



BIOMEDICAL EQUIPMENT MAINTENANCE

Title Standard Operating Procedure

Pages : Page 1 of 21

Table of Contents

Intention	2
Biomedical Equipment Tagging & Registration.....	4
Register the Equipment Breakdown / Service.....	5
Breakdown Maintenance / Repair.....	6
Preventive Maintenance & Calibration	8
User Training	10
Biomedical Equipment Not Found During Preventive Maintenance.....	11
Warranty / AMC Management.....	12
New Biomedical Equipment Installation & Commissioning.....	13
Condemnation of Biomedical Equipment	14
Performance Report.....	16
Variation To Service.....	17
Customer Care Centre.....	18

1. Intention

1. These agreed procedures sets out the Objective, Scope, Responsibilities, Procedures and Records for the maintenance and management of Biomedical Equipment.

2. Scope

This covers Maintenance of Biomedical Equipment

3. Definitions

1. Biomedical Equipment

Biomedical Equipment means the Equipment used for patient care at the Health Facility on the effective date

2. Repair Time

Repair time is the time duration starts from Work Order generated by the Health Facility to the Work order completed by MEDICITI

3. Uptime Guaranty

Uptime Guarantee means the number of Days Equipment is available to use for the Year.

4. Procedures

1. Biomedical Equipment Tagging and Registration

To carry out tagging and registration of Biomedical Equipment at the end of Testing and Commissioning.

2. Register the Equipment Breakdown / Service

To register if Any Biomedical Equipment require Repair / Service

3. Breakdown Maintenance (Repair)

To carry out repairs to restore Biomedical Equipment to the specified condition. Breakdown Maintenance will include Breakdown Maintenance and Corrective Maintenance

4. Preventive Maintenance & Calibration

To provide a comprehensive program of Planned Preventive maintenance (Preventive Maintenance & Calibration) on all Biomedical Equipment.

5. User Training

To provide Periodic User training of all types of Biomedical Equipment.



BIOMEDICAL EQUIPMENT MAINTENANCE

Title Standard Operating Procedure

Pages : Page 3 of 21

6. **Biomedical Equipment Not Found during Preventive Maintenance**

To notify the user for Biomedical Equipment Not Found during Preventive Maintenance.

7. **Warranty / AMC Management**

To ensure all Breakdown & Preventive Maintenance are detected, reported and corrective action taken under Warranty / AMC provision

8. **New Biomedical Equipment Installation & Commissioning**

To Ensure the Supplier supply the equipment as per approved Purchase Order and successful installation & Commissioning and Training to the staff

9. **Condemnation of Biomedical Equipment**

From time to time to identify the Biomedical equipment, suitable for condemnation or beyond economic repair.

10. **Performance Report**

To generate and submit the monthly performance report

11. **Variation to Service**

Omission of Equipment proposed for Condemnation and approved equipment which are beyond economic repair from the MEDICITI Contract.

Addition of Equipment newly tagged, Warranty Expired and AMC Expired to MEDICITI Contact.

2. Biomedical Equipment Tagging & Registration

1. Objective

To carry out Tagging and Registration of Biomedical Equipment.

2. Scope

All Biomedical Equipment under MEDICITI Contract.

3. Responsibility

MEDICITI
Dept In Charge of Health Facility
District Medical Officers

4. Procedure

1. Inform to Call centre (Toll Free Number: **1800-102-0477**) if any Biomedical Equipment is found not tagged in the Health Facility.
2. User to provide the information such Contact person & Equipment Details to be Tagged.
3. MEDICITI Technical Staff Visit the Health Facility to Tag and Register the Equipment.
4. Technical staff to Affix Identification sticker on the equipment. (The identification sticker will have bar code)
5. Technical staff to record information in Equipment Registration Form.
6. Technical staff submit the Registration form to Health Facility In Charge for verification and approval.
7. Health Facility In Charge verify the Equipment Registration form and each form need to signed as Acknowledgement.
8. Health Facility in charge to provide the details such as Year of Installation, Warranty / AMC Start and Expiry date if applicable.
9. The Acknowledged form is submitted to MEDICITI State Office and after the verification, details are uploaded in Dashboard.

5. Records

1. Equipment Registration Form

3. Register the Equipment Breakdown / Service

1. Objective

To Register if the Biomedical Equipment requires any Repair / Service.

