

STREAMLINING BREAKDOWN MAINTENANCE OF MEDICAL EQUIPMENT

CK BIRLA HOSPITALS

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INTRODUCTION

An In-House Biomedical Engineering Department (BME) looks after the maintenance of all Medical Equipment and attend any failure reported. CK BIRLA-RBH, Jaipur has around 450 Medical Equipment which are managed by the BME Department. BME is responsible for Procurement, Installation, Testing and Calibration, Maintenance and Condemnation of medical equipment in hospital.

OBJECTIVES:

To measure the quality indicators and to compare them to the set standards inorder to evaluate the efficiency of Breakdown Maintenance Program of Medical Equipment.

METHODOLOGY

- Study: Quantitative, Cross-sectional study
- Sampling Method- Non Random sampling.
- Source of data- Secondary data, Departmental Logbook
- Location: Biomedical Engineering Department, RBH , Jaipur
- Sample size - A Total of 94 call records for the months January to April 2017 are recorded.

FINDINGS:

- 1.Critical Equipment Breakdown (14%)
2. Average Response Time 4minutes
3. Average Turn Around Time 4 hours
4. Critical Equipment Downtime (1hour 40 min.) and Availability (99.7%)
5. Failure–Technical, Mechanical, Electrical, User

SUMMARY :

Each measure has 10 marks for full compliance and 0 for non – compliance.

Measure	Criteria	Score Obtained
Response time	< 7 min	10
TAT	< 24 hours	10
Critical Equipment downtime	<24 hours	10
Availability of critical Equipments	>99%	10
% of User errors	Should be kept minimal.	0

Total Score for Breakdown Maintenance Program of Department is 40 out of 50.

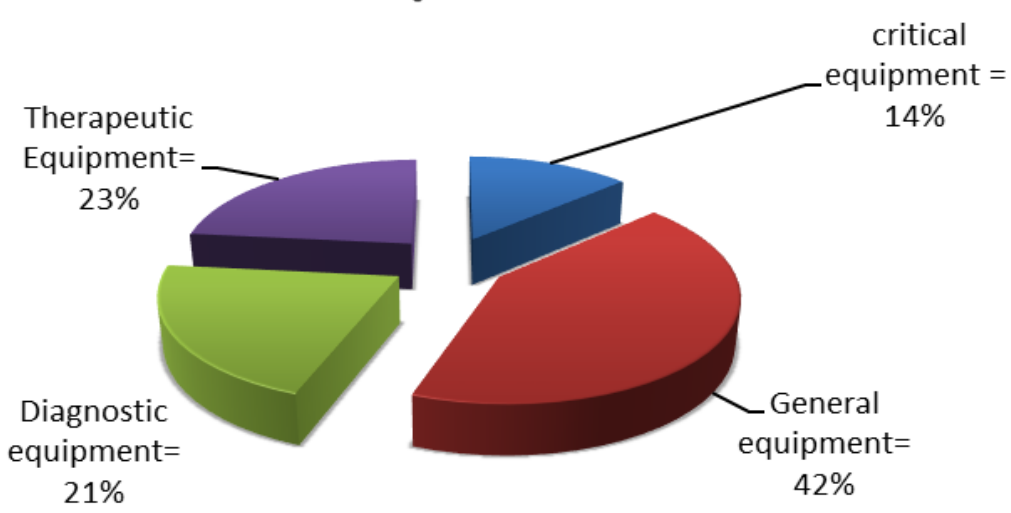
SUGGESTIONS:

- A Computerized Maintenance Management System (CMMS) should be installed in the Department.
- Effective Communication with the Concerned User Departments
- Timely Orientation and guidance of operators.
- A feedback mechanism should be used to evaluate the user response
- Troubleshooting Indicators should be identified and shared
- Follow up with the vendor should be maintained
- A Backup plan in case of Critical Equipment failure should be developed.

