

A Novel Service Design for Remote Transmission of Pacemaker Data

St. Mary's General Hospital, Kitchener
May 2015



Disclosure

- I have no actual or potential conflict of interest in relation to this presentation

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St. Mary's General Hospital

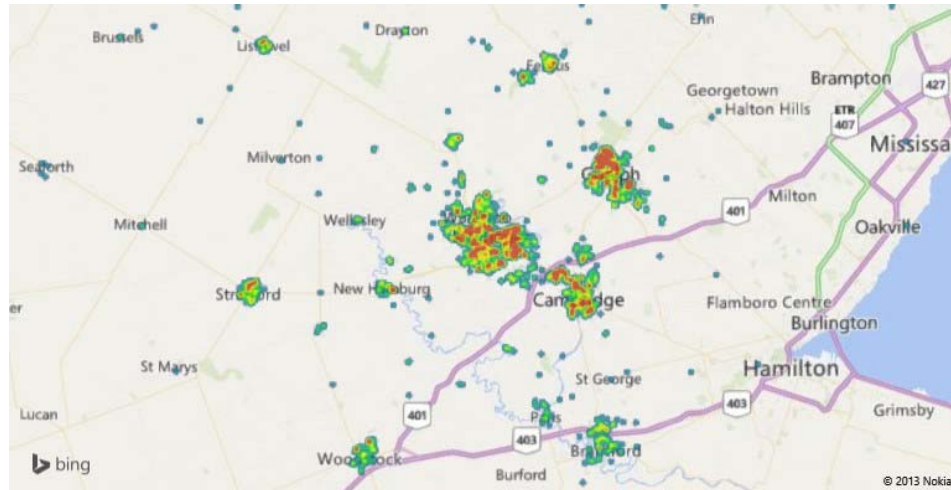


www.smgh.ca

- 150 acute care bed community hospital located in Kitchener, ON
- Home to the Regional Cardiac Care Centre (RCCC) for Waterloo-Wellington
- Has provided a full range of cardiac services including device insertions since 2000



SMGH Pacemaker Patient

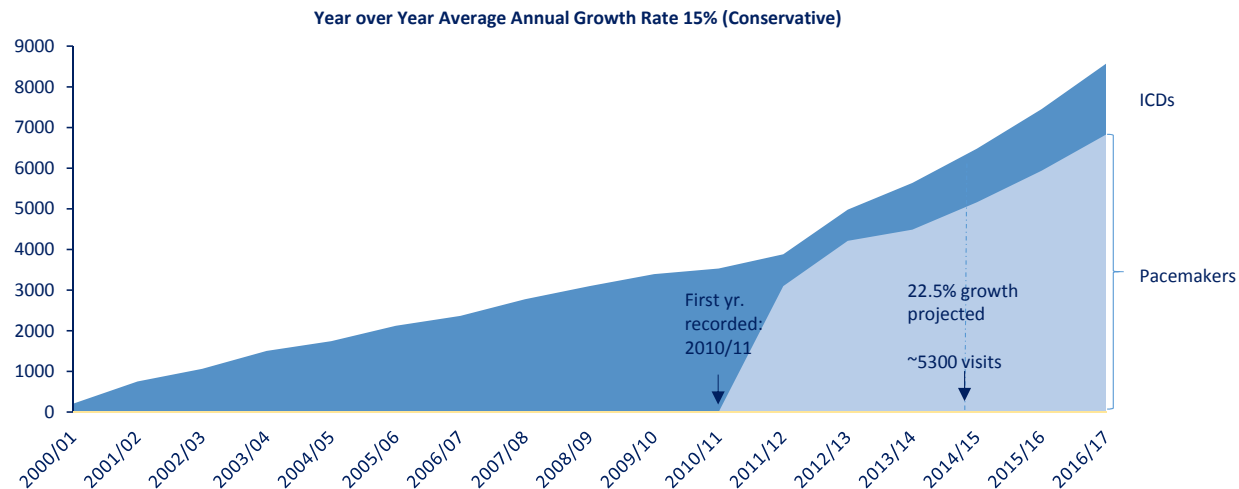


- 2577 patients
- ~60/40 M/F
- Average age 77 (2009: 73)

**67% of patients live outside of Kitchener Waterloo.
Highest concentration of patients in Guelph,
Cambridge, Stratford, Brampton, Woodstock**

