




A Tale of Two Studies

A Discussion of Ongoing Research in Long Term Care

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Some Questions that Interest Researchers in Long Term Care

- What is the optimal market mix of LTC facilities (Hirth)?
- What is the impact of regulation on market composition (Baum)?
- How/if does ownership impact performance outcomes like quality of care (Harrington et al.; Banaszak-Holl et al.; Zinn et al.; Cohen & Dubay; Gray)?
- What are the implications for quality of care of different staffing mixes and intensity levels? (Harrington et al.)?
- How can concerns for quality of care be balanced with concerns/pressures for efficiency of care delivery (Berta & Laporte)?
- How can resources be attracted to, and retained, in this sector in the interests of sustaining high quality of care and continuity of care?
- How can coordination of care between LTC facilities, community service providers, and hospitals be improved?
- Are clinical practice guidelines – and other mechanisms that support standardized care provision – one way of achieving both high quality of care *and* high efficiency of care delivery? (Wodchis)
- How feasibly can clinical practice guidelines be implemented across the entire LTC sector? (Berta & Teare)

Study 1.

Exploring Relationships between Quality of Care and Operational Efficiency in Ontario's Long-Term Care Facilities

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Motivations for the Study

- Uncertainty about the true impact of the aging baby boom population
- Renewed calls for cost control and more efficient use of resources in the LTC sector
- Ambiguity surrounding the relationships between *inputs* and their *costs*, *efficiency*, & *quality of care*
- Lack of knowledge concerning exogenous factors that impact efficiency in LTC

Study Purpose

- To examine the determinants of operational efficiency in LTC facilities in Ontario
 - Operational Efficiency is a measure of performance that assesses whether managers are using the optimal level and mix of inputs (e.g., staff, beds in operation) to achieve the optimal level of outputs (e.g., patient days, quality of care)
- To investigate the relationship between efficiency, quality of care, and an array of organizational characteristics



The Data

- Derived from the Residential Care Facilities Survey (RCFS) administered annually by Statistics Canada
- Ontario Data only
- Study Interval: 2001/2002

The Context

- Homes for the Aged and Nursing Homes operating in Ontario



Examples of Questions...

- Do for-profit LTC facilities exhibit higher efficiencies than their non-profit and government operated counterparts?
- If so, how is this greater efficiency achieved?
- Are others' concerns about tensions between efficiency and quality of care legitimate?



Methodology(1)

Data Envelopment Analysis (DEA)

Linear programming used to generate estimates of Operational Efficiency using

- ❖ Inputs which include hours worked by RNs, RPNs, RNAs, PT/OT, Admin., dietary, maintenance, housekeeping etc.
- ❖ Outputs which include **Patient Days** and a **Quality of Care** Indicator (Predicted age-adjusted mortality rate/actual rate).



Some Results...

Not Controlling for Quality of Care:

- All facilities exhibit equal technical efficiency on average

Controlling for Quality of Care:

- FP facilities are (now) more technically efficient on average vis a vis NFP, Government and Religious facilities ($p < 0.0001$)
- NFPs and Religious facilities appear to provide higher quality care on average (as measured by age-adjusted mortality) compared to FPs and Government facilities, but appear to achieve these quality gains by using a disproportionately greater amounts of nursing labour



Next Steps

...in our study of determinants of OE

- Link with patient-level quality data
- Investigate role of location(rural/urban)
- Investigate role of structural characteristics include chain ownership
- Longer term, undertake qualitative study to discover additional factors that impact OE and/or quality of care



Study Limitations

- No detailed quality indicators reported in the RCFS, e.g. bed sore and fall rates
- Potentially self selected sample (some facilities filed but did not report staffing levels, etc.)
- Generalizability of findings to other jurisdictions in Canada may be limited



Study 2.

Factors that Affect the Adoption, Replication, Adaptation and Retention of Clinical Practice Guidelines in Ontario's Long-Term Care Facilities

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Organizational Learning

Relevance to Guideline Usage

- We view practice guidelines as bundles of new knowledge and information designed to improve the performance of health care practitioners
- Experience to date suggests that the application of practice guidelines, like any new knowledge, is highly complex
- Research in a field called organizational learning instructs us that learning relating to new knowledge occurs in stages and can be impacted by organizational factors operating at several levels

Overarching Research Question

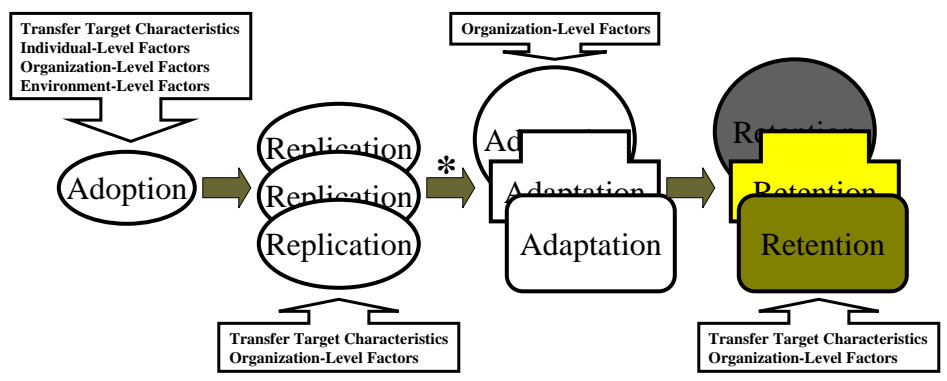
What sets LTC facilities apart in terms of their *learning capacity* relating specifically to CPGs?

