Telehealth
Enablers and Barriers
Nepean Blue Mountains Local Health District

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Nepean Telehealth Technology Centre

- $2 million over 4 years to develop and implement innovative Telehealth initiatives
- Partnership between Nepean Blue Mountains Local Health District (NBMLHD) and the Institute of Biomedical Engineering and Technology, University of Sydney
- Recurrent funding to further develop and sustain Telehealth projects
Benefits

- Improved access to specialty services
- Improved health outcomes
- ↓ Travel
- ↓ ED presentations
- Collaborative approach to patient-centred care
- Facilitates Integrated Care
  - ↓ Patient complication rate
  - ↓ Length of stay
  - ↑ Staff and patient satisfaction
- Improved staff access to experienced health professionals
- Professional development opportunities for staff
- Improved utilisation of existing resources
- Enhancement/development of self management models of care
Achievements

- Hosted Nepean Blue Mountains Telehealth Symposium in 2014
- Invited to present at the Health Roundtable Innovations Workshops and Awards, 2015
- Invited to present at the transitioning to an Integrated Health Service conference, 2015
- Invited to present the Home Haemodialysis Telehealth Project at the Annual NSW Health Innovation Symposium, 2014
- Ministry of Health Integrated Care Planning and Innovation Fund proposal
- Disseminated research findings through leading international publications and Telehealth related events
- The Aged Care Project was supported through the Agency for Clinical Innovation redesign program. The two participants successfully graduating with a Diploma in Project Management
Telehealth Initiatives

- Acute Aged Care
- Telepsychiatry
- Home Haemodialysis App
- Telestroke
- Outreach Services
- Orthopaedic Outpatient Telehealth Clinic
- Infectious Diseases Telehealth Clinic
- Vision for Life
- St Mary’s Community Health Centre
  - Drug and Alcohol
  - Mental Health
  - Child and Family Health
- Checkpoint Program
Enablers and Barriers

- Cultural Change
  - Governance and Champion
  - Dedicated coordinator and team
  - Effective change management strategy

- Technology
  - Identifying what is needed in the work process and a solution to fit
  - IT infrastructure – simplicity, reliability, compatibility and restrictions

- Financial
  - Cost (initial and ongoing) vs revenue generation and cost savings
Acute Aged Care
Connecting Acute Aged Care Services with Residential Aged Care Facilities

- Significantly increasing ageing population
- 27 Residential Aged Care Facilities (RACF) located in the NBMLHD catchment area
- High Emergency Department presentation rate by patients located in RACF
- Limited Virtual Aged Care Services (VACS) resources
Aim

- Link RACF with Acute Aged Care Services at Nepean Hospital using Telehealth (video conferencing) to:
  - Review patients following discharge
  - Provide a timely review for unwell patients
  - Smooth the process for patients who present to hospital
  - Provide support to RACF staff
Key Actions

- Diagnostics including data collection
- Established Working Party
- Process Mapping
- Site visits and assessments
- Set up the RACF with equipment
- Conducted workshops, training and developed relevant documents
Benefits and Outcomes

- Improved relationships between hospital and RACF
- Improved use of VACS resources
- Improve patient and staff satisfaction
- Provide a timely review for unwell patients therefore avoiding unnecessary hospitalisation
- Smooth the process for patients who present to hospital through improved communication and planned admissions
Enablers and Barriers

- **Enablers**
  - Strong clinical and executive champion
  - Building strong relationships and good communication
  - Supporting cultural change through collaborative development of model of care and support during implementation

- **Barriers**
  - Change in management at RACF
  - Technological restrictions - Unable to video conference outside the firewall and black spots
Telepsychiatry

- Emergency departments in rural and remote areas have limited or no resources to provide a specialised mental health assessment outside regular business hours
- Patients are frequently transferred between hospitals for mental health assessment
- This results in patient distress and potential exacerbation of their symptoms
Aim

- Use video conferencing to:
  - Assess patients presenting to emergency departments in rural regions and requiring mental health assessment
  - Provide an opportunity for patient families or carers to participate in a mental health assessment
  - Provide support to emergency department physicians
Key Actions

- Established Steering Committee
- Stakeholder engagement
- Developed documentation including Action Plan and Business Rules
- Equipment testing
- Training
- Ongoing review of process
Benefits and Outcomes

- Avoid unnecessary transfer of patients between hospitals
- Provide timely assessment and treatment to the required location
- Encourage family participation in specialist assessment for patients in rural and remote areas
- Support clinicians in emergency departments by providing specialist assessments
Enablers and Barriers

- **Enablers**
  - Strong governance and support by Chief Executive
  - Gazettal of Lithgow Hospital

- **Barriers**
  - Change in champions and key stakeholders
  - Multiple steps for clinicians
  - Equipment malfunction
Home Haemodialysis App
Home Haemodialysis App

- Western Renal Service encompasses NBMLHD and Western Sydney Local Health District (WSLHD)

- It is one of the largest home dialysis therapy populations in Australia with 53% of all patients dialysing at home

- 130 patients currently on home haemodialysis (HDD); 30% increase in patient numbers over the last 3 years

- Limited nursing resources limits ongoing support
  
  84 Suburbs  Nurse : Patient ratio = 1:36
Aim

- Use the Home Haemodialysis App and System to:
  - Increase patient contact with specialised nursing staff
  - Monitor dialysis treatment parameters entered in real time
  - Provide a platform for clinical assessments; timely detection of potential complications
  - Assist patients’ decision making
  - Replace patients’ logbook
**Hemodialysis**

**Last Dialysis**
Sun, 16 Jun 2014

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**Weight**

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<td>Jul 16, 2014</td>
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**Graph**

- Weight
- Time
- Dry Weight
Key Actions

- Agreement between NBMLHD and Western Sydney LHD
- Engagement of University of Sydney’s Institute of Biomedical Engineering and Technology
- Needs analysis conducted
- Patient and staff engagement
- App development and testing
- Ongoing review of system
Benefits and Outcomes

- Simple and easy to view dialysis data and trends in real time resulting in improved clinical decision making assisted by the use of a mobile App
- Efficient and easy record keeping through an App that has been developed with the patient, for the patient
- Increased compliance and frequency of reviews, less travel time for patients and staff
- Best Practices (Security, Training and Documentation)
- Capture number of treatments per month for Activity Based Funding
Enablers and Barriers

- **Enablers**
  - Clear objective with benefits to all stakeholders
  - Highly customised and optimised App designed by the users
  - Collaboration with the University of Sydney research institute

- **Barriers**
  - Ongoing upgrade and further developments to ensure system compatibility and increased usage
  - Sustainable cost model
  - Staff and patients who are uncomfortable with using mobile technology
Summary

- Enablers and Barriers
  - Cultural Change
  - Technology requirements
  - Financial implications

- Identify clear objectives and benefits for each Telehealth initiative

- Strong governance structure

- Strong relationships with stakeholders including Information Technology Services, managers, clinical staff and administration staff

- Well planned implementation including risk assessment and mitigation
Acknowledgements

- **Kym Scanlon**, Director Planning and Prevention NBMLHD
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- **Dr Mohammed Kakkat**, Senior Hospitalist, Geriatric Department, Nepean Hospital
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- **Mary Ann Nicdao CNC**, HHD Training and Support Unit, Western Renal Services
- The **Western Renal Services Staff**
- **Information Technology Services**, Nepean Hospital
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- **Cathy Crowe**, General Manager Mental Health Services NBMLHD
- The **Telehealth Steering Committee**, NBMLHD
- The **Telepsychiatry Steering Committee**, NBMLHD
- **University of Sydney**, Biomedical Engineering and Technology Faculty