THE REPUBLIC OF UGANDA

MINISTRY OF HEALTH

GUIDELINES FOR USER TRAINING ON MEDICAL EQUIPMENT IN UGANDA

February 2021

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FOREWORD

The Government of Uganda is committed to improving the quality of health services by providing training to health workers on proper use of medical equipment. Equipping health workers with sufficient knowledge and skills on how to handle medical equipment through User Training will contribute to safe, reliable and cost-effective use of medical equipment for diagnosis, treatment and monitoring of patients in health facilities in the Uganda.

To increase awareness and understanding of user training procedures, rules and concepts, the Ministry of Health (MOH) in collaboration with Japan International Cooperation Agency (JICA) developed User Training Guidelines on medical equipment for use by all health care providers in Uganda. The guidelines provide guidance to the health care providers to implement user training programs in an effective manner.

It is our hope that these guidelines will help to standardize user training programs country wide and result in efficient and effective use of the medical equipment. In addition, it is expected that all stakeholders who include the MOH, health care facilities, User Trainers, Central Medical Equipment Maintenance Workshop (CWS) and Regional Medical Equipment Maintenance Workshops (RWS), health care institutions and development partners will use the guidelines for planning and coordination of user training to enhance the capacity for management and maintenance of medical equipment at all levels.

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TABLE OF CONTENTS

ABBREVIATIONS AND ACRONYMS

CPD	Continuous Professional Development
CS	Clinical Service
CWS	Central Medical Equipment Maintenance Workshop
CQI	Continuous Quality Improvement
DANIDA	Danish International Development Agency
DHOs	District Health Officers
GH	General Hospital
HC	Health Center
HID	Health Infrastructure Department
IDI	Infectious Disease Institute
JICA	Japan International Cooperation Agency
MOH	Ministry of Health
NACME	National Advisory Committee on Medical Equipment
NOMAD	New Order for Managing Anything Data
Off JT	Off the Job Training
OJT	On the Job Training
OPD	Outpatient Department
PHA	Principal Hospital Administrator
PNO	Principal Nursing Officer
RRH	Regional Referral Hospital
RWS	Regional Medical Equipment Maintenance Workshops
SHA	Senior Hospital Administrator
SOP	Standard Operating Procedures
SPNO	Senior Principal Nursing Officer
TOT	Training of Trainers
TQM	Total Quality Management
UT	User Training
WS	Medical Equipment Maintenance Workshop
5S	Sort-Set-Shine-Standardize-Sustain

EXECUTIVE SUMMARY

MOH with the support of Danish International Development Agency (DANIDA) established a program to train User Trainers in 1995, to carry out in service training for all health workers who use medical equipment for diagnosis, treatment and monitoring of patients. This followed a report from the National Advisory Committee on Medical Equipment (NACME)which observed that most health workers had insufficient knowledge, skills and experience in proper use of medical equipment, which led to frequent failure or malfunctioning of the equipment. The program was implemented for 10 years after which the User Training activities were handed to individual User Trainer's institutions to continue independently. However, due to inadequate funding, the User Training activities could not be sustained. Consequently, the Ministry of Health with support from JICA reactivated the program in 2011. However, due to the lack of guidelines, the User Training activities could not be conducted effectively.

In order to implement User Training, the MOH in conjunction with JICA developed the User Training guidelines to define the procedures, rules, definitions of concepts, and training targets necessary to facilitate User Training in the country. The guidelines will be used by the MOH, regional referral hospitals (RRHs), the management teams in districts, general hospitals (GHs), User Trainers, health implementing agencies and development partners to plan, coordinate and implement user training effectively.

User Training is a critical requirement for first line maintenance of medical equipment to ensure that a health worker is able to use the equipment safely and correctly in a consistent basis. To ensure this level of competence in User Training, the guidelines provide for a well-defined institutional organization with clear roles and responsibilities in planning, implementation, supervision, monitoring and evaluation of program activities with a reporting and feedback mechanism that will ensure smooth implementation of the intervention. In addition, the guidelines define the procedures for identification of candidates, their qualifications, the training, certification, and the scope of work.

User Trainers are central to effective implementation of User Training. Hence, the guidelines provide for a standard training syllabus on target equipment and training materials. The guidelines

also provide for development and updating of the training curriculum and training materials whenever necessary in line with changes in medical technology. After a User Trainer candidate has completed the standard training syllabus course, he or she must pass a written and practical exam to confirm his or her competence to train other health workers before qualifying as a User Trainer who is certified by the MOH. This is to ensure a standard level of competence among the User Trainers across the country.

The User Trainers will be required to conduct user training as part of other duties assigned by their respective supervisors who shall include user training in the performance appraisal. This is to ensure that User Training is integrated into the hospital management system. Consequently, User Trainers should be facilitated to conduct User Training activities, in accordance with the existing Ministry of Public Service Standing Instructions or implementing partners' guidelines where applicable.

CHAPTER 1: INTRODUCTION

1.1 Background

Medical equipment is an integral part of the diagnosis, treatment, support, and care of patients in today's healthcare. It is practically impossible to carryout medical activities without using medical equipment. The primary responsibility for the care and maintenance of equipment rests with the user. Hence, a situation where health workers have insufficient knowledge and skills in handling medical equipment can result in serious risks of harm to patients, and the health care workers. Furthermore, incorrect handling of medical equipment can lead to damage, breakdown and malfunction which will require replacement, repair, and maintenance at high costs. When equipment is not put to use for a long time, it can lead to malfunction and breakdown of such equipment which is a waste of resources. Consequently, it is important to provide User Training in order to enable the health workers to use and handle the equipment properly.

