Performance of equipment maintenance services in healthcare

Performance Monitoring in Equipment Maintenance Services

checklist

Title

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Abstract

The objective of this literature review is to deliver results to the key performance indicators in monitoring the performance of equipment maintenance services.

Method:

Medical equipment management, health source and Medline were used and the search was conducted using different keywords such as key performance indicators, equipment maintenance services and performance monitoring equipment maintenance services.

Introduction

The medical equipment management approach defines the strategies for oversight and interaction of the medical equipment's used in treatment, diagnosis and treatment of patients. All the related procedures and policies govern event from selection to acquisition, incoming inspection and the medical equipment management. The mission is ensuring that the medical equipment used in patient care is affordable, safe, accurate and available. The scope of this plan is clinical laboratories and different health systems. (McDermott 2009)

Performance indicators should be chosen with care, if not individuals tend to respond by optimizing what is being estimated and hence lose focus of the quality. There are two important questions that should be asked concerning any performance indicator. First, can the performance indicator in question lead to perverse incentives and does it have the required potential to induce the desirable changes. Key performance indicators help a company measure progress towards their set objectives. (Kyan et al. 2004) Additionally, key performance indicators help an organization present of service delivery to come up with the course of action. Different key performance indicators differ depending with the exact nature of service delivery and the company's approach.

Choosing And Using Key Performance Indicators

The right indicators vary depending on the reason why the management is choosing them. All key performance indicators contain numerous hidden assumptions. For instance, the company can quote is a known guaranteed downtime percentage with the inclusion of the time when the equipment will

not be required. However, at times statistical measures can be very hard to interpret, while clinical users do not consider the actual time of action. (Willson et al. 2008) On the other hand process indicators appear to change more often than those that have been made to support specific improvement, and monitor the key factors affecting to quality of output. Result measures are more bound to estimate the effectiveness of initiatives to boost the service. Reasons for the poor performance should be thoroughly investigated, for instance, a reduction of 15% in monthly number of the exact routine maintenance logged in by the workers could be caused by alternative external demands or slipping internal standards. The steps that need to be taken to improve the services include modifying procedures and services, modifying demand or delivering more services. If an indicator has been modified to make it more strong, then it will be very important to maintain comparison with the old for long enough, to find out whether the changes have had any positive impact.

Process targets can be interpreted and set in regard to local circumstances, because the detailed practice commonly varies, on the other hand, outcome indicators are directly comparable between the services when similar definitions are used (McDermott et al. 2009)

Cost measures are quite sensitive to what the service chosen omits and includes. Across a typical hospital, the annual maintenance cost per item included varies widely. Detailed research will give the right guidelines on where the reduction of cost will be more effective. At this point, a lifetime strategy to costing can greatly help avoid the situation where technicians spend endless hours repairing the same equipment because the clinical staff

lucks the funds required replacing it. A great sense of perspective is required, for instance, so that the total amount of time required to find the right technician can be reduced, this will help theatres to avoid great loses associated with the breakdown of equipment. The clinical engineer will be responsible for balancing urgency and cost and justifying his/her actions to the clinical staff (Gruber et al. 2012)

Key performance indicators are reported and monitored to the relevant safety committees in the hospital throughput the year to provide feedback to the efficiency of the medical equipment management plan, the following performance indicators can be quite helpful if well used in a clinic set up.

Critical life support performance maintenance completion rate, with a 100% goal and a requirement rationale. Second, the overall performance maintenance completion rate, the goal is 90% and the best practice to report and monitor rationale. Third is the service requests caused by user errors or mishandling, with a 10% or less gal of all the service requests that had not been planned, in this regard, the exact number of chances may be synonymous without consideration of the overall volume of all the service requests received. Mishandling mistakes with the exact requirement will have to be evaluated to find out if the trends exist, with the overall ratio that has been tracked over time providing relevant information for risk reduction. Another performance indicator is the equipment failure rendering harm to staff or the parties, the goal is zero occurrences and the best practice to report and monitor rationale (Swan et al. 2004)

