



**Service Priorities and Programmes**  
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**Adoption of Remote Monitoring for Heart Failure Patients Implanted with Cardiac Resynchronization Therapy Devices and Cardioverter Defibrillator- The Advent of Telemedicine in Cardiac Disease Management**

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**Introduction**

The emerging emphasis on device therapy in heart failure (HF) patients provides additional unique opportunities to intervene in management of this high-risk population. Modern cardiac implantable devices (CIEDs) have incorporated novel surrogate measures to predict possible HF exacerbations thereby allowing early interventions and improved clinical outcomes.

**Objectives**

To assess and analyse the impact of remote monitoring for severe heart failure patients implanted with cardiac electronic devices

**Methodology**

We performed a retrospective observational study from January 2011 through December 2016 in Cardiac Medical Unit, Grantham Hospital. Patients implanted with cardioverter defibrillator (ICD) or cardiac resynchronization therapy with pacemaker or defibrillator (CRT-P and CRT-D, respectively) from any manufacturer were included. The cohort was divided into 2 groups according to RM utilization (that is, RM or No-RM). The primary outcome in this analysis was all cause mortality and significant cardiac events such as heart transplant or ventricular assist device (VAD).

**Result**

The cohort included 293 patients ( mean age  $60 \pm 14$  years ; 210 (72%) men). The baseline characteristics according to RM use are shown in Table 1. RM patients were younger but overall the entire cohort had significant low ejection fraction (mean EF 32%) which was not different amongst the 2 groups (RM mean  $32 \pm 16\%$  vs  $33 \pm 16\%$ ;  $p=0.44$ ). Prevalence of diabetes and atrial fibrillation were significantly higher in

No-RM group. Multivariate analysis showed that history of AF and DM were significant factors in predicting clinical outcomes. RM use were associated with definite improving trend (though not statistically significant  $p=0.055$ ) in clinical outcomes and survival when compared with No-RM group.

Conclusions:

Our preliminary data showed that RM utilization is associated definite improving trend in clinical outcomes for our cohort of heart failure patients implanted with CIEDs.

Further detailed analysis should be performed in order to collect more informative data to our healthcare system seeking to reduce hospitalization, encourage access and maximal adoption of RM with incorporation of RM data into clinical care.