2. Scope

All Biomedical Equipment under MEDICITI Contract.

3. Responsibility

Dept In Charges, Nodel Officer

District Medical officer

MEDICITI

4. Procedure

1. Dept In Charges / User call the Call centre (**TollFree Number: 1800-102-0477**) to register The Biomedical Equipment requires Repair / Service.
2. User to provide Equipment Identification Number. (Identification Number available on the Bar Code Sticker affixed on the Equipment)
3. In Case of Equipment does not have Identification Sticker, provide the Equipment Name while registering for Repair.(Applicable to the equipment not having Identification sticker.
4. User to provide below Mandatory information while registering the Call.
 1. Contact Person Name & Phone Number
 2. Equipment Identification Number
 3. Health Facility Name
 4. Nature of the Problem.
5. MEDICITI Call Centre Executive register the call in web enabled software and provide the Repair Request Number to the User. (This will not take more than 3 minutes)
6. The User can also see the Call generated in the Dashboard.
7. A SMS alert will be sent to the number provided by the user about complaint registration. Upon completion of the repair work of the complaint, another SMS will be sent for confirmation. In case the user have any discrepancy regarding the repair work he can make another call to MEDICITI-Call Centre and register the another complaint.
8. Dashboard URL <https://chhattisgarh.bmmp.in/>



BIOMEDICAL EQUIPMENT MAINTENANCE

Title Standard Operating Procedure

Pages : Page 6 of 21

4. Breakdown Maintenance (Repair)

1. Objective

To ensure Breakdown Maintenance Activity is carried out for All Biomedical Equipment within specific time frame as per the contract agreement.

2. Scope

All Biomedical Equipment under the Contract.

3. Responsibility

MEDICITI

Dept In Charge of Health Facility

District Medical Officers

4. Procedure

1. Breakdown Maintenance

1. MEDICITI Technical Staff visit the Health Facility to repair the Equipment.
2. Technical staff Perform necessary repair on the Equipment and complete Work Order at customer site.
3. Timely feedback will be provided to the User if the Equipment cannot be repaired at first attempt Or within seven days.
4. Technical staff to prepare Service Report and submit the Dept in charge / Nodal office of the Health Facility.
5. Dept in charge / Nodal officer to verify the Equipment functionality and acknowledge the Service Report.
6. The Copy of the Service report is submitted to Dept In Charge / Nodal officer.
7. Technical staff submit the Original of Service Report to MEDICITI State office.
8. MEDICITI Call Centre Executive update the information in dashboard.
9. Penalty shall be exempted for the below condition.
 1. Equipment Physically damaged by the User either accidentally (such as falling of Equipment on ground) or wilfully at the facility.
 2. Equipment Parts / Accessory missing in the Health Facility.



BIOMEDICAL EQUIPMENT MAINTENANCE

Title Standard Operating Procedure

Pages : Page 7 of 21

3. Equipment damaged due to environmental like high humidity, high temperature etc, Electrical High Voltage fluctuations, Earthing for the equipment at the Facility.
4. MEDICITI Staff record these Incidents in the Incident Report Form and submit the Nodal Officer / Dept In Charge to acknowledgement.
5. MEDICITI shall submit the Incident Report Form (acknowledged by the Nodal officer) along with the Estimated Cost for the repair to Respective District Medical Officer.
6. MEDICITI Shall proceed the repair subject to the financial approval from District Medical Officer / NHM Chhattisgarh.
10. Repair Time and Uptime Penalties will be exempted subject to provision of standby Equipment.
11. If any Equipment require to be sent to Manufacturer / factory for repair/ service, MEDICITI Shall submit the Service report Copy to the Dept In charge / Nodal officer.

5. Records

1. Service Report
2. Incident Report Form
3. Dashboard



BIOMEDICAL EQUIPMENT MAINTENANCE

Title Standard Operating Procedure

Pages : Page 8 of 21

5. Preventive Maintenance & Calibration

1. Objective

To provide a comprehensive program of Preventive Maintenance on all Biomedical equipment.

2. Scope

All Biomedical Equipment under MEDICITI Contract.