That is, what factors impact their abilities to recognize the value of new knowledge and information embedded in a CPG, to adeptly transfer that knowledge into the facility, to adapt the new knowledge to the specific operating context, and to successfully apply the new knowledge?

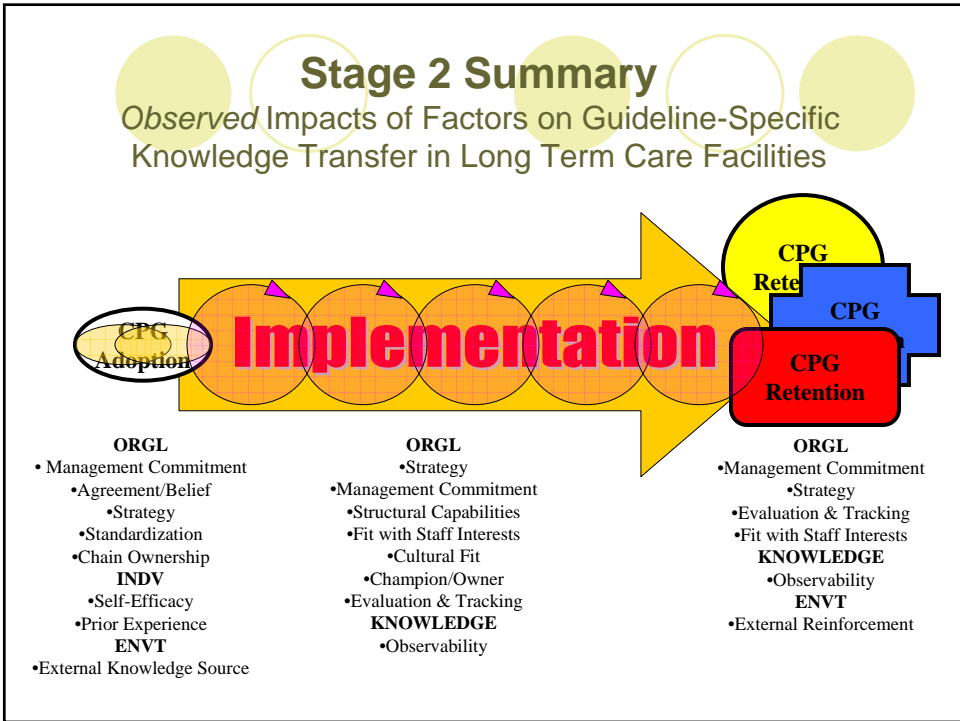
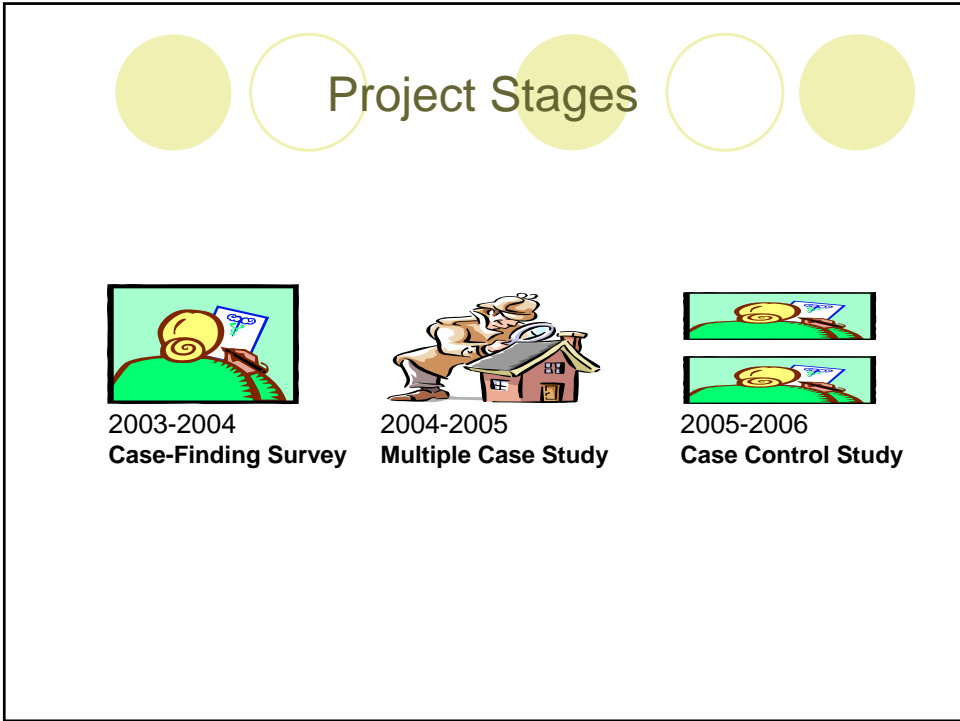
Research Objectives

