Chronic Disease Management of Congestive Heart Failure

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Rationale for Initiative

- Chronic Disease in General, and CHF in Particular Present Major Burdens on Health System.
- CDM is a Regional/Provincial Priority
- Opportunity to Demonstrate the use of Telehealth in Supporting Primary Care Providers, Improving Quality of Care and Outcomes for Patients with CHF
Rationale for Prioritizing CHF

- In Winnipeg Health Region, Heart Failure Consistently 2\textsuperscript{nd} and 3\textsuperscript{rd} Highest in Terms of Volumes of Patients and Total Conservable Beds
- In 2003/04 for all WRHA Sites, the ALOS for Heart Failure was 13.2 and the ELOS (Based on National Averages) was 6.9
- The ALOS for CHF for Two of Winnipeg’s Community Hospitals Compared with Peer Hospitals was 17.2 and 15.6 Compared with 9.5
- Readmission Rates High
Goals and Objectives of the Project

- Demonstrate Effective Coordination and Integration of Health Care Providers to Manage CHF via Telehealth
- Demonstrate Decreased Health Care Usage (ER Utilization, Days of Stay, Re-admission Rates)
- Demonstrate Improved Health Outcomes/Patient Satisfaction
- Demonstrate Patient Acceptance of Telehealth as Means of Access
- To Carry-out an Effective Collaborative Evaluation of the Initiative.
CHF Management Call Flow

- Population Identification
- Introduction Letters
- Initial Nurse Contact with Patient
- Assessment Call
- Stratification
- Monitoring Calls
- Health Education
- Re-evaluation and Re-stratification
- Reporting/Feedback
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GROUP 1
Usual Care

GROUP 2
Usual Care Nurse Telehealth

GROUP 3
Usual Care Nurse Telehealth Telemonitoring

ENROLLMENT RESEARCH SURVEYS

STRATIFICATION
• HIGH
• MODERATE
• LOW

TELEHEALTH NURSE MONITORING CALLS AND EDUCATION

HOME MONITORING
• BI-WEEKLY – WTS. BP
• WEEKLY – WTS, BP, SYMPTOMS
• MONTHLY - GERIATRIC DEPRESSION, MEDS, DIET, FLUID INTAKE
Key Program Features

- **Intervention – Customized Self-Management Plan**
  - Proactive Condition Related Education, Discussion and Support
  - Educational Mailings (Action Plan, Pamphlets, Workbooks)
  - Alert Physicians/Case Manager Based on Clinical Monitoring
  - Referral to Local Support Sources
  - Symptom Based Triage 24/7
Client Health Education Topics

- Heart Failure Basics
- Heart Failure Diet
- Home Monitoring
- Medications
- Preventative Medicine
Current Status of the Program

- **Enrolment Statistics**
  - Physicians – 22 rural, 61 urban
  - Patients – 42 rural, 117 urban

- **Early Process Learning**
  - Barriers to Patient Enrolment
  - Family Physician Engagement
  - Researcher-Decision Maker Compromise on Evaluation Components
Results

- 70% of Enrolled Patients Lost Weight
- Patients Following Recommended Low Sodium Diet Reported:
  - Decreased Swelling
  - Increased Activity Tolerance
  - Reported Feeling Much Better
- Assessment and Monitoring Calls Identified Individuals in Early CHF, Facilitated Physician Intervention and Avoided Unnecessary ER Visit or Hospital Admission
Results

- 25% Decreased/45% Maintained NYHA Functional Level
- 24% Reduced Stratification Risk Level
- Improved Medication Compliance, Resulting in Improved Health Status and Decreased Hospital and ER Visits
- Many Patients Adopting Improved Self-Management Techniques Enabling Health Monitoring and Improved Symptom Response
- Patients With Co-Morbid Conditions Report Benefit With Diabetes Management, Blood Sugar Control, and Cholesterol Levels
Multivariate Analyses for Self-Care

Both intervention groups improved with time.

Groups remained stable (slope=0) from 6 months to intervention end.

No change in control group with time (slope=0)
Multivariate Analyses for Heart Failure Scale (0-6 months)

No change in control group with time (slope = 0)
General Findings

- Overall patient and provider satisfaction (many layers within)
- Acceptance of health lines as means of access (across age cohorts)
- Physician engagement = key theme
- Health lines nurse acceptance
- The challenge of integration
Patients

Health Lines Group:

- Learned self-management quickly (water; salt; medications)
  “sometimes you’re going off line a bit...but this sure puts you back in line”
- Frustration with timely access to p.c. providers (“He’s overbooked and overworked”)
- Better to enroll as soon as diagnosed
Patients

Monitoring Group:

- Overall acceptance of technology
  "because you could phone the nurses at any time…"
- Comforted by person behind the phone
- Worked better for older than younger
Patients

- Control Group
- Appeared sicker
- Longest discussion – needed support
- Disappointed when found out “Control”
- Heart surgery, fear, unsure of diagnosis
Future Direction

- CareLink Project – collaboration between MB Health and Health Canada Infoway
- Expand CDM existing program to include all areas of the province as well as initiate disease management for diabetes for those who are not accessing or are unable to access existing diabetes services
Discussion

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