Poster Session
HRT11420 –Innovation Awards
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Smartphone based home-care delivery of Cardiac Rehabilitation

Presenter(s): Anita Keightley (Metro North HHS)
Mohan Karunanithi (CSIRO)

Hospital Code Name: Metro North HHS
Elevator Pitch- What is the outcome/significance of your presentation?

- Problem: Effective prevention and management of cardiac events such as a Heart Attack is traditionally done through centre based cardiac rehabilitation but is very underutilised.
- 1st research group to test this in a Randomised Control Trial.
- Remarkable outcomes:
  - CAP Improved CR use by > 30% than and similar health outcomes as that of traditional CR program.
  - CAP improved quality of life of CR clients by 10%.
Key problem: Underutilization of cardiac rehabilitation <20% in QLD, Australia and most other developed nations

Aim of Innovation: To develop an alternative, home based model that provides an option to improve CR utilisation and overcome the barriers faced by traditional centre-based CR

What we did: Designed, developed and validated innovative care model using smartphone/Internet platform to deliver CR in client’s home
KEY PROBLEM - One Slide

- Patient with limited choice to attend CR programs (centre-based).

- High dropout rates of centre-based CR - confirmed in the RCT

- CAP home based CR was designed to address most barriers of centre-based CR (eg. travel, group-based, geographical access return to work, etc.)
AIM OF THIS INNOVATION – One Slide

- To develop an alternative, home based model that provides an option to improve CR utilisation and to overcome the barriers faced by traditional centre-based CR
BASELINE DATA -

- Fewer than 11% of patients across Australia were referred to phase II cardiac rehabilitation at discharge.
  
  *D.L. Walters et al. “Variation in the application of cardiac care in Australia” MJA 2008; 188(4)*

- Significant underutilisation of Cardiac Rehabilitation programs. Only 16% of all the eligible patients complete a program in QLD.
  
  *I.A. Scott et al. “Utilisation of outpatient cardiac rehabilitation in Queensland”, MJA 2003; 179(7)*

- USA: 18.7% of the eligible patients participate in rehabilitation programs.
  
  *R.J. Thomas, “Cardiac Rehabilitation/Secondary Prevention Programs; A Raft for the Rapids: Why Have, We Missed The Boat?”, Circulation 2007;116:1644-1646*
KEY CHANGES IMPLEMENTED

- Validated evidence of the CAP CR program delivery

- Redesigned and re-engineered the platform from results of the RCT – MoTER – with enhancements for even better uptake

- Currently funded and implemented as part Metro North HHS ICT innovative chronic disease management delivery.
OUTCOMES SO FAR

First innovative home based model to be validated:

- ** Participation in Cardiac Rehabilitation **
  - Uptake: TCR > CAP-CR
  - Adherence: TCR > CAP-CR
  - Completion: TCR > CAP-CR

- ** Δ Six Minute Walk Test distance (m) **
  - TCR: 70 m, CAP-CR: 60 m
  - Significant difference (*)

- ** Δ EQ5D index score (median) **
  - TCR: 0.1, CAP-CR: 0.08
  - Significant difference (*)
OUTCOMES SO FAR

- Home based Model of Care taken up for implementation in MNHHS of QH
- New CR service delivery model
- Preliminary costs savings: $535/patient/CR program

LESSONS LEARNT – One Slide

- Success and uptake for an alternative care model – design needs close alignment to existing care delivery

- Translation of research into clinical practice and services

- Dedicated mentoring – focused skill and efficient CR delivery

- Giving patient choice – for better uptake
Who can provide information on this innovation from your service?

Anita Keightley – Assistant Director Allied Health Subacute and Ambulatory Services Metro North

Dr. Darren Walters – Director of Cardiology, The Prince Charles Hospital, HHS

Dr. Mohan Karunanithi, Group Leader, Health Services, AEHRC, CSIRO