User Training is a process of providing health workers with knowledge and skills necessary to handle medical equipment in a safe and competent manner. In order to address the challenges that arise from improper handling and use of medical equipment, MOH in collaboration with DANIDA started a program to train User Training program in 1995during which in service training was conducted for health workers who use medical equipment for diagnosis, treatment and monitoring of patients. This followed an evaluation and review report on proper use and correct handling of medical equipment from the National Advisory Committee on Medical Equipment (NACME). It was observed that most health workers had insufficient knowledge, skills and experience in proper use of medical equipment leading to frequent breakdown and malfunctioning of the equipment.

In 2010, the MOH in conjunction with JICA carried out a survey in some selected health facilities and noted the following:

1） Most of the equipment in health facilities was not used because the health workers did not know how to operate them,
2） Health workers were using faulty equipment on patients, and
3） Equipment was misused i.e. not used for the right purpose.

To address the above issues, the MOH with the support of JICA activated the User Training

activity program. The program involved identification and training of mainly nurses, midwives, and other interested health workers from selected target hospitals to become User Trainers. They were equipped with knowledge and skills necessary to train other users of equipment on the operation, simple medical equipment maintenance and management, as well as problem resolution and storage procedures. The User Trainers were also mandated to train other health workers in the hospitals and lower health facilities in the catchment area.

1.2 History of User Training in Uganda's Health Care Services.

After the establishment of the program to train User Trainers in 1995 by MOH with support from DANIDA, staff from the MOH, RRHs, GHs, and HCs were identified and trained in Uganda and Denmark to become User Trainers. The program was successfully implemented for 10 years with support from DANIDA until it was handed over to individual health care institution to operate. However, the User Training activities could not be sustained due to lack of funding and a sustainability plan. In addition, some of the User Trainers who were actively involved in the program activities were either transferred to other health facilities or retired from service resulting in a gap in user training.

In 2011, the MOH in conjunction with JICA reactivated the user training program with emphasis on training a team of new User Trainers in the RRHs and selected GHs. However, due to the lack of User Training guidelines, the trainings could not be implemented effectively.

1.3 The Current State of User Training and User Trainers

The MOH in collaboration with JICA has so far trained 35 User Trainers from 15 health facilities namely, Arua, Entebbe, Fort Portal, Gulu, Hoima, Jinja, Kabale, Lira, Masaka, Mbale, Mbarara, Moroto, Mubende, Naguru and Soroti RRHs.

The User Trainers have been involved in training other health workers on handling and use of commonly used medical equipment in their hospitals and the lower level health facilities within the catchment area. Although the reports from support supervision noted improvement in use of equipment that had been left idle, a number of challenges have affected the implementation of the program. These include:

1）Frequent breakdown of equipment especially autoclaves,

2）Low competence in handling essential equipment among most nurses,

3）Low turn up for user training by health workers due to poor attitude and motivation,

4）Lack of funds for training student nurses and

5）Difficulty in harmonizing the time required by the user trainer to conduct routine duties and user training due to shortage of staff.

1.4 Purpose and Significance of the Guidelines

The overall goal of the guidelines is to provide guidance to all stakeholders on how to implement User Training for medical equipment in Uganda. These guidelines will define the procedures, rules, definitions, and training targets necessary to facilitate implementation of User Training activities in the country. Specifically, the guidelines will provide guidance on the following:

1）Roles and responsibilities of individuals and institutions at different levels,

2）Criteria for identification of candidates for User Training as User Trainers,

3）Procedure for development of User Training work plans,

4）Methods of training for User Trainers and other health workers,

5）Updating of training materials,

6）Follow up supervision and performance appraisal,

7）Documentation and record keeping for User Training activities, and

8）Monitoring and evaluation of User Training program.

These guidelines will lead to a User Training program that is effective and sustainable thus contributing to improvement in the quality of health services in the country.

1.5 Target users of the Guidelines

The guidelines shall be used by MOH (Department of Clinical Services, Department of Nursing and Midwifery Service, Department of Health Infrastructure), RRHs, DHD, User Trainers, health implementing agencies and development partners.

1.6 Components of the Guidelines

The Guidelines consist of seven chapters beginning with the Introduction, followed by User Training Concepts, Institutional Structure and Roles, User Trainer Qualifications and Operation, Guidance and Training of User Trainers, Implementation of User Training Activity Program and Support Supervision.

CHAPTER 2:USER TRAINING CONCEPTS

2.1User Training

The primary responsibility for the care and maintenance of equipment rests with the user. Users should understand how their equipment works, what its limitations are, and what it can and cannot do. Therefore, User Training should be conducted to equip the users with knowledge, skills, and the right attitude to operate and care for equipment properly. Through the training, the users are expected to provide first line maintenance which includes preparation, operation, immediate and routine care, safety measures and other equipment specific points. The overall result of the training should be a user who feels ownership, takes good care, operates, and maintains the equipment well. The health workers are also given skills in 5S-CQI-TQM[1]to take good care of equipment, prevent accidents and improve the work environment.

2.2User Trainer

A User Trainer is a professional health worker who has undergone training and passed the written and practical User Trainers' examinations and has qualified for the award of certificate from the MOH. The User Trainers are equipped with knowledge and skills to train other equipment users in pre-use testing, setting up, operation, fault identification and decontamination of the equipment in order to use them correctly and safely.

2.3 Medical Equipment

Medical equipment in these guidelines refers to the equipment that are commonly used for the specific purposes of diagnosis, treatment and monitoring of patients.

2.4 Types of User Training

User Training is not an activity that only happens once. It is required at various times throughout an employee's career. The User Training should be:
1） Ongoing,
2） Included in staff induction,

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[1]5S-CQI-TQM: Activities to improve the hospital facilities and work environment by introducing the concept of 5S (Sort-Set-Shine-Standardize-Sustain) into hospital management. CQI (Continuous Quality Improvement) is an activity to improve the quality of healthcare services through continuous efforts. Also known as Kaizen. TQM (Total Quality Management) is a method to improve the overall quality of healthcare services through participatory processes.

3）Part of continuous professional development,

4）Included assessment of practical competence, and

5）Monitored and evaluated.

