



Service Priorities and Programmes
Electronic Presentations

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Application of PDCA cycle to manage medical equipment maintenance performance

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Introduction

Maintenance is an indispensable part of medical equipment lifecycle; it is generally classified as Preventive Maintenance (PM) and Corrective Maintenance (CM). PM is a repetitive and well-scheduled inspection and is intended to prevent any sudden breakdown of equipment while CM serves the purpose to restore the failure and reinstate the equipment to normal condition in the event of an equipment breakdown. With the aim of better managing the equipment maintenance, the Plan-Do-Check-Act Cycle (PDCA) is to be introduced to keep track and seek ways to improve the performance of maintenance service vendors.

Objectives

To review the medical equipment maintenance management by applying the PDCA cycle with the view to enhancing and improving the maintenance performance

Methodology

PDCA cycle is an effective tool to manage processes.

Plan: It is expected to enhance and improve the medical equipment maintenance management. Commonly used key performance indicators (KPI) including Equipment uptime (>95%), CM Response time to fault call (Within 4 hours), CM rectification time (Within 3 days for high-risk equipment) and PM compliance rate (100% for zero-tolerance equipment) could effectively reflect the performance of respective maintenance contractors.

Do: To ensure the accuracy and consistency of maintenance data for reviewing purpose, contractors should provide maintenance details of all maintenance jobs to hospital equipment maintenance team on a regular basis. The data is to be uploaded to Enterprise Asset Management system for record and further data compilation.

Meetings held by hospital maintenance team with maintenance contractors aims to monitor and review the performance of contractors.

Check: Maintenance data are to be retrieved and compiled for performance analysis and compare against the KPI requirement. The data are presented in the form of graph to facilitate the analysis.

Act: To identify room for improvement, the root cause leading to unsatisfactory performance should be studied and discussed. Common problem such as long lead time for purchasing of spare parts could be effectively improved by adjusting the

safety stock level or by seeking alternatives. For long repairing time cases, service vendors might consider enhancing the training for technician. The effectiveness of the solutions shall be evaluated and the proved-successful solutions could be incorporated into routine.

Result

PDCA cycle operates as a cycle of continual improvement, the abovementioned solutions or new practice shall be monitored and assessed for further improvement.