3. Responsibility

MEDICITI

Dept In Charge of Health Facility

District Medical Officers

4. Procedures

1. An Annual Schedule for Preventive Maintenance (Preventive Maintenance & Calibration) of all Biomedical Equipment is prepared and submit to respective District Medical Officers for Approval on two months before Preventive Maintenance Start Period.
2. MEDICITI Generate monthly work order and issue to Technical Staff.
3. Respective Technical staffs perform Preventive Maintenance on the Equipment in Health Facility as per the approved Schedule.
4. User / Dept In charge to provide the access of Equipment for necessary Service.
5. PM of the Equipment under Break down is reschedule to consecutive month or will be performed immediate after repair work finishes.
6. Performance test is performed on every Equipment after the Preventive Maintenance and ensures the equipment performance meets the required standards as Calibration. These values are recorded in the PM/Calibration Checklist.
7. A Sticker is affixed on the Equipment after completion of each Preventive maintenance / Calibration activity which states the maintenance carried out date and due date for next maintenance/ Calibration.
8. MEDICITI Staff record the Preventive Maintenance with the Equipment related Checklist.
9. The checklist shall be acknowledged by nodal officer or department in charge.
10. Technical staff submit all reports to MEDICITI state office.



BIOMEDICAL EQUIPMENT MAINTENANCE

Title Standard Operating Procedure

Pages : Page 9 of 21

11. MEDICITI State Office update the work in dashboard.
12. Preventive Maintenance of any Equipment under repair shall be rescheduled with consent from Health Facility In Charge.

5. Records

1. Annual schedule for Preventive Maintenance & Calibration.
2. Checklist
3. Dashboard

6. User Training

1. Objective

To provide Periodic User training of all types of Biomedical Equipment.

2. Scope

All Biomedical Equipment under MEDICITI Contract.

3. Responsibility

MEDICITI
Dept In Charge of Health Facility
District Medical Officers

4. Procedure

1. Prepare yearly User training schedule based on the suggested Medical Equipment names by the DMO.
2. Training shall be conducted monthly to each districts headquarters hospital.
3. Submit the schedule to DMO for approval.
4. Frequency of the training of each Equipment shall be at least once in a year. However the user training frequency will be increased based on the specific request.
5. Provide copy of schedule to DMO, MHME & NHM directors office.
6. Notification to DMO shall be sent two weeks prior to the training schedule date.
7. Respective technical staff conduct User training.
8. Attendance of the training is recorded with Training Attendance Form.
9. Training feedback are recorded in the Training feedback form immediate after the training
10. Records are submitted to MEDICITI state office.

5. Records

1. User Training Schedule
2. Notification to District Medical Officer
3. Training attendance record
4. Training feedback form



BIOMEDICAL EQUIPMENT MAINTENANCE

Title Standard Operating Procedure

Pages : Page 11 of 21

7. Biomedical Equipment Not Found during Preventive Maintenance

1. Objective

To notify the user for Biomedical Equipment Not Found during preventive Maintenance.

2. Scope

All Biomedical Equipment

3. Responsibility

MEDICITI
Dept In Charge of Health Facility
District Medical Officers

4. Procedures

1. MEDICITI Technical staff visit the Healthcare facility for preventive maintenance as scheduled.
2. Any equipment not found in its registered location, the Technical staff record in Service Report.
3. Submit the Form to Respective Health Facility Nodal officer / Dept In charge
4. Health Facility Nodal officer acknowledges the Service Report.
5. Technical staff to submit the Service Report to DMO & MEDICITI State Office.
6. MEDICITI to follow up with respective nodal officer to provide the equipment not found during Technical staff visit.
7. MEDICITI Shall send follow up letter to DMO after one month if no feedback from Nodal officer.
8. Preventive Maintenance Work Order is completed with remarks.
9. MEDICITI Initiates the BER process of such Equipment.
10. District Medical Officer and NHM Chhattisgarh to decide on omission of such Equipment from MEDICITI COntact after BER approval.

5. Records

1. Service Report.



BIOMEDICAL EQUIPMENT MAINTENANCE

Title Standard Operating Procedure

Pages : Page 12 of

8. Warranty / AMC Management

1. Objective

To ensure that Biomedical Equipment under warranty are maintained and supported by their respective suppliers in accordance with the provisions of the warranty terms of supply.

