Service Priorities and Programmes

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Radiology Workload associated with Liver Transplant Service in Hospital Authority

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Introduction

Liver Transplantation is a cutting edge medical technology that has been saving lives of patients with end stage liver failure and advance hepatic malignancies. In Hong Kong public health system, liver transplantations are exclusively performed in Queen Mary Hospital. It has immense resources implications and it attracts widespread media attention.

Objectives

Liver transplantation has always been viewed as a surgeons lead service, whereas the workload input from the radiology side has never been documented and quantified. We aim to retrospectively quantify the radiology workload supporting liver transplant service. We also used these figures to predict liver transplant related radiology workload in the future.

Methodology

We used the index year of 2013. We recorded the number of liver transplant recipients (n= 72) and donors (n=34) for that year. We followed the imaging and Interventional Radiology (IR) history of these patients covering the year before (T-1), during (T), one (T+1) & two (T+2) years after liver transplant. We also worked on the assumption that the imaging and IR workload begins to increase in the year before liver transplant, reaching its maximum during the transplant year and gradually decreases towards first and second year after transplant. For future prediction, we assumed that the number of liver transplant each year does not escalate and the number each year is assumed to be the average of the three preceding years. We also assumed that the imaging and IR requirement for recipients and donor of three years' standing and beyond are negligible.

Result

Our results show that for each 100 liver transplant recipients the radiology imaging and IR workload for T-1, T, T+1, and T+2 are 37.13, 109.7, 32.23, 23.41 radiologist sessions per year. For every 100 liver donors, the respective workload is 10.11, 83.94,

12.5 and 3.18 sessions per year. This finding supported our assumption. The actual transplant related workload required by the 2014 transplant recipient and donors were 162.8 radiologist's session. The predicted workload required by the 2015 and 2016 recipient and donors were 143.8 and 153.0 respectively, equating 0.41-0.43 full time radiologist specialist after adjusting to the annual leave and public holidays each year.