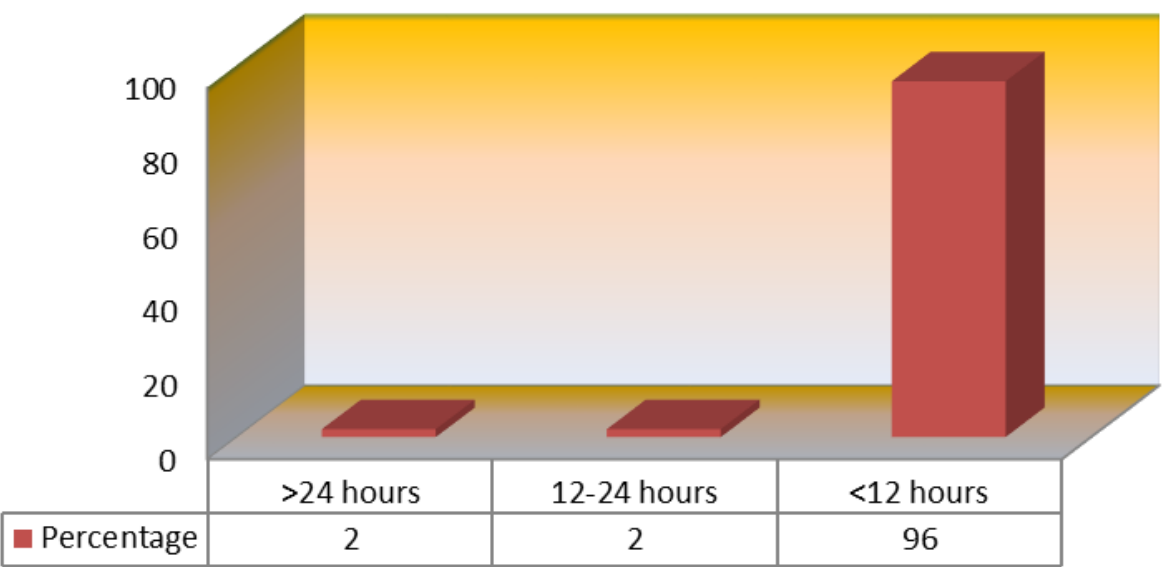
KEY LEARNINGS:

- This study reveals that the BME Department is working efficiently by responding timely to the breakdown calls.
- This study has helped me in Understanding functioning of BME department in compliance with NABH guidelines.
 - Understanding the concepts of Downtime, Uptime and availability of Critical Equipment.
 - Types of Maintenance programs—Corrective and Preventive done annually, semi-annually or quarterly.