The following methods should be employed to conduct User Training:

1) On the Job Training (OJT)

OJT can be described as a process in which health workers acquire the skills, knowledge, and abilities needed to perform specific tasks in the work environment. OJT is effective because it uses existing workplace tools, medical equipment, documentation, and other equipment. This type of training is usually used for specific practical tasks which do not require special equipment and a training guide. Although this hands-on training is not the most effective and efficient method, it is easy to arrange and manage and does not require any learning transition.

2) Off the Job Training (Off JT)

Off JT training is a training method in which health care workers learn how to use medical equipment away from the workplace.

3) Inquiry and guidance on equipment

This refers to explanations, advice and instructions given by a User Trainer in response to inquiries from health workers at health facility regardless of time or place.

4) Continuous Professional Development (CPD)

CPD refers to a specific form of continuing education that helps health workers maintain their abilities and learn about new and developing areas in the field of work. The CPD may take place through live events, written publications, on-line programs, audio, video or other electronic media.

CHAPTER 3: INSTITUTIONAL STRUCTURE AND ROLES

3.0 Introduction

The key actors in User Training include institutions and individuals who play specific roles in implementing the User Training program in the country. The institutions include the MOH, RRHs, GHs and the District Health Department (DHD). This chapter defines the roles and responsibilities of the institutions and individuals in implementing User Training in an effective manner.

3.1 Institutional Structure

The institutional structure and staff involved in User Training is shown inTable1 below.

Table1: Institutional Structure and Staff

SN	INSTITUTION	
1.	MOH	**Department**
		A: Department of Clinical Services
		• Commissioner Clinical Services
		• Assistant Commissioner Clinical Services
		• User Training Coordinator
		B: Department of Nursing and Midwifery Service
		• Commissioner Nursing
		• Assistant Commissioner Nursing
		• User Training Focal Person
		C: Department of Health Infrastructure
		• Commissioner HID
		• Assistant Commissioner Electro-mechanical
		• National Medical Equipment Maintenance Centre Manager (Coordinator for User Training)
		• Regional Maintenance Workshop Manager
2.	RRHs	• Hospital Director

		• Principal Hospital Administrator (PHA) • Senior Principal Nursing Officer (SPNO) • Ward Manager • Regional User Trainers
3.	**DHD**	• District Health Officer (DHO) • Assistant DHO (coordinator for User Training) • In Charge Health Sub-district
4.	**GH**	• Medical Superintendent • Senior Hospital Administrator (SHA) • Principal Nursing Officer (PNO) (coordinator for User Training). • Ward Manager

3.2 The Roles and Responsibilities of Institutions

1) Department of Clinical Services.

The Department of Clinical Services shall be responsible for:

1) Overall supervision of the User Training program in the country,
2) Identification and training of National User Trainers,
3) Identification of implementing/development partners to support User Training activities,
4) Coordination of development and review of User Training guidelines, and
5) Coordination of monitoring and evaluation of the User Training program.

2) Department of Nursing and Midwifery Service

The Department of Nursing and Midwifery shall be responsible for:

1) Coordination of User Training in the hospitals and lower level health facilities,
2) Coordination technical support supervision on User Training in hospitals and the lower level health facilities,
3) Participation in development and review of User Training guidelines, and
4) Coordination of development and updating of User Training materials,

3) Department of Health Infrastructure

Department of Health Infrastructure shall be responsible for:

1) Coordination of review of national equipment policies and guidelines,
2) Coordination of planning and budgeting for maintenance of equipment in hospitals and

lower-level health facilities,

3）Coordination of User Training with equipment suppliers and donors,

4）Utilization of medical equipment information for User Training activities, and

5）Supervision of the National Medical Equipment Maintenance Centre and RWS.

Workshop Manager shall be responsible for:

1）Periodic and corrective maintenance of equipment in the hospitals and lower-level health facilities,

2）Coordination of outreaches to the lower-level health facilities with the Regional User Trainers, and

3）Coordination of updating and maintenance of the equipment inventory with the ward/theatre/OPD managers and the User Trainers.

4)Regional Referral Hospital

The Hospital Director shall be responsible for:

1）Approval of annual and quarterly work plans for User Training activities,

2）Allocation of resources for User Training activities according to the approved work plans and budgets,

3）Mobilization of additional resources for User Training in the region,

4）Nomination of candidates for training as Regional User Trainers,

5）Ensuring that a training needs assessment is conducted for all the users of equipment,

6）Ensuring that all hospital staff who handle medical equipment are appropriately trained and competent to use the equipment,

7）Development and updating of standard operating procedures and checklists for User Training activities,

8）Maintenance of up-to-date equipment inventory, and

9）Monitoring and evaluation of User Training activities in the hospital and lower-level facilities in the catchment area.

5) District Health Department

The District Health Officer shall be responsible for:

1）Maintenance and up to date of equipment inventory for the health facilities in the district,

2）Mobilization of resources for User Training,

3）Ensuring that a training needs assessment is conducted for all the users of equipment,

4）Ensuring that all qualified staff in the health facilities who handle medical equipment are

appropriately trained and competent to use the equipment, and

5）Monitoring and evaluation of User Training activities in the district.

6) General Hospital

The Medical Superintendent shall be responsible for:

1）Maintenance and updating of equipment inventory.

2）Mobilization of resources for training of equipment users by the Regional User Trainers,

3）Ensuring that a training needs assessment is conducted for all users of equipment, and

4）Ensuring that all qualified hospital staff who handle medical equipment are appropriately trained and competent to use the equipment.

7) Ward/Theatre/OPD Managers shall be responsible for:

1）Ensuring that a training needs assessment for all users of target equipment in the department is conducted and reviewed annually after User Training,

2）Ensuring that all users of the target equipment in the department are appropriately trained to use the equipment.and

3）Maintenance of up to date register of users of equipment in the department who are trained and competent to use specific equipment.