2. Scope

All Biomedical Equipment under warranty

3. Responsibility

MEDICITI

Dept In Charge of Health Facility

District Medical Officers

4. Procedure

1. Health Facility In Charge / Nodal officer to report any Equipment under Warranty /AMC requires Repair / Service.
2. MEDICITI to notify respective Vendor for any repair / Service.
3. The copy of such letter will be submitted to Health facility In Charge / District Medical Officer.
4. MEDICITI to notify respective vendor one month prior to expiry of Warranty.
5. MEDICITI to follow up with vendor to complete the service activity if any pending.
6. The Equipment under AMC will be added to MEDICITI Contract after the expiry of such AMC.
7. MEDICITI update all service done in Dashboard.

5. Records

1. List of Warranty Equipment
2. Preventive Maintenance report.
3. Service Report
4. End of Warranty Notification to Vendor



BIOMEDICAL EQUIPMENT MAINTENANCE

Title Standard Operating Procedure

Pages : Page 13 of 21

9. New Biomedical Equipment Installation & Commissioning.

1. Objective

To Ensure the Supplier supply the equipment as per approved Purchase Order and successful installation & Commissioning and Training to the staff.

2. Scope

All New Biomedical Equipment

3. Responsibility

MEDICITI

Supplier

Nodal Officer

NHM, DHME

4. Procedure

1. Respective Nodal Officer / Dept In charge to Inform MEDICITI for any Biomedical Equipment Installation.
2. The Information to MEDICITI Shall be done through Toll Free Number.
3. MEDICITI Technical Staff visit the Health facility and coordinate with the Supplier for the Installation & Commissioning.
4. Nodal Officer / Dept in charge to provide Purchase Order Copy to MEDICITI staff.
5. MEDICITI Ensure the supplier supply the Equipment as per Purchase Order.
6. MEDICITI Shall report to NHM & DHME if any Discrepancy found such as short supply as per PO or malfunctioning of Equipment or unsuccessful installation.
7. MEDICITI Register the Equipment after successful Installation and affix the Identification sticker on the Equipment.
8. MEDICITI Record the training given to the staff about the operation of Equipment by supplier.
9. MEDICITI Shall Update the records in dashboard.
10. MEDICITI Shall submit the report to District Medical Officer, NHM and DHME.

5. Records

1. Installation Report
2. Equipment registration form
3. Warranty Certificate.

10. Condemnation of the Biomedical Equipment

1. Objective

This is to ensure the advisory services are provided time to time for and Beyond Economical Repair.

2. Scope

All Biomedical Equipment

3. Responsibility

MEDICITI
Dept In Charge of Health Facility
District Medical Officers

4. Procedure

1. To recommend for condemnation of Biomedical Equipment shall satisfy one or more following conditions: -

2. Economical: -

1. If accumulated repair cost over a 1 year period plus the estimated cost of impending upcoming repairs exceeds the Depreciated Value of the Equipment.

3. Obsolescence:

1. A new model of the same equipment has a design change resulting In a required better efficiency and increased capacity.
2. Increased capacity is required due to expanded operations or less labour available.
3. A new concept for the service provided by the equipment is introduced 10.4.1.3.4. New safety requirements render the equipment unsafe.
5. Spare parts no longer available
6. Third party service agents are not available and the equipment cannot be repaired in house.

4. Reliability

1. No longer dependable for completing the job in the time available. 10.4.1.4.2. Difficult to repair and economically regain the proper level of reliability.



BIOMEDICAL EQUIPMENT MAINTENANCE

Title Standard Operating Procedure

Pages : Page 15 of 21

5. Worn Out

1. Worn out and will not perform properly even though the repairs are carried out.
6. NHM / District Medical officer to appoint the Condemnation Committee.
7. MEDICITI Shall submit the list of Equipment recommend for Condemnation along with Technical Report.
8. For condemnation of radiological devices, approval from appropriate authority must be taken and condemnation be done as per guidelines issued by the appropriate authority.
9. Technical report contains the problem reported, Technical finding, photographs of the equipment and spares shall be submitted along with Recommendation for Condemnation Form.
10. MEDICITI will Stop Service the Equipment after District Medical Officer Approval.
11. Such equipment will be removed from billing from consecutive quarter.

