

# Feasibility of a Rehab Model Designed to Improve Outcomes in Long Term Care

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## Abstract

- Current research supports a feasibility study for an innovative rehabilitation model in Long-Term Care (LTC)
- The model centres on screening, diagnosis and management of common back pain conditions in seniors demonstrated by the literature to have a significant impact on clinical, process and financial outcomes
- The practical application of the model could be transferrable to other conditions with significant health and financial impacts

## Objectives

- Introduce incremental changes to current rehabilitation model in LTC to improve delivery of care and decision making
- Provide an opportunity for LTC facilities to harness innovation and become a leader in health system transformation
- Study direct/indirect costs and assess financial ROI
- Develop a collaborative management model that considers the link between back pain and other chronic diseases
- Develop clinical decision rules for effective detection and management of spinal conditions in seniors
- Study challenges of collaborative care

## Why Do We Need a Management Model for Back Pain in LTC?

### Prevalence

- In Ontario, back pain affects 1.6 million people - by 2026, an estimated 2.8 million Ontarians aged 15 and over will be suffering with the condition (*Public Health Agency, 2010*).
- With aging population, the prevalence of back pain is expected to rise to 20% of the Canadian population, resulting in approximately 7 million or 1 in 5 Canadians by 2031 (*Public Health Agency, 2010*)
- Results from an Ontario study of LTC seniors identified a 40% prevalence rate for reported back pain, which is more than other conditions prevalent in seniors i.e. diabetes (8%), atherosclerotic heart disease (6%), depression (13%) and hypertension (36%). The study reported that back pain in this population was also under-reported and inadequately managed. (*D'Astolfo et al, 2006*)

### Economic Impact

- Hospitalization drug costs and physician compensation currently absorb 60% of healthcare spending and a significant portion of public spending. (*TD Economic Report, 2010*)
- The economic burden of back pain in Canada was estimated to be \$6.4 billion in 2005-6 (*Public Health Agency, 2010*). In 2008, hospital costs attributable to back pain totalled \$1.7 billion for seniors (*Public Health Agency, 2010*)