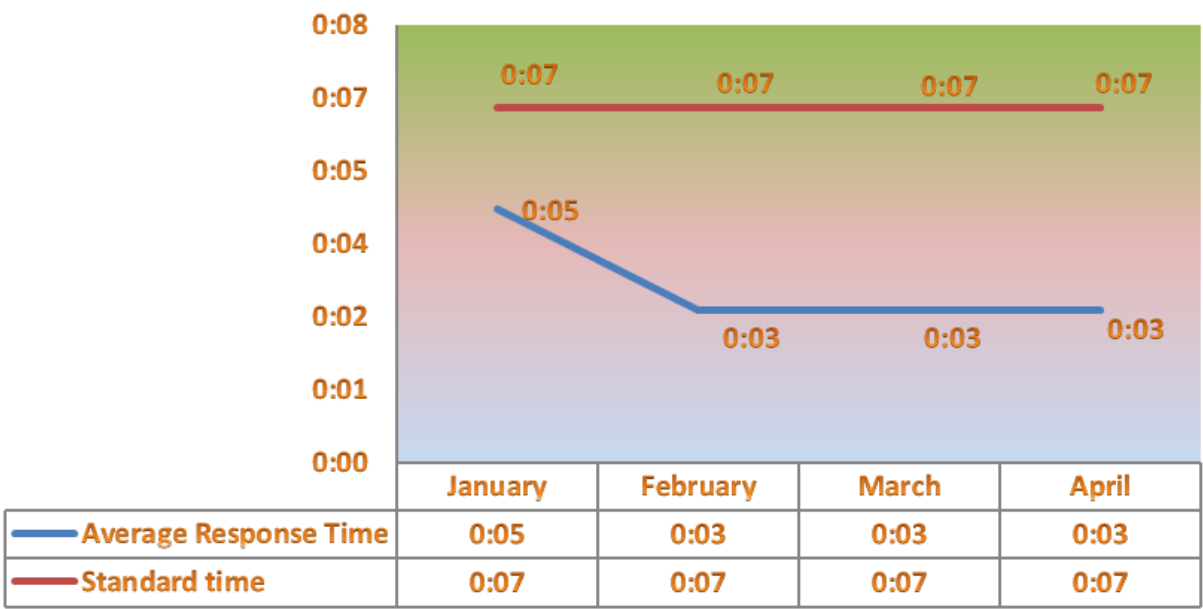
Equipment Breakdown Jan-April 2017



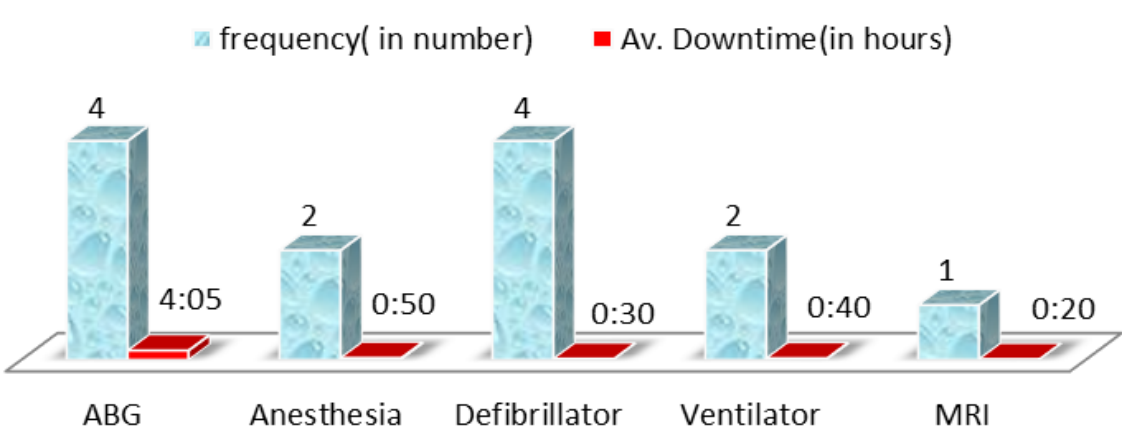
TAT of Equipments for Jan- April 2017



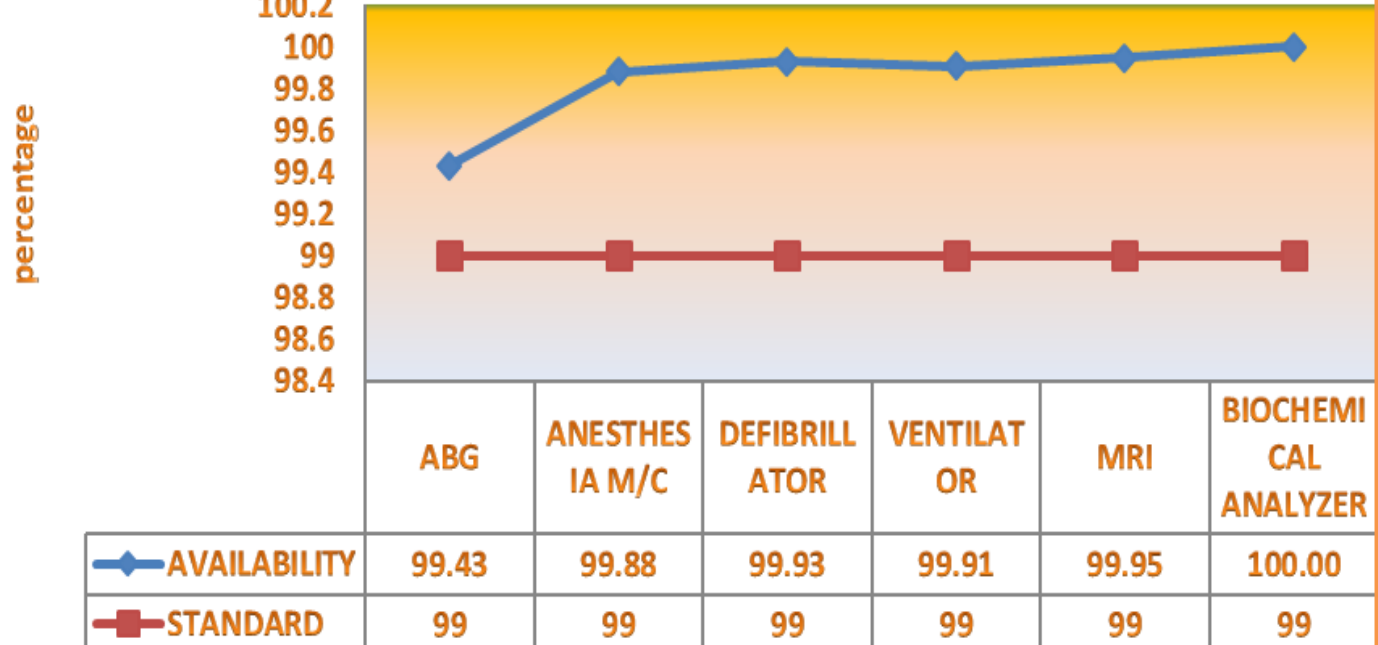
AVERAGE RESPONSE TIME



CRITICAL EQUIPMENT BREAKDOWN (JAN-APRIL 2017)



AVAILABILITY OF CRITICAL EQUIPMENT



Types of failures recorded

