



Service Priorities and Programmes Electronic Presentations

Convention ID: 671

Submitting author: Ms PUI YUK STELLA LEUNG

Post title: Hospital Administrator I, Kwong Wah Hospital, KWC

An Optimum Approach to Balance Patient Safety, Quality, Risk and Cost Effectiveness in Medical Equipment Maintenance

Macky TUNG(1), Stella LEUNG(1), PY SIU(1)

(1)Department of Health Information & Supplies, Administrative Services Division, Kwong Wah Hospital /TWGHs Wong Tai Sin Hospital

Keywords:

safety
quality
risk
cost effective
maintenance
medical equipment

Introduction

Factors affecting patient safety, service quality and risk are competing for the same resources in hospitals. To minimize the organizational risk in patient safety and service interruption owing to the use of medical equipment, the Government had granted a RAE of \$50M for the enhancement of maintenance for high risk medical equipment of Schedule II hospitals in 15/16. However, owing to technological advancement in healthcare, inflation in material and labour cost in HK, the one off allocation can never cover the induced need. As such, we have to develop a tactical equipment management scheme to balance safety, quality and cost under current resources constraint. KWH and WTSH have over 11000 no. of medical equipment. During Jan 2015 to Jan 2016, we have conducted a review on about 600 no. of medical equipment using the new management scheme and saved about \$2Mn in the annual maintenance cost, which is 5% of actual annual expenditure in medical equipment maintenance, with the same or higher level of maintenance coverage without compromising patient and equipment safety.

Objectives

To develop a tactical equipment management scheme to balance safety, quality and cost.

Methodology

Upon warranty or maintenance contract expiry of medical equipment, the following review is conducted with full participation of the user department: 1.Risk level – All equipment should have an appropriate risk level: I, II, III, IV 2.Service level – Information on utilization, availability of back up equipment and impact on clinical services has to be considered 3.Package Choice - 3 maintenance packages: comprehensive, labour only and ad hoc. Package choice is decided base on items 1 & 2 4.Preventive maintenance (PM) - Recommendations of Biomedical Engineering

Service Section (BESS), ECRI Institute, international standard/requirement on medical equipment for clinical services 5. Other requirements such as annual qualification and validation test 6. Cost - cost comparison with reference to i) the maintenance cost reference provided in the quotation/tender during purchase ii) past year maintenance charge iii) quotation from current service agent for bulk equipment maintenance iv) origin manufacturer/supplier v) inflation index 7. AMS/EAM – information input to system for future reference

Result

This review commenced since Jan 2015, as at Jan 2016, the equipment and service details and maintenance contract for 523 medical equipment had been renewed with \$2.02Mn saving, the saving is remarkable. “Do No Harm To Patients” always comes first to healthcare professionals, but it is about time to do more and better than just “do no harm”. To ensure safety and workability medical equipment so that it is safe and ready for use in all times, equipment owner departments welcome this optimum approach since the maintenance plan is relied on professional assessments. There are over 11,000 medical equipment in KWH & WTSH, and this kick step exercise has cover only 523 medical equipment generating \$2.02Mn saving. We believe it is a right track to go and will continue to review all the medical equipment and maintenance contract with user departments in the years to come.