CHAPTER 4: USER TRAINER SELECTION CRITERIA, QUALIFICATIONS AND ROLES

4.1 Introduction

User Trainers are central to the success of any user training program. It is therefore important that they are not only competent to conduct training of other equipment users but also adequately supported to implement user training according to the work plans. This chapter outlines the qualifications, the roles and responsibilities and the scope of work for the user trainers at different levels.

4.2 Selection criteria for User Trainers

To be a User Trainer, one must be a qualified health worker who is registered with a relevant professional council. He or She shall be of:

1) Age range of 30-45 years old to be nominated for training to become a User Trainer.
2) Have interest and motivation to be a User Trainer as indicated in the performance appraisal reports.
3) Is a health worker in public service
4) Be nominated by his or her head of institution for training to become a User Trainer.

4.3 Qualifications of a User Trainer

1) Attend and complete a four phased training for medical equipment user training one year.
2) Ability to submit training activity reports regularly (quarterly)
3) Have an approved certificate of attendance by the MOH as a User Trainer

4.4 Roles of different User Trainers

1) National User Trainer

He or She shall:

1） Train the Regional and District User Trainers.
2） Carry out support supervision to Regional, District and Hospital User Trainers
3） Participate in the development and updating user training guidelines
4） Participate in revision of user training manuals and materials
5） Maintain and update the data base for Regional and District User Trainers.

2) Regional User Trainer

He or She shall:

1） Plan and budget for user training activities.

2） Train the District User Trainers and Hospital User Trainers together with National User Trainers

3） Participate in supervision and monitoring user training activities in the region.

4） Participate in development and updating of user training guidelines.

5） Participate in updating of user training materials.

6） Prepare and submit quarterly reports on user training to the Ministry of Health through the Hospital Director.

3) District User Trainer

1） Train the Health Sub-District User Trainers

2） Train the equipment users in all Sub-Districts, hospitals and health centers in the districts

3） Carry out support supervision in all hospitals and health centers

4) Hospital User Trainer

1） Train the equipment users in their hospitals and health centers with the District User Trainers

2） Carry out support supervision to the equipment users in their hospitals

4.5 Scope of work for User Trainers

A User Trainer shall:

1） Prepare a work plan and submit to the head of institution through the supervisors for approval in the Standard Format for Work Plan refer to *Annex 1*.

2） Conduct a survey on use of equipment by users in the health facilities in the format refer to *Annex 2*

3） Identify user training requirements and develop of activity plans.

4） Conduct user training and report the results.

5） Investigate and respond to reports on status of use and other problems of medical equipment in health facilities.

6） Participate in updating the user training manuals and guidelines.

7） Participate in a training for newly introduced or donated medical equipment.

8） Participate in supervision in the health facilities

9） Participate in the equipment maintenance workshops.

4.6 User Trainer responsibilities and liabilities.

A User Trainer is appropriately trained to use all the target medical equipment safely and competently. In order to conducting user training, a User Trainer shall:

1） Check the equipment for any signs of damage and carry out safety and functional checks before using the equipment to train other health workers.

2） Supervise the use equipment by trainees during user training

3） Prepare incident report in case of equipment failure or damage during training which shall be verified by a Biomedical Engineer/Technician.

The User Trainer shall not be liable for:

1） Any accidental failure or damage to the equipment that occurs during user training.

2） Any equipment breakdown or damage caused by a participant's mistake.

CHAPTER 5: GUIDANCE AND TRAINING OF USER TRAINERS

5.0 Introduction

Currently, User Trainers have been trained to use 28 target medical equipment (refer to *Annex 3*) in a competent and consistent manner in addition to having the competence to train other health workers. In order to achieve this, the training should be planned and conducted in a clear and systematic way. In this chapter, the procedures, content and methods of competence assessment are outlined.

5.1 Procedures for training of User Trainers

Training for User Trainers is carried out according to the following procedure:

1）Candidates shall meet the conditions stipulated under 4.2. (selection criteria).
2）The nominated candidate/s shall be trained by National User Trainers, the Regional User Trainer, the 5S focal person and Workshop Manager.
3）The training shall include basic knowledge on equipment; parts of the equipment, how it works, what are its limitations, what it can do and cannot do, basic maintenance/care and fault reporting.
4）The candidates shall be guided on how to develop User Training plans and prepare implementation reports. They shall also be instructed on the use of the User Training manuals and guidelines.
5）The candidates shall be oriented on the importance and use of up to date inventory data. They shall also be oriented on 5S-CQI-TQM concepts to improve the work environment and promote a sense of ownership for equipment.

5.2 Target Medical Equipment for User Training

Currently, the User Training program targets 28 medical equipment (refer to *Annex 3*). These guidelines provide for review and updating of the target medical equipment.

5.3 Standard Curriculum for Training of User Trainers

The procedure for planning User Training and the standard teaching curriculum for training User Trainers is shown in *Annex4*. The time shown in the table indicates the minimum and can be adjusted depending on the understanding of the participants and complexity of the equipment. target equipment list in the standard curriculum shall be updated through consultation of Department of Clinical Services, Department of Nursing and Midwifery, Department of Health

Infrastructure, National and Regional User Trainers.

5.4 User Trainer Assessment

The User Trainer candidates are trained to acquire knowledge, skills and the right attitude to train other healthcare workers to use equipment in a safe and competent manner on a consistent basis. On completion of the standard training syllabus, the user trainer shall sit a written and practical exam on selected equipment before a panel of examiners. The evaluation of the practical exam shall be documented on a performance evaluation sheet by independent examiners selected from National and Regional User Trainers using a format (refer to *Annex 5*)

5.6 Approval of a User Trainer

Upon successful completion of the course, an approved Certificate of Attendance and an Identification Card will be issued to successful candidates by the MOH through Department of Clinical Services (refer to *Annex 6)*. Both the certificate and identification card shall bear Identification Numbers. The approved User Trainers shall be registered in a data base in the format (refer to *Annex 7)*. This will be used for future identification.

