution, analysis interpretation, report writing and dissemination of results / reports. • Consensus building fora among research institution established. • Local ownership and accountability of the HSR process. • Adherence to research protocol writing procedure (see Appendix A).
Financial support for HSR.	Availability of funds	• Budgets on HSR should be prepared and met at different levels. • Efforts should be made by HSR unit to solicit funds from different sources to perform HSR.	• Staff at different levels are motivated to undertake HSR. • HSR activities are carried out and sustained at different levels.

		• The HSR Unit should monitor the proper use of available funds (accountability in HSR). • District health teams should be encouraged to incorporate HSR in district health plans which will assist in "soliciting" funds for HSR.	• HSR proposals integrated in annual health plans multilevel.

Appendix A

Health systems research protocol writing procedure

- Title of the study
- Introduction
  Background (situation)
  Problem statement and research questions
  Study objectives.
- Literature review
- Research methodology
  Study setting (area)
  Study type
  Variables
  Data collection techniques
  Sample and sampling
  Plan for data collection
  Data processing, analysis and feedback plans
  Ethical consideration
  Pre-test of the research tools.
- Study management
  Staffing (researchers and their CVs) and work plan
- Administration and Monitoring Plan for utilization and dissemination of results
- Budget and budget justification
- References / Bibliography.

NUREMBERG CODE OF CONDUCT OF 1977 – APPENDIX B

- The voluntary consent of human subject is absolutely essential

- The study should be such as to yield fruitful results for the good of society, unprocurable by other means of study, and not random and unnecessary in nature.

- The experiment should be so designed and based on the results of animal experimentation and knowledge of the natural history of the disease or other problems under study that the anticipated results will justify the performance of the experiment.

- The experiment should be conducted to avoid all unnecessary physical and mental suffering and injury

- No experiment should be conducted where there is a prior reason to believe that death or disabling injury will occur.

- The degree of risk to be taken should never exceed that determined by the humanitarian importance of the problem to be solved by the experiment.

- Proper preparations should be made and adequate facilities provided to protect the subject against injury, disability or death.

- Only scientifically qualified persons should conduct the experiment.

- The human subject should be at liberty to bring the experiment to an end

- During the experiment, the scientist…… if she has probable cause to believe that a continuation of the experiment is likely to result in injury, disability or death to the experimental subject will bring it to a close.

- Helsmith Declaration of 1964 and its amendments of 1975.

COMMENTS

- Research priorities should aim at health services provision

- Information providers (place of research) should be informed about the research results first before any other person / institution.

- DHMTs should build a culture of buying research abstracts from NIMR and other research report books.

- National Institute for Medical Research does clear research proposals.

- MoH should identify research problems, which are health service solvable through research.

- MoH through Health Systems Research Unit should keep proper records of the researched problems.

- There is a need to conduct research on people's perception towards health services provision.