eRehab: A New Model of Care for Stroke Patients

ESC CCAC
Windsor Regional Hospital
Sensory Technology
Saint Elizabeth Health Care
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ESC CCAC

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Why eRehab? The Case for Change

• New provincial standards for community rehab set out in *Quality Based Procedures: Clinical Handbook for Stroke*

• Recommended: 2 to 3 sessions (45 minute duration) per week/per discipline for at least 8 weeks

• ESC CCAC service averages were 6 visits across disciplines for 12-14 weeks so underservicing which potentially results in:
  – Failure to meet full recovery potential
  – Increased risk of falls
  – Increased risk of return to hospital: either ED or readmission/increased use of acute care resources
The Pilot

- Proof of concept-100 patients
- For stroke patients transitioning from hospital acute care to home
- Partnership between Erie St. Clair Community Care Access Centre (ESC CCAC) and Windsor Regional Hospital (WRH)
- Services provided through St. Elizabeth Health Care
The eRehab Model
The eRehab Model

- Utilizes trained rehab technicians in the patients home to carry out programs and interventions under the direction of a therapist
- Technicians and therapists are connected in real time by technology (tablet and computer)
- A specially designed application from Sensory Technologies enables the technician to send information to the therapist who will review, assess and advise the technician in real time
- Ratio of one directing therapist to up to 6 technicians
Patient reports are available in real-time to:

- Directing Therapists
- Physicians
- Clinical Care Coordinators
- Clinical Analytics
- Caregivers
Unique Features of eRehab

• First eShift model to be trialed with a professional discipline other than nursing
• Includes three regulated professions (OT, PT and SLP) vs a single regulated profession (nursing)
• Utilizes a single regulated professional (OT) to provide direction and support to technicians across three disciplines
• Research indicates that OT is the profession that has most impact on reducing hospital readmissions
• Real time consultation with other therapies is available
Service Plans

- Clinical Care Coordination is provided by a CCAC Registered Nurse (RN) in hospital and in the patient’s home post discharge
- First therapy visit within 24 hours of discharge
- Clinical Care Coordinator visits within 48 hours of discharge
- 4 visits per week across required therapies; distribution of visits determined by patient need
- Service provided 7 days a week
- Length of stay up to 8 weeks
Windsor Regional Hospital

Janice Dawson
Vice President, Critical Care, Cardiology
Preparing for the Change

- Collaborative engagement sessions with hospital partners: managers, physicians and clinical staff to share vision, provide clinical expertise and get their operational input
- Information sessions with provider organizations who were considering submitting an expression of interest to participate in the pilot
- Presentations to stakeholders not directly involved in the pilot for input
- Development of working group to develop detailed work processes (patient identification, referral, communication, etc.)
- Patient and Caregiver involvement. CCAC Patient Advisors.
Who is Eligible for the Pilot Service?

- New diagnosis of mild or moderate stroke with:
  - $\text{AlphaFIM}^\text{®}>80$ is parameter for mild stroke
  - An individual with moderate stroke would be included at recommendation of hospital team
- Destination of home, being discharged from Windsor Regional Hospital stroke unit
- Ongoing rehabilitation goals indicate need for specialized multi-disciplinary stroke services
- Patient is willing to participate in rehabilitation
Change Management

• Early involvement of district stroke program, neurologists, therapies (allied health) and hospital leadership
• New concept for rehab – everyone on the same page
• Timing with opening of Acute Stroke Unit (ASU)
• Early identification of potential risks to program
• Incorporating discussions of potential patients for e-rehab into daily activities on the Acute Stroke Unit (rounds, referral processes)
• Sustainability – ongoing weekly check-ins with team to keep small problems small
St. Elizabeth Health Care

Elaine Shaw
Director of Nursing and Rehab

Carrie Toth
Personal Support Supervisor
Services Available

- Clinical Care Coordinator: provides both care coordination and nursing services to encompass all identified needs of the patient
- Occupational Therapists/Physio Therapist/ Speech Language Pathology /Occupational-Physio Assistants/ Communicative Disorder Assistants/ within the pilot model
- Personal Support, Dietician, Social Work as per usual CCAC models
- Equipment rental for assessment of long-term need
- Medical supplies as required
Directing Therapist

• Daily Touch Base calls with the Clinical Care Coordinator to identify potential new admissions
• Coordinates new admissions with the Therapists and Technicians
• Dash Boarding Technicians visits in real time
Initial Therapist Assessments

• Per regulatory college standards for all therapies, the therapist must conduct their own detailed assessment and develop own service goals

• Initial assessments take place via video technology (provided through OTN); the assessing therapist is remote and the technician is in the home with the patient

• “The open communication with the eRehab Team and the CLCC at WRH was cohesive although we were in different geographical areas”