CHAPTER 6: IMPLEMENTATION OF THE USER TRAININGACTIVITY

6.0 Introduction

This chapter outlines how a User Trainer plans and conducts User Training activity in his or her hospital and other health facilities under the catchment. It defines the steps that the user trainer has to take from the collection of data on equipment, planning and implementation of the training.

6.1Planning for User Training

The budget for user training is provided in the work plans and budgets of the RWS. Hence, the User Trainer in consultation with the WS Manager shall prepare a quarterly activity work plan and budget and follow the steps indicated in *Annex 8*. The plans shall include the user training needs assessment from the facilities within the catchment area of the hospital before training is conducted. The information required includes time and date for the training; number, location and level of facilities; staffing structure per facility; equipment inventory and the contacts of the administration and implementing partners.

The following items should be budgeted for;

1） Facilitators/Trainers.
2） Facilitation and Transportation costs.
3） Training tools.
4） Refreshment.
5） Stationery.
6） Venue.
7） Participants.

Implementation process:
1） The training plan shall be communicated to the MOH, the districts and the implementing partners through the Hospital Director.
2） The User Trainer shall confirm the availability of training resources with the hospital administration or implementing partner where applicable.
3） The training shall be implemented according to the schedule in the work plan.
4） A pre and post-test shall be administered to the trainees who have registered in the participants' attendance list in the format (refer to *Annex 9*).

5）The one-day training program is shown in *Annex 10.*

6）Activities shall be monitored and evaluated using the user training activity status report summarized in the format (refer to *Annex 11*).

7）A written activity report (technical and financial), shall be made and shared with the different stake holders using a standard format (refer to *Annex 11*).

8）Accountability shall be submitted to funding authority upon completion of the activities.

6.2 Measuring Outcome of User Training using Inventory Data

The MOH manages data on the operational status of medical equipment in all health facilities in the country through an inventory system. Under the system, inventory data is collected through the regional workshops and sent to the Infectious Disease Institute (IDI) host computer. IDI developed a New Order for Management Anything Data (NOMAD) system for processing the data for use in any part of the country through the internet.

The operation status for medical equipment is categorized in six levels from A to F as follows:

A: Good and in use.

B: Good but not in use.

C: In use but needs repair.

D: In use but needs replacement.

E: Out of order but repairable.

F: Out of order, dispose of.

CLASSIFICATION OF CONDITION
FOR MEDICAL EQUIPMENT
BY COLOR CODE

A	GOOD AND IN USE	NO PROBLEM
B	GOOD BUT NOT IN USE	USER TRAINING NEEDED
C	IN USE BUT NEEDS REPAIR	MAINTENANCE NEEDED
D	IN USE BUT NEEDS REPLACEMENT (OLD OR OBSOLETE)	PLAN FOR DECOMMISSION-ING/DISPOSAL
E	OUT OF ORDER BUT REPAIRABLE	MAINTENANCE NEEDED
F	OUT OF ORDER AND SHOULD BE REPLACED (CAN NOT BE REPAIRED, NO SPARE, OLD OR OBSOLETE)	DISPOSE

User Trainers shall focus on the monitoring the level of category B as a performance indicator for the outcome of User Training.

The following are the reasons why the equipment is not being used:

1）Lack of a technical person to operate the equipment.

2）Healthcare workers do not know how to use the medical equipment (knowledge gap).

3）There is no need to use the medical equipment immediately because there is an alternative.

4）The medical equipment is registered in the inventory, but the person in charge has forgotten its existence because it has not been used for a long time.

5）There is no qualified staff to interpret the results generated through the use of the equipment.

6）There is excess medical equipment provided (over stocking), and

7）The equipment is not brought out for use out of fear of theft.

6.3 Format for Reporting

The user trainer shall make a report in a standard format *(Refer to Annex 12)*. It is important to make a report in simple and clear language with use of photos. The key points required in the

report include:

1) Title of the report: this contains the venue and date when the activity was conducted

2) Date: when the report was written.

3) Introduction: this contains the purpose, target group, official opening and closing remarks, number of participants and trainers.

4) Objectives: why the activity was carried out.

5) Specific Objectives: what was covered during the training.

6) Methods: how the training was conducted i.e. modified lecture, group discussions, demonstration and return demonstration.

7) Achievements: Successes during training.

8) Challenges: what went wrong during training.

9) Evaluation

10) Way forward: what the trainer has planned to do.

11) Acknowledgement.

12) Signature and Copies.

13) Annex: Attached documents.

- Pre and Posttest marks.
- List of participants.
- List of facilitators.
- Photographs.

6.4 Financial Report

The financial report should be made in accordance with the Public Finance Management Act 2015 and shall have the following documentation.

1) Total amount received.

2) Expenditure breakdown and receipts.

3) Fully signed attendance list.

4) Acknowledgment of fund.

5) Activity report.

6) Fuel receipts and other allowable expenditures incurred, and

7) Un-spent funds with proof of a bank slip and reasons for non-utilization.

CHAPTER 7: SUPPORT SUPERVISION

7.0 Introduction

This chapter highlights the need for supervision as a follow up on User Training to ensure that the user trainer is able to train others effectively. It outlines persons who shall conduct support supervision, the type of supervision, how to conduct the supervision and the tools required for supervision. It also explains the working conditions under which the User Trainers should work to improve performance.

7.1 Support Supervision

Support Supervision is a process of helping health workers to improve their work performance continuously. It will be implemented with a focus on improving knowledge, skills, and attitude. The MOH Department of Clinical Services, Department of Nursing and Midwifery, Department of Health Infrastructure, Hospital Directors/Administrators, Workshop Managers, Implementing/Development Partners and User Trainers are key players in support supervision of User Training activities. Support supervision is conducted as follow up of the training to ensure that the participants are implementing what they learnt. It will be implemented by staff from the MOH i.e. Health Infrastructure Department (HID), Clinical Services Department, Nursing Department, management team of the health facilities and the districts, National, Regional and District User Trainers.