## Health Impacts

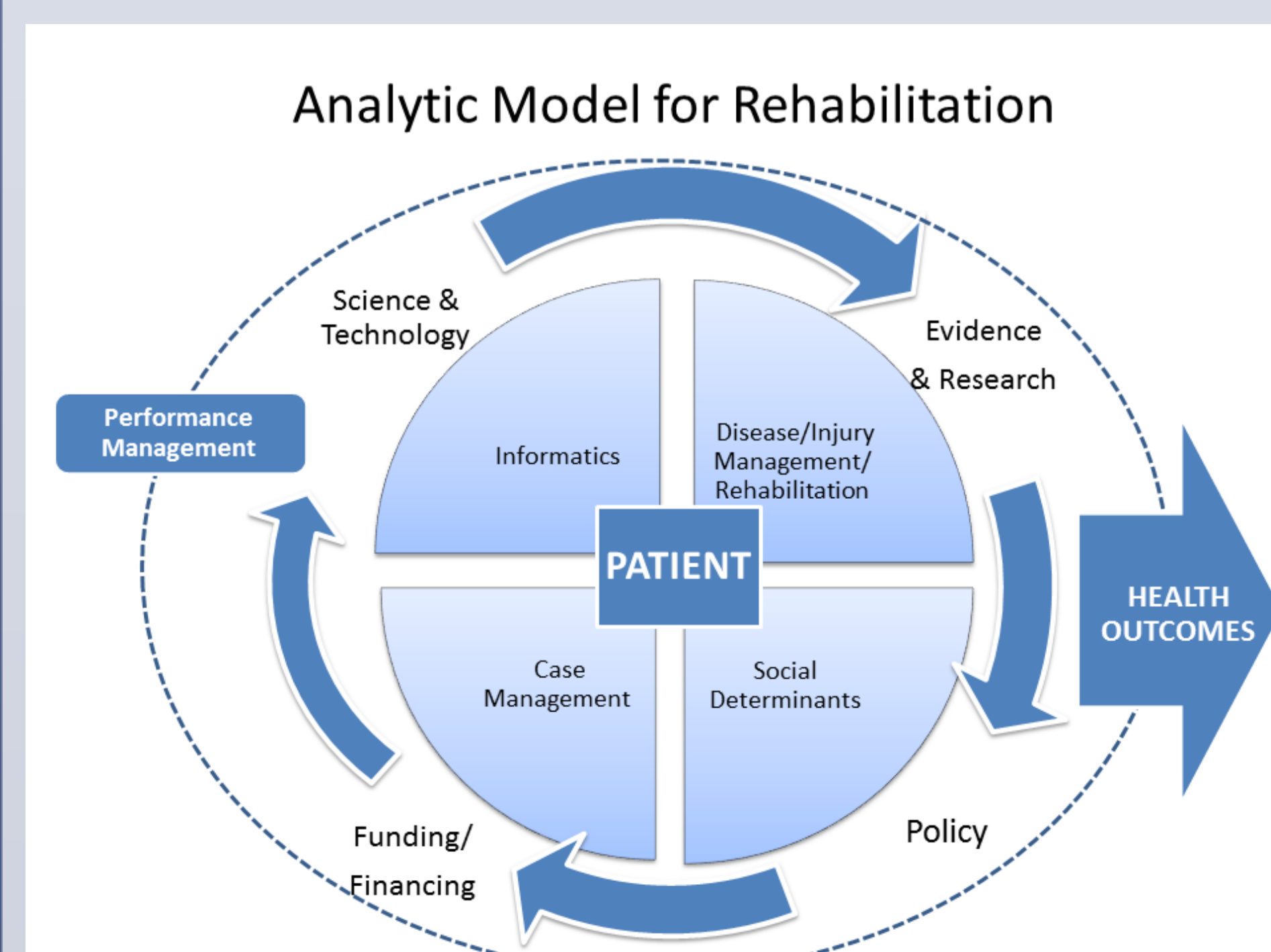
- While adults over the age of 65 report back pain prevalence rates similar to persons in the age 45 to 65 age demographic [*Deyo, 2006; Feyer, 2012*], the sequelae of back pain in subject patient population may have a greater impact on physical function and quality of life than back pain in younger groups [*Hicks, 2008; Rudy, 2007*]
- Seniors with back pain have an increased risk of falling, more problems with activities of daily living, such as walking, lifting objects or bathing, greater difficulties in social interaction [*Hicks, 2008*] and are more likely to report depression, poor sleep quality, and more medication use, and to demonstrate decreased performance on functional status tests than pain-free elders [*Rudy, 2007*]

## Correlations

- There is a significant correlation found between back pain and chronic diseases including cognitive impairment, dementia, hypertension, diabetes and depression. (*D'Astolfo et al, 2006; Rudy, 2007*)
- LTC literature reports estimated rates of hospitalization averaging approximately 35% per year, most of which were classified as Ambulatory Care Sensitive Conditions which are typically considered as unnecessary hospital transfers. (*Hutt et al, 2002; Coburn et al, 2002*) Conditions correlated with back pain make up the majority of ACSC conditions