Appointment Volumes

Device Clinic Visits 2000-2017

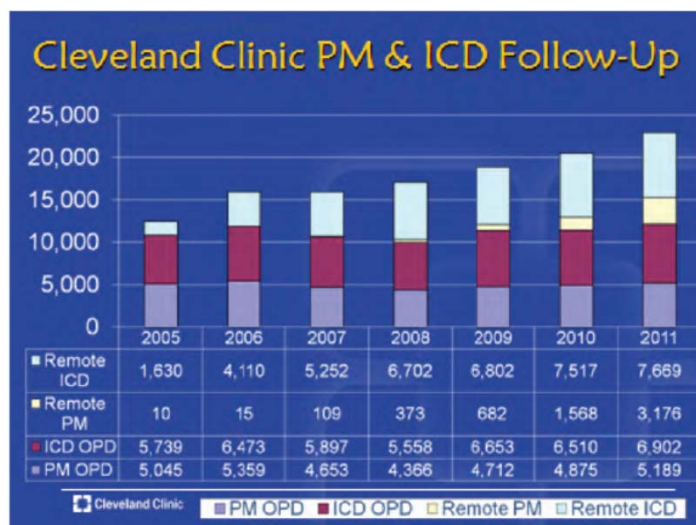


- Follow up Schedule:: 72 hrs after insertion, 6 months, 1 yr- ,very 3, 2, 1 month until replacement
- In comparable clinics/patient population 95% of visits are for routine follow-up, 82 % require no programming (Allen, 2014)

Allen, S. (2014). Remote follow Up: where are we now? Has it improved patient services? Retrieved from <http://www.heartrhythmcongress.com/files/file/HRC2014%20Presentations/141008-Remote%20Follow%20Up,%20S%20Allen.pdf>



Remote Monitoring of Cardiac Devices



Wilcoff, B. & Slotwiner, D., Cost Efficiency and Reimbursement for Remote Monitoring: A US Perspective, *Europace* (2013).

Benefits cited:

- patient convenience, with reduced use of office services
- equal safety compared with in-person evaluation
- a relative reduction in the risk of death
- shorter detection time to actionable events (arrhythmias, cardiovascular disease progression, and device malfunction)
- increased battery longevity

Objective

To assess the feasibility of offering patients who need routine pacemaker device checks the opportunity to transmit data remotely from a satellite site in the Guelph region

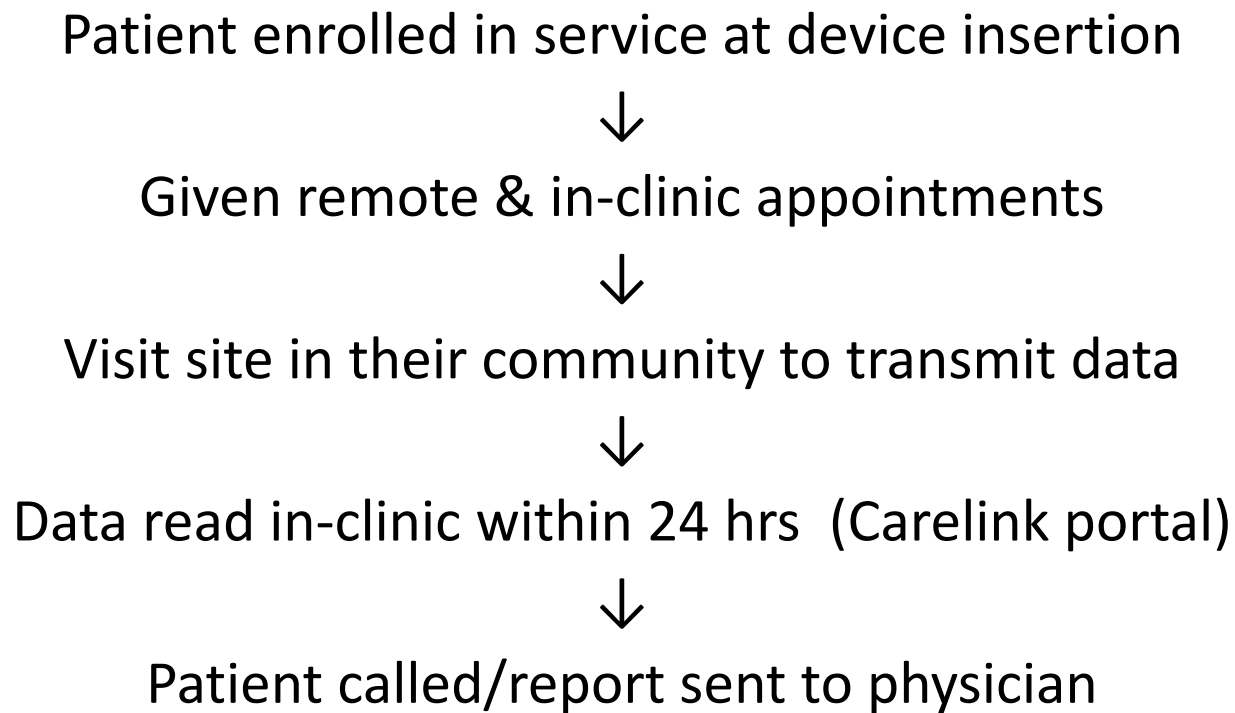
Key factors:

Not all pacemaker patients candidates for continuous home monitoring

Availability of Medtronic CareLink Express™ (un-paired) currently used primarily in EDs