7.2 The purpose of Support Supervision

1) To monitor and evaluate progress in implementation of User Training activities in the regions.
2) To update User Trainers on current policies and skills in the field of medical equipment use and care.
3) To provide coaching and mentorship to the user trainer to improve the quality of use training activities.
4) To provide opportunity for joint problem solving and communication between the user trainer and the supervisors.
5) To promote quality of User Training activities and enhance transparency and accountability in the User Training.

7.3 Implementation of Support Supervision

Support supervision shall be conducted quarterly at all levels of health care service delivery as follows:

1） The MOH shall conduct technical support supervision to the hospitals and selected health centers to monitor and evaluate User Training activities in the country.
2） The RRHs shall conduct support supervision in the hospitals and lower level facilities to monitor and evaluate User Training activities in the region.
3） The User Trainers shall conduct follow up supervision on User Training in the hospitals and lower level health facilities.

Formal communication by relevant supervisors shall be made to the heads of the health facilities and incase of internal supervision, the unit/ward to be supervised before the supervisions are conducted.

7.4 Related Tools and Checklists

It is important to have the right tools available to assist supervisors and to standardize the supervision system. These tools include:

1） Supervisory checklist.
2） Learning materials and job aids to be used by supervisors for on job training during the supervision visits.

Support supervision shall be conducted using information from the previous supervision reports. Based on the reports, the supervisors shall use a support supervision tool in a standard format (Refer to *Annex 13)* and checklists.

7.5 Report of the Support Supervision

Feedback shall be given to the unit/ward team, health facility management team, User Trainers and WS Managers in a meeting and in writing. The supervision feedback will be shared with hospital management, User Trainers, and WS Managers in order to handle problems and share improvement points.

The results of the support supervision will be summarized in a written report, distributed to the MOH Department of Clinical Services, Department of Nursing and Midwifery, Department of Health Infrastructure, and each hospital, to share information for improvement.

7.6 Work schedule fora User Trainer

A User Trainer shall be assigned to conduct User Training by his or her immediate supervisor as part of other duties related to his or her job. Consequently, the supervisor shall incorporate the time for User Training in the work schedule to enable the User Trainer to conduct training within the stipulated public service regulations.

7.7 Facilitation for a User Trainer

The User Trainer shall be facilitated to conduct the User Training activities according to the work plan and budget and in line with the existing Ministry of Public Service standing instructions.

7.8 Conduct of a User Trainer

A User Trainer who engages in professional misconduct in the course of duty shall be subject to disciplinary action in accordance with the ethical code of conduct and ethics through the institutional rewards and sanctions' committee.

References

1. Ministry of Health (2019), *5S-Continuous Quality Improvement (KAIZEN)-TQM Implementation Guidelines,* Ministry of Health, Republic of Uganda.

2. Ministry of Health (2015), *Health Sector Development Plan 2015/15-2019/20,* Ministry of Health, Republic of Uganda.

3. Ministry of Health, (2015), *Strategy for Improving Health Service Delivery,* Ministry of Health, Republic of Uganda.

4. Ministry of Health (2013), *Medical Equipment User Manual Training for National and Regional User Trainers,* Ministry of Health, Republic of Uganda.

5. Ministry of Health (2013), *Operational Manual for Regional Medical Equipment Workshop and Medical Equipment Maintenance Guidelines,* Ministry of Health, Republic of Uganda.

6. Ministry of Health, (2009), *National Medical Equipment Policy, 4th Edition,* Ministry of Health, Republic of Uganda.

7. Ministry of Health, (2012), Medical Equipment Management Guidelines, Ministry of Health, Republic of Zambia.

8. World Health Organization (2011), *Medical Equipment Maintenance Overview, WHO Medical device technical series,* World Health Organization.

ANNEXES

Standerd Format for Work plan in User Training Activity

No	Items	1st Quarter Jul 1/2/3/4	Aug 1/2/3/4	Sep 1/2/3/4	2nd Quarter Oct 1/2/3/4	Nov 1/2/3/4	Dec 1/2/3/4	3rd Quarter Jan 1/2/3/4	Feb 1/2/3/4	Mar 1/2/3/4	4th Quarter Apr 1/2/3/4	May 1/2/3/4	Jun 1/2/3/4
	XXGH												
1	Needs survey	Jul 2nd (yellow)											
2	Make Annual Plan	Jul 4th (yellow)											
3	User Training		Aug 3rd (yellow)										
4	1stReport		Aug 4th (yellow)										
5	Follow-up	(red)											
	○○HC4												
1	Needs survey			Sep 4th (yellow)									
2	Make Annual Plan				Oct 2nd (yellow)								
3	User Training				Oct 4th (yellow)								
4	1stReport					Nov 2nd (yellow)							
5	Follow-up					Nov 3rd (yellow)							
	△△HC4												
1	Needs survey							Jan 2nd (yellow)					
2	Make Annual Plan							Jan 3rd (yellow)					
3	User Training								Feb 1st (yellow)				
4	1stReport								Feb 2nd (yellow)				
5	Follow-up												
	■◆GH												
1	Needs survey										Apr 1st (yellow)		
2	Make Annual Plan										Apr 2nd (yellow)		
3	User Training										Apr 3rd (yellow)		
4	1stReport											May 3rd (yellow)	
5	Follow-up											May 4th (yellow)	

*Remarks
Follow-up training is Option

Annex 2: The User Training Request Form

User Training Request form

Name of User Trainer: Date:

Name of Facility:			RRH
			GH
			HC4
Address or Location			

Implementation request date	1Qt	2Qt	3Qt	4Qt

Target equipment	No.	Name of Equipment		No.	Name of Equipment	
	1	Autoclave		16	Infant Warmer	
	2	Boiler		17	Infant Incubator	
	3	Tabletop Autoclave		18	Hot Air Oven	
	4	Oxygen Cylinder		19	Electrocardiogram	
	5	Oxygen Concentrators		20	Fetal Doppler	
	6	Vacuum Extractor		21	Vertical Autoclave	
	7	Operating Table		22	Diathermy (Electric Surgical unit)	
	8	Nebulizer		23	Glucometer	
	9	Suction Machine		24	Patient monitor	
	10	Blood Pressure Machine		25	Defibrillator	
	11	Weighing Scale		26	Ultrasonography	
	12	Resuscitator		27	Infusion Pump	
	13	Recovery Bed		28	Syringe Pump	
	14	Pulse Oximeter		29		
	15	MVA Set		30		

Any other Training.	
Target Person	How Many. Department.

Annex3: Targeted Medical Equipment for User Training

No.	Name of Equipment	No.	Name of Equipment
1	Autoclave	15	MVA Set
2	Boiler	16	Infant Warmer
3	Tabletop Autoclave	17	Infant Incubator
4	Oxygen Cylinder	18	Hot Air Oven
5	Oxygen Concentrators	19	Electrocardiogram
6	Vacuum Extractor	20	Fetal Doppler
7	Operating Table	21	Vertical Autoclave
8	Nebulizer	22	Diathermy (Electric Surgical unit)
9	Suction Machine	23	Glucometer
10	Blood Pressure Machine	24	Patient monitor
11	Weighing Scale	25	Defibrillator
12	Resuscitator	26	Ultrasonography
13	Recovery Bed	27	Infusion Pump
14	Pulse Oximeter	28	Syringe Pump

Annex4: Syllabus of Training of User Trainer and Minimum Instruction Time

	Instruction item	Minimum Instruction time
1	**User Trainer Basic Clinical Services**	
A	User Trainer Duties	30 minutes
B	General management of medical equipment including 5S concepts.	1.0hour
C	Basic Clinical Services of infection prevention and control	1.0 hour
D	Equipment's status	1.0 hour
E	Teaching methods as a user trainer	3.0 hours
F	Safety/ precautions of handling medical equipment	1.0 hour
2	**Description of individual equipment**	
A	Autoclave	3.0 hours
B	Boiler	1.0 hour
C	Tabletop Autoclave	3.0 hours
D	Oxygen Cylinder	3.0 hours
E	Oxygen concentrator	2.5 hours
F	Vacuum extraction sets	2.0 hours
G	Operation table	2.0 hours
H	Nebulizer	2.5 hours
I	Suction Machine	3.0 hours
J	Blood Pressure machine	2.0 hours
K	Weighing Scale (all types)	3.0 hours
L	Resuscitator	2.0 hours
M	Recovery bed	2.0 hours
N	Pulse oximeter	2.0 hours
O	MVA set	2.0 hours
P	Infant warmer	3.0 hours
Q	Infant incubator	3.0 hours
R	Hot air oven	2.0 hours
S	Electrocardiogram	3.0 hours
T	Fetal Doppler	1.0 hours
U	Vertical Autoclave	3.0 hours
V	Diathermy (Electrical Surgical Unit)	3.0 hours
W	Glucometer	1.0 hours
X	Patient monitor	2.0 hours
Y	Defibrillator	3.5 hours
Z	Ultrasonography	1.0 hours
AA	Infusion Pump	3.0 hours
AB	Syringe Pump	3.0 hours
AC	Hands-on training (Min.2 items, 5 or more participants)	3 times or more

Annex 5: Verification Items in the Practical Test

The practical test of the User Trainer candidate is conducted by three or more User Trainers. The points confirmed by the practical test are shown in the Table below.

The user trainer performance evaluation sheet

Date:

Name of Examiner:

Name	The explanation is easy to understand	Clear tone/ Audibility	Point of explanation is clear.	Communication with the participant	Is the explanation of using equipment appropriate?	Total
1.						
2.						
3.						
4.						
5.						
6.						
7.						

5 : Very good, 4: Good 3: Fair 2: Poor   1: Very Poor

Annex 6: Certificate of Completion and ID

Certificate

ID

5S-CQI-TQM
HEALTH INFRASTRUCTURE MANAGEMENT

jiCA

Certificate of Completion

This is to certify that

Name of User Trainer

Mr. / Sr. xxxxxx xxxxxx

successfully completed Medical Equipment User Training on (date of issue XXXX, 20XX)
and is confirmed as a User Trainer
The Training was conducted by the Ministry of Health in collaboration with
Japan International Cooperation Agency

Dr.   .
Commissioner Clinical Services

Mr.
Project Chief Adviser

Annex 7: A list of User Trainers

List of Approved User Trainers

Ser. No.	Registration No.	Name of trainer	Age	Hospital	Position	Department	Trainer certification date	Years of experience	Phone	E-maile	Remarks
1	UT-001										
2	UT-002										
3	UT-031										
4	UT-003										
5	UT-004										
6	UT-006										
7	UT-005										
8	UT-013										
9	UT-007										
10	UT-008										
11	UT-009										
12	UT-010										
13	UT-011										
14	UT-012										
15	UT-032										
16	UT-014										
17	UT-033										
18	UT-034										
19	UT-015										
20	UT-016										
21	UT-035										
22	UT-017										
23	UT-018										
24	UT-019										
25	UT-020										
26	UT-021										
27	UT-022										
28	UT-023										
29	UT-024										
30	UT-025										
31	UT-026										
32	UT-027										
33	UT-028										
34	UT-036										
35	UT-029										
36	UT-030										
37	UT-037										
38											
39											
40											

Annex 8: User Training Plan and Implementation Procedure

The procedure for planning User Training is shown in the following**:**

```
┌─────────────────────────────────────────────┐
│  Identification of Lower Health Facilities   │
└─────────────────────────────────────────────┘
                    ↓        .
┌─────────────────────────────────────────────┐
│  Confirm training request.                   │
└─────────────────────────────────────────────┘
                    ↓
┌─────────────────────────────────────────────┐
│   Make implementation plan                   │
└─────────────────────────────────────────────┘
                    ↓
┌─────────────────────────────────────────────┐
│  Implementation of training                  │
└─────────────────────────────────────────────┘
                    ↓
┌─────────────────────────────────────────────┐
│   Write a report                             │
└─────────────────────────────────────────────┘
```
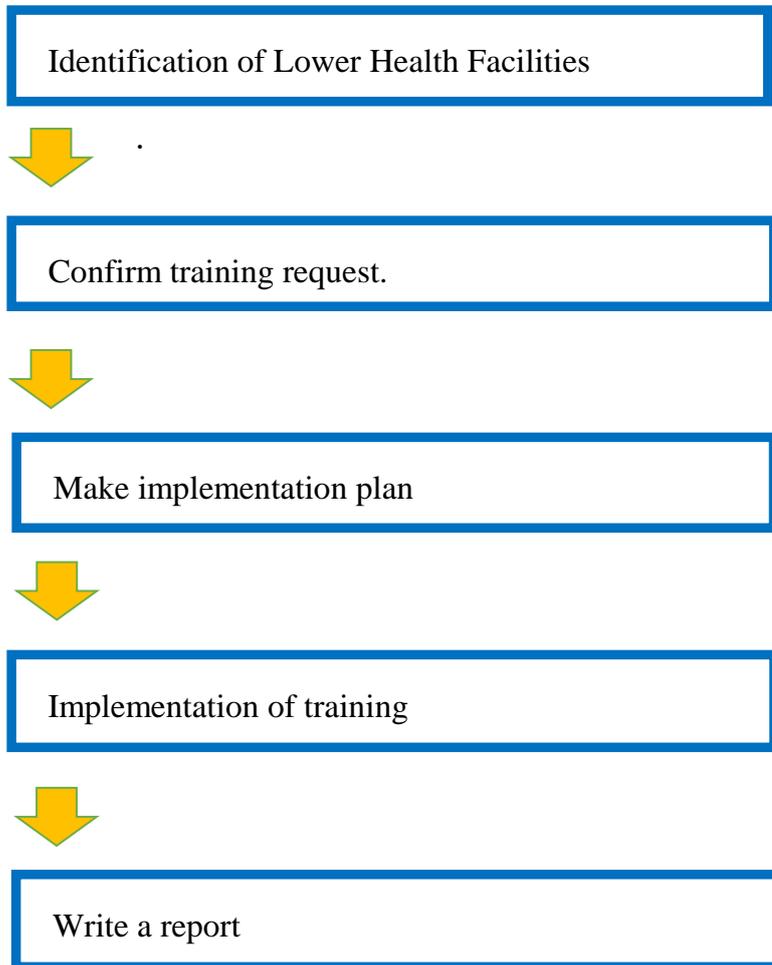
Annex 9: The Participants' Attendance List

During the process of User Training, the format for participants' attendance list below should be adopted.

Date   Facility name   Venue:

S/N.	Name	Title	Department	TEL.	E-mail	Signature
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Annex 10: A Sample of a Program

	Time	*Contents*	*Facilitator*
1	*8:00-8:10*	*Registration*	
2	*8:10-8:20*	*Opening prayer*	
3	*8:20-8:30*	*Opening remarks*	
4	*8:30-9:00*	*Pre-test*	
5	*9:00-10:00*	*Training-1 (2 items or 1 item)*	
6	*10:00-10:30*	*Tea break*	
7	*10:30-11:30*	*Training-2(2 items or 1 item)*	
8	*11:30-12:30*	*Training-3(2 items or 1 item)*	
9	*12:30-13:00*	*Post-test*	
10	*13:00-13:10*	*Closing remarks*	
11	*13:10-13:20*	*Closing prayer*	

Annex 11: Standard Format of the Training Report

User Training Report

1: Background and/or Introduction.

・ It is different depending on the situations.

2: Purpose

3: Date and time

4: Training Place

・ XX RRH, XXGH, XXHC4

5: User Trainer and workshop staff

No.	Name	Title	Workplace	Telephone	E-mail	Remarks

6: Attendance list for participants.

No.	Name	Title	Department or Workplace	TEL.	E-mail	Signature

7: Target Equipment

No.	Name of equipment	Model	Remarks

8: Contents of the training.

(if you have a program, please attach it).

9: Result (Outcome)

・ Pre and Post test

・ Photo　Max 6/ one time but not a must.

10: Evaluation

・ Comments from the Hospital Director and SPNO or any other.

11. Financial report

12. Distribution

Copy to

・ Hospital Director, Administrator (PHA/SHA), Account's Department, SPNO、 Medical Equipment Workshop Manager,

・ DHO, Medical Superintendent at GH, In charges of HC4

・ MOH CS and HID

・ Medical Equipment User Trainer file.

Annex 12: Support Supervision Tool

Tool for Support Supervision

Date:

Name of Hospital:

Name of Supervisor:

	Criteria	Challenges that occurred during this term	Cause of the issue	Countermeasure	Implementation period	Corresponding person
Workplan	-There is a work plan approved as a hospital.	-1. Not made -2. Made but not approved as a hospital -3. There is an approved plan -4. Don't know how to make a plan				
Training	-Implemented in accordance with an approved work plan. -Training is being carried out but not following the work plan	-1. Not performed -2. Implemented as planned -3. Although it was not as planned, it was implemented.				
Report	-A quarterly report is prepared and approved as a hospital	-1. I have not created a report -2. Created a report -3. Prepared report and approved as hospital				
Other						

Supported by