## Consumer Expectations & Pressures

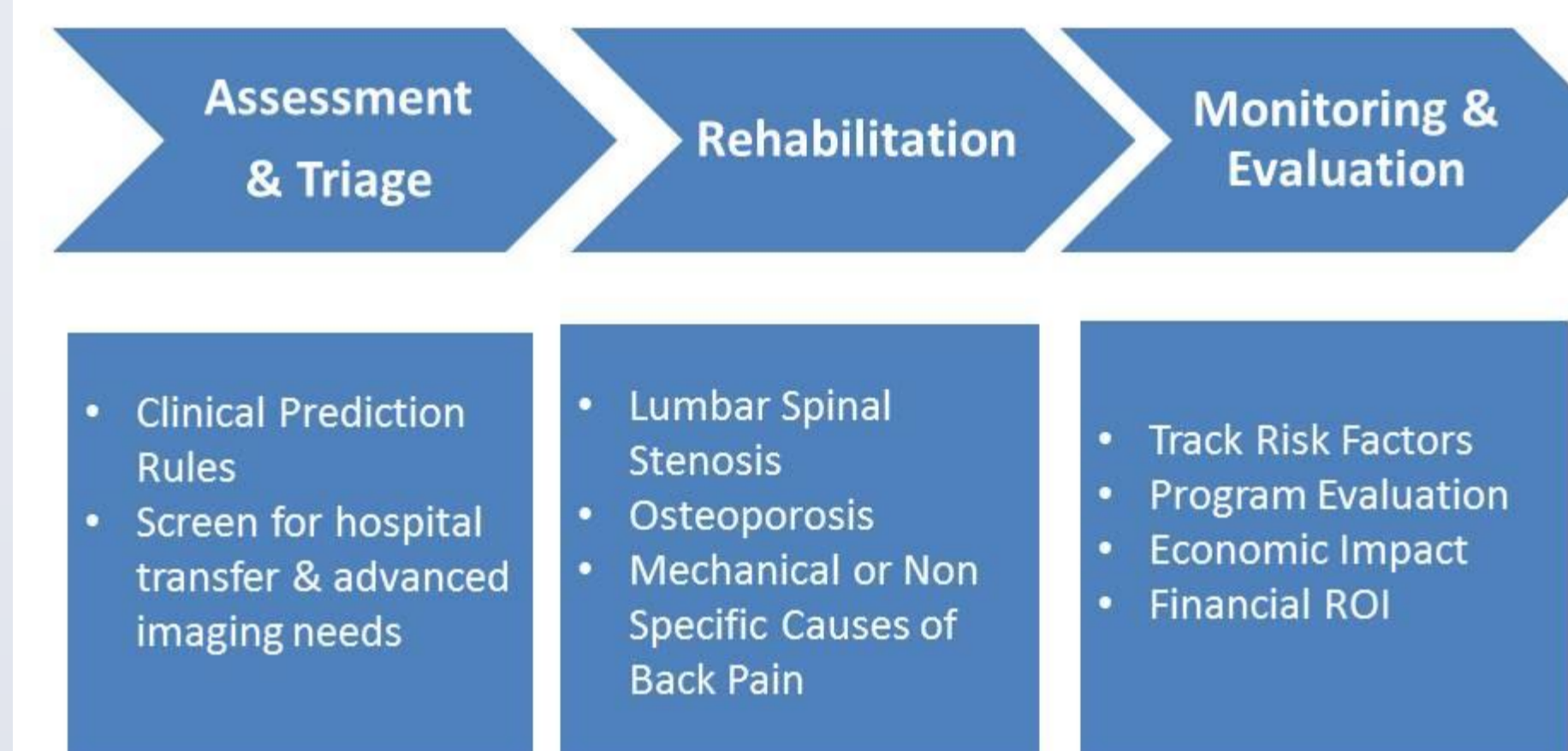
- Future LTC residents are expected to have higher and more complex health care needs than previous generation of residents, adding stress to staff and facilities
- There will be higher expectations of baby boomers for enhanced accommodation and choice in quality health services, thus requiring different service models from LTC providers and operators. (*Conference Board of Canada, 2011*)
- There will be reputational pressures from increased public reporting of outcomes. (*Conference Board of Canada, 2011*) This is evidenced from the development of the "Excellent Care for All Act" (2010 S.O.)



## Innovative Rehab Model

1. **Assessment & Triage**
2. **Rehabilitation**
  - Multi-modal treatment plan backed by evidence; best practices; interdisciplinary rehab team; and utilizing when possible current health human resources of LTC home
  - Primary and secondary prevention of comorbid conditions, including diabetes, hypertension, depression and dementia
3. **Monitoring & Evaluation of Outcomes**

## Spine Care Management Model



## Methodology

### Target Population

- Residents with reported non-malignant back and/or leg pain or with a diagnosed spinal condition; and/or history of falls; functional and/or cognitive impairment; mood disorder; diabetes and/or hypertension; and sudden decline in physical function

### Research Methods

- Non-equivalent control group (NECG), time series design involving both qualitative and quantitative analysis. The study cohort will include a clustered sample of Ontario geriatric residents aged 65 years of age or older.
- The treatment group will involve LTC homes directly receiving the new program model and the comparison group will include those homes receiving an alternate program or no program
- **Analysis Includes:**
  - Large scale administrative data collection from the cohort of LTC homes
  - Cost impact analysis and ROI model
  - Decision tool development for clinical prediction rules and screening
  - Recommendations for effective collaborative care and change management strategies

## Anticipated Outcomes

- Improved Health Outcomes
- Reduced Workload for Nurses
- Increased Resident Satisfaction
- Opportunity for Return on Investment for LTC operator
- Improved Performance Scores
- Broader healthcare savings in terms of cost avoidance for hospital emergency rooms, reduction in wait times, and lessening of Alternate levels of Care (ALC) days

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