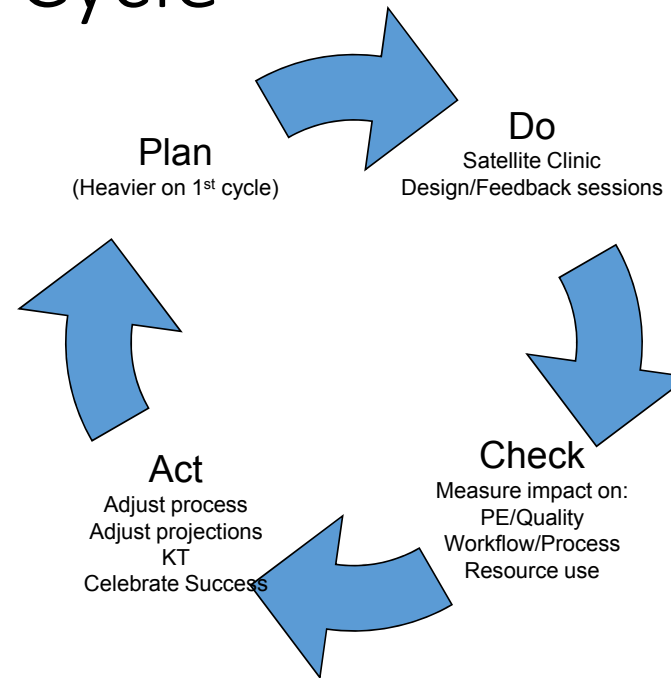


Service Model



Implementation: PDSA Cycle

1. Work with patients, caregivers and clinic staff to design model
2. Identify those patients from the Guelph region who would benefit from/are eligible for remote monitoring
3. Monthly sessions then increase frequency to weekly (rapid feedback)



Service Design - Stakeholder Engagement

Process

- Solicited feedback and evaluation on an on-going basis
- Met with small groups of patients, caregivers & community interest groups in Guelph
- Discussed/mapped service from patient point of view (Experience-based Design method)
- Solicited feedback and suggestions on location
- Consulted with GGH Transition steering group

Patient & Caregiver priorities (must-haves/good-to have):

- Ease of access
- Free parking
- Was not important to them that the service be based at a medical facility

“Kiosk” Remote Service Model



- ~200 patients using service
- Location: YMCA of Guelph
- 1st session May 26th, 2014
- Now held every Monday afternoon
- Average session length: 7 min
- Patients supported on-site by volunteers
- Volunteers recruited through partnership with St. Joseph's, Guelph. Screened by SMGH.

Evaluation

No adverse clinical events

Patient Experience: 95% of participants strongly agree that they would continue to use the service, Improved attendance for Guelph patients who were no-shows at the clinic

Methods: Baseline in-clinic survey and anonymous mailed post-session

Clinic Efficiency: Service requires ~50% less resource time per visit, and has the potential to offset increase in in-clinic appointment volumes if scaled

Methods: Time study conducted in clinic and following implementation (2x)

Value for Money: No direct overhead

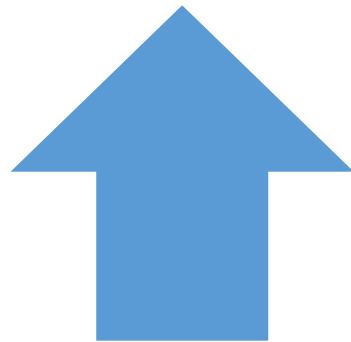
- YMCA partnership
- Volunteers assist patients on site

However- Reimbursement levels not established by MOHLTC for Remote Monitoring services for pacemaker patients.

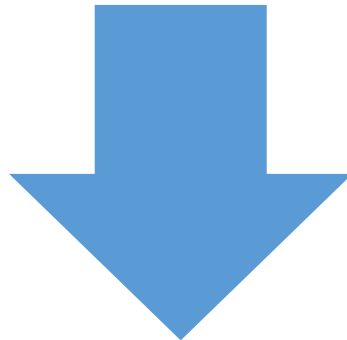
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Key Success Factors & Barriers



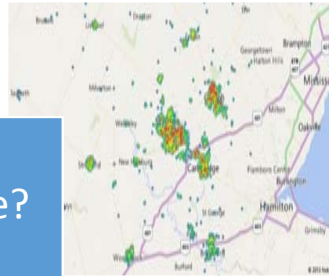
- Patient “Pull” & engagement
- Executive attention
- Partnerships
- Clinical champion
- Real time evaluation



- Reimbursement
- Availability of data
- Standards of Care/Evidence

Next Steps

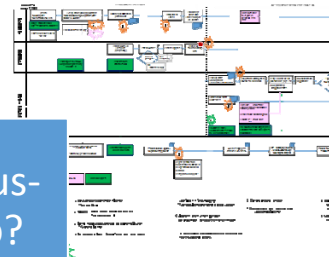
Scale?



Improve
In-clinic
flow?



Status-
quo?



Key Considerations

- Funding needed to off-set lack of reimbursement once threshold volume is met/clinic operations are optimized
- Assessment of need (volumes, patient population)
- Opportunity to scale through existing partnerships
- Integrate fully into standard of care

Questions?

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