• The assessing therapist may visit the home for a face to face visit at any time if either the directing therapist or assessing therapist deems necessary
Dash Boarding

• Directing Therapist provides on line support during the technicians sessions with patient via Sensory Tech

• “exceptional program software that is user friendly, easy to navigate and use”

• Technicians check in at the start of the visit, send any questions or concerns with their sessions and check out at the end of the session

• “I felt supported while having a session with a patient by the therapist, it was convenient and reassuring to know that if I or the patient had any questions or concerns, the therapist was virtually accessible”
Documentation

- All documentation is recorded in the electronic medical record/eRehab application
- Video conferencing is solely for the purpose of connecting the assessing therapist and the technician and is not recorded/stored as part of the record
Therapist/Technician Experience

- “being able to fill the need for higher level functioning stroke patients”
- “being on the cutting edge of something that will change the lives of patients we treat”
- “it was great to have the Therapist dash boarding, it is a convenient way to reach out when the patient has questions or concerns, the therapist was right there to help”
Therapist/Technician Experience (cont’d)

• “allows for patients family to be more involved in the care and recovery of the patient in their home setting”

• “there is a better understanding of the patients environment at home, can give functional suggestions and examples based on their home environment”
Patient Experience

- “patients would not have been able to get to therapy if it wasn’t at home, they were not able to drive”
- “Takes the stress off of them to coordinate someone to drive them to therapy, less dependent on others”
- “did not have a good understanding of stroke and recovery until they read the stroke book and talked about it with the eRehab team”
In the Patient’s Own Words

• “this technology makes home care possible. It has helped me recover quickly and almost completely”

• “this program has helped me enormously and I sincerely thank you.”

• “having a therapist there to walk with me down the sidewalk was very encouraging. It was the motivation I needed”

• “This is a wonderful program. I would like to thank everyone involved in this. Without home care I would not have been able to attend classes on the outside, due to my circumstances.”
In the Patient’s Own Words (cont’d)

- “My speech and language teacher taught me how to sound out words, read aloud, be patient and speak slowly. I feel I’ve improved 80%.

- “I was glad to have CCAC visit me to see how my health was. She answered my questions and made me feel better about my situation. She also called to see how I was and to inquire about my other medical problem. I appreciate it.”
Discharge from the Pilot Service

- To self-management once goals completed or patient choice

- To out-patient services after 8 weeks if there ongoing rehab needs
Sensory Technologies

Patrick Blanshard
Chief Executive Officer
Modular Implementation

Outcomes and Performance Management

Clarity

Caregiver  Central  Care
Collaborate  Clinic
Consult  Chart

Command

Connect

System Administration
Mentor / Manage / Monitor

Observation
Documentation
Action

Collaboration
Management
Instructions

Management
Analytics
Technology Stack

Firewall / Web Proxy

- .Net Application
  - Microsoft IIS on Windows

Tomcat, Active MQ on Linux

Database Server

- PostgreSQL on Linux

Virtualization

- vmware or Amazon

PIA / TRA / PVA

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Evaluation/Metrics
Quantitative Patient Outcomes

- Patients will have individual treatment goals set by their therapists.
- Will also have a dashboard of select metrics that will reflect overall impact of the model on patient recovery:
  - Reintegration to Normal Living Index (RNIL)-Communication-related questions/self-reported scores
  - BERG balance scale- balance in functional tasks
  - The Barthel Index score – activities of daily living
  - Timed Up and Go score – mobility and balance
  - Depression Scale score - adjustment to stroke
Quantitative Patient Outcomes (cont’d)

- Will be considered at an individual patient level to determine that patient’s progress through their rehab

- Will be analyzed as aggregate data to look at the overall clinical effectiveness of the model
Qualitative: Patient/Provider Experience

- Patients are offered the option of completing journal of their experience throughout their rehab process
- Journal is a combination of narrative/open thought recording and some scaled questions
- Hope to interview some patients and video-tape their interview as a means of sharing with stakeholders not directly involved in the pilot
- Will conduct surveys and interviews post pilot to understand provider experience and perspective
“Just In Time” Evaluation: Course Correction

We are evaluating and adjusting as we go:

- Work processes
- Improved education to stakeholders
- Adjustments to the EMR/application
Anticipated System Benefits

- Reduced use of acute care dollars for mild to moderate stroke by:
  - Avoidance of ALC days
  - Reduced return to hospital (avoidable ED visits or readmissions within 30 days)

- Reduced use of long-term care beds for rehab purposes (convalescence)
Next Steps
• Complete the 100 patient pilot and subsequent evaluation: **25 admissions to date**.
• Share success with stakeholders
• Consider expansion opportunities in terms of geographical spread and additional partnerships
• Explore research opportunities
Contact Us

For further information about eRehab

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