10.5. Records

- 10.5.1. Recommendation for Condemnation Form
- 10.5.2. Service Report
- 10.5.3. Technical Report

11. Performance Reports

1. Objective

To generate and Submit the monthly Performance Report to District Medical Officer, NHM and DHME.

2. Scope

Breakdown Maintenance
Preventive Maintenance
Penalty Report

3. Responsibility

MEDICITI
District Medical Officer
NHM Chhattisgarh.

4. Procedure

1. MEDICITI Prepare the Monthly Performance report.
2. Performance reports contain 3 Types.
 1. Breakdown Maintenance Report :- The Report contains the Total Repair Request received for the month along with its completion status and downtime.
 2. Preventive Maintenance Report :- The report contains the Equipment scheduled for Preventive Maintenance and its completion status.
 3. Penalty Report :- The Report contains the Total Repair request received for the month and its Penalty Amount as per the clause 3.4.2.13 in Request For Proposal (RFP Document) Document which is part of Tender.
3. MEDICITI shall Submit the report to respective District Medical Officer.
4. After the approval the copy of report is submitted to NHM and DHME.
5. MEDICITI Submit the monthly invoice along with the Report to NHM.

5. Records

1. Breakdown Report
2. Preventive Maintenance Report
3. Penalty Report

12. Variation To Service

1. Objective

1. Omission of Equipment from the MEDICITI Contract after the approval of Condemnation. Addition of Following Type of Equipment to MEDICITI Contract
 1. Newly tagged Equipment
 2. Equipment Warranty expired
 3. Equipment AMC Expired

2. Scope

All Biomedical Equipment

3. Responsibility

MEDICITI

Nodal Officer, District Medical Officer

NHM

4. Procedure

1. MEDICITI Shall prepare the list of Equipment approved for condemnation Yearly.
2. MEDICITI Shall prepare the list of Equipment out of warranty / AMC or newly tagged.
3. MEDICITI Submit the report to District Medical Officer for approval.
4. Subject to the approval the list is submitted to NHM Chhattisgarh.
5. Subject to the approval by NHM Chhattisgarh the same will be effective on consecutive Year billing.

5. Records

1. List of Equipment approved for Condemnation.
2. List of Warranty Expired Equipment
3. List of AMC Expired Equipment
4. List of newly Tagged Equipment.



BIOMEDICAL EQUIPMENT MAINTENANCE

Title Standard Operating Procedure

Pages : Page 18 of

1. Customer Care Centre Procedure: -

1. Medicititi provided a Toll-Free number for the customer to register the Medical equipment breakdown or need any maintenance service.
2. All Customer calls are recorded and used for further checking, verification and Analysis.
3. A welcome greeting message is in built with following recorded message. (Welcome to Biomedical Equipment Maintenance portal under National Health Mission)
4. Average number of rings in which customer calls are answered is within 5 rings.
5. Customer Care Executive (CCE) answer the customer call and collect following information.
 - a. Medical Equipment identification number. (Identification number with bar code is printed on the sticker which is affixed on each Biomedical Equipment)
 - b. Health facility name
 - c. Name of Equipment
 - d. Caller Name and phone number.
 - e. Nature of problem.
6. CCE record the information in call registration portal.
7. A confirmation SMS is sent to the customer with complaint number, Medical equipment identification number, Call generation date & time.
8. Generated breakdown call is updated automatically and can be viewable under "Call Reporting Day summary "tab in online dashboard.
9. CCE assign the work request immediately to respective field technical engineer.
10. SMS is sent to the engineer with complaint number, Health facility and Medical equipment details.
11. A register is maintained in the customer care centre to record the calls received throughtoll free.
12. In case of internet failure in the state customer care centre, calls are registered online from head office located in Hyderabad.
13. In such case CCE shall immediately notify MIS department of Head office located in Hyderabad to register the breakdown.
14. Customer Call centre register portal is capable of collecting following information apart from registering the breakdown call.
 - a. Identify missed call and notify to CCE.
 - b. Identify call in case of line busy and notify to CCE.
 - c. Conversation is recorded and available to download in mp3format.
 - d. Report on average time taken to complete call.