The next performance indicator chosen is the hazardous investigations, the main reason for choosing this key indicator was getting the right information, the rationale of choosing the hazardous investigation KPI Is all SMDA recalls, reportable events and medical equipment accident investigations will be instantly reported to the relevant safety committees. The next performance indictor chosen was the performance improvement standards. First, clinical engineering is responsible for identifying performance improvement indicators, based on the priorities that have been identified by users of the medical equipment in question, the relevant department and the environment or safety care committee. The environment or safety committee has the sole responsibility of approving the thresholds and monitors on yearly basis. All performance maintenance indicators are reported after every three months to the safety committee. The information provided is then submitted to the governing body involved via the regular reporting channels. All the elements of performance indicators can be changed upon request based on the administrative input, the institutional experience and regulatory change (Willson et al. 2004)

Benchmarking In Clinical Engineering

Over the years, there has been a lot of benchmarking activity with the clinical engineering sector. Clinical staff and hospitals are continually finding that there are many issues that are pushing them towards benchmarking. In this sector, we shall look at different methods in which benchmarking in the hospitals in used and the most common measures that are available. These different measures fall into different categories depending with the service they are used to measure. The outlined derivation of benchmarking

measures differ between different organizations, and checking into the differences is often vibrant than opting to do a direct comparison. This results into a debate when estimate the cost against other relevant performance measures. In addition, they help guide in making evidence based decisions which integrate the quality with the worth of money. (Willson et al. 2004)

In Canada, standards for evaluation and measurement of the best clinical engineering services were introduced back in 1998. To put everything in order, the Canadian biological and medical society created a review to boost the sharing of concepts. Another alternative option is making the use of external consultants to measure the service and advice on the utilization of performance indicators and quality systems to enhance it.

Audit

This is very important to getting and maintaining the highest quality standards. In its simplest terms, the audit compares the current and the intended practice and immediately reports on the difference. For instance, many follow a person through the maintenance process whilst looking out for any deviation from the right procedures, checking out the records and terms to ensure they have been completed successfully. This strategy is relevant to the internal audits and has the capacity of identifying whether the procedure is working as expected, unfortunately, it does not capture the power of exactly what the audit can achieve. (Willson et al. 2004) As a result, an auditor requires some level of incidence without carrying the responsibility of the area being audited single handedly, this is something that is very hard to achieve in small organizations. If this is done successfully, external audits

may bring sufficient benefits mainly if the auditing was conducted by an experienced auditor from another company. In simpler terms, a simple audit process visits are made up of:

Preparation and planning: The auditor agrees to the extent of the audit in advance.

Opening meeting where the auditor meets with the management representative to discuss the importance of the audit.

Audit: Includes visits to several areas, interviews with the organizations staff and examination of the databases.

Closing meeting: The audit meets the management to explain and share their audit findings and confirm the queries, indicating how the issues will be resolved.

Audit report: The audit writes a conclusive report clearing outline recommendations for improvement. Once both parties agree to the report, it is signed and passed to the relevant bodies.

Follow up: The auditor follows up checks out the corrective actions to see whether they have been completed.

Organization auditing can be used to measure how technical and scientific procedures are being followed and whether they will give the right results. This perfect type of audit may be conducted by experienced professional bodies under registered national schemes. For instance, thorough checks between radiotherapy determinants for quality assurance schemes and dose

delivery. Basically, it looks at the product, so that they can test a complete system that is where it differs to outline quality control. (Willson et al. 2004)

Summary

In this report, we have identified many reasons why a company should monitor its performance; we have also discussed the importance of integrating monitoring in a top-notch management system. We have vividly described the design of key performance indicators and looked at how they can be implemented in medical equipment management. (We have also outlined the pitfalls associated with developing and interpreting performance indicators and considered their utilization in practice. We have also reviewed how benchmarking can assist organizations enhance their performance. Finally, we have considered how audits should be strategized, what happens during the audit and how different groups of organizations can combine efforts and assist each other with benchmarking and mutual audit activities. (Grubel et al. 2008)

Discussion And Conclusion

One important thing to understand is the fact that key performance indicators are not performance targets. They are put in place as monitoring facilities with the idea of moving towards the direction of the successful implementation of the procedures, policies and process. Performance indicators are categorized into two distinct groups, namely, quantitate and qualitative. (McDermott et al. 2009)There are two things that must be identified in order to use KPIs effectively; these include the points in procedures or process through which the data is gathered to support the equipment monitoring. Secondly, the locations in service where the data

gathered should be presented as important information for quality management. KPI’s are important because they enable facilities to have systems in place for better management of medical equipment and devices. A few of the reasons why key performance indicators are used include more complicated, enhanced technical preventative maintenance, regularly needs consistent quality assurance and specialized user training. (McDermott et al. 2009)

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