BIOMEDICAL EQUIPMENT MAINTENANCE

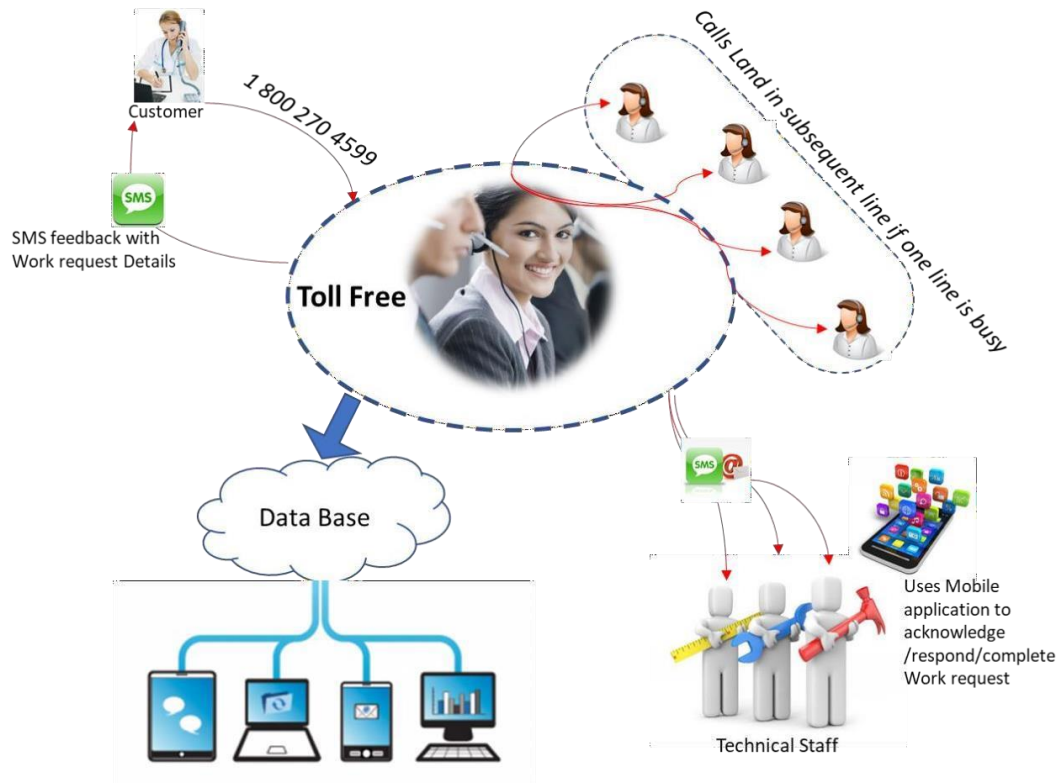
Title Standard Operating Procedure

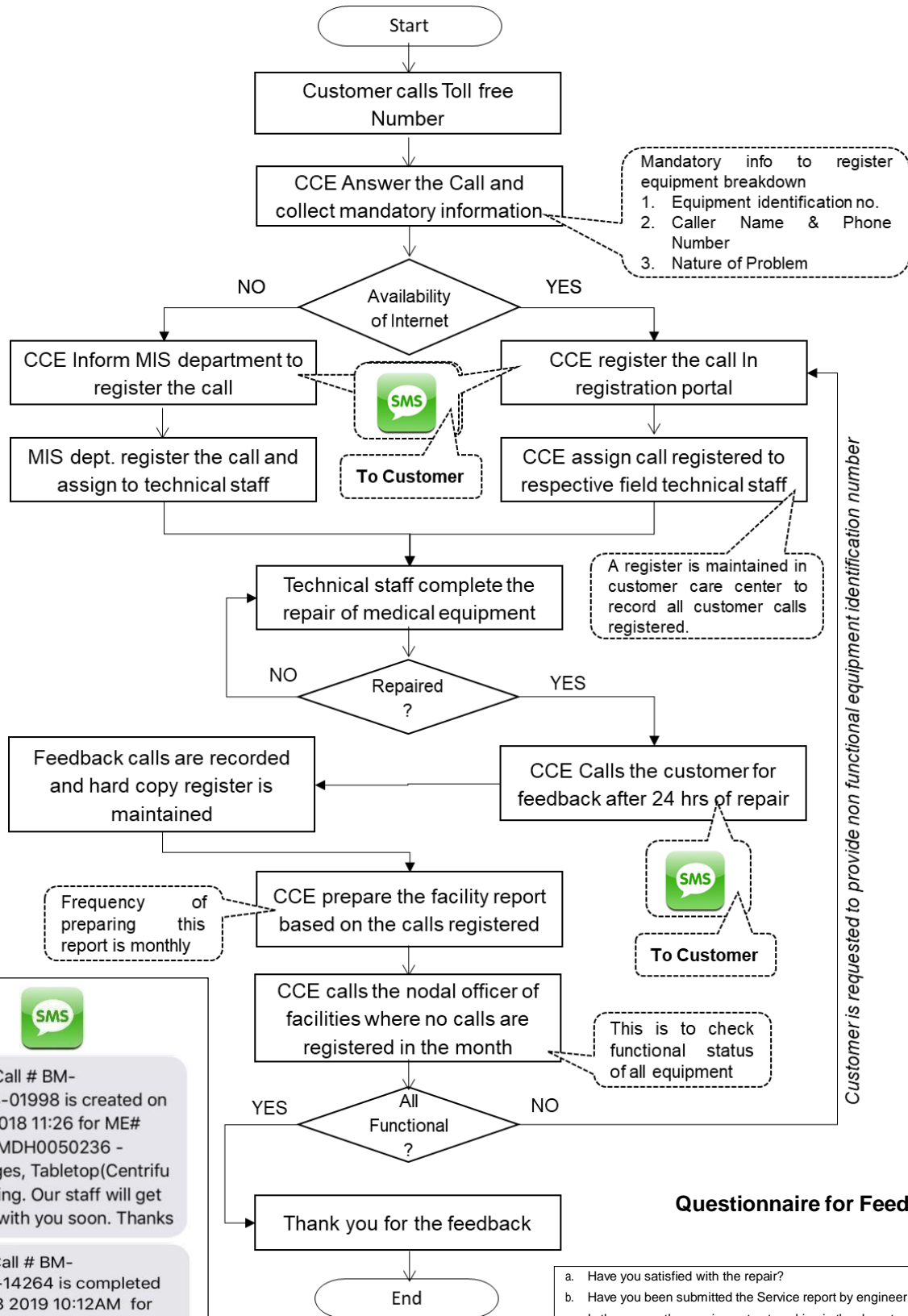
Pages : Page 19 of 21

Feedback:

We Medicity treat customer feedback is an important resource for improving and addressing the needs of a customer. This information is procured through phone calls and is recorded in feedback register. Feedbacks are reviewed on monthly and action being taken wherever improvement required.

1. Customer care executives collect the feedback against each breakdown call within 24 -48 hours of its completion.
2. CCE calls the customer to collect the feedback with following questionnaire.
 - a. Have you satisfied with the repair?
 - b. Have you been submitted the Service report by engineer for approval?
 - c. Is there any other equipment notworking in the department?
 - d. If yes user is requested to provide the ME numbers of such equipment to register the call immediately.
 - e. Thank you for the feedback.
3. At the end of each month CCE prepare thefollowing reports.
 - a. List of call registered during the month.
 - b. Penalty Report.
 - c. List of Health facility registered the calls.
 - d. List of Health facility where no calls are registered during the month.
4. CCE calls Nodal officers of Health facility where no calls are registered, to enquire about the functional status of Biomedical equipment since there was no breakdown calls registered during the month.
5. Such conversation is recorded in software as MP3 format as well as hard copy of register is maintained.
15. User can view the registered call details in the web-based dashboard.





Customer is requested to provide non functional equipment identification number

Questionnaire for Feedback

- Have you satisfied with the repair?
- Have you been submitted the Service report by engineer for approval?
- Is there any other equipment not working in the department?
- If yes user is requested to provide the ME numbers of such equipment to register the call immediately.

SMS
Service Call # BM-CG-2018-01998 is created on 15 Dec 2018 11:26 for ME# CGZ2BEMDH0050236 - Centrifuges, Tabletop(Centrifu not working. Our staff will get in touch with you soon. Thanks

SMS
Service Call # BM-JH-2019-14264 is completed on Jan 23 2019 10:12AM for ME# JHZ4JAMMMU9586005 - Scales, Patient, Floor(Adult W. It is repaired and working good. Revert back if any complaint to [1800 270 1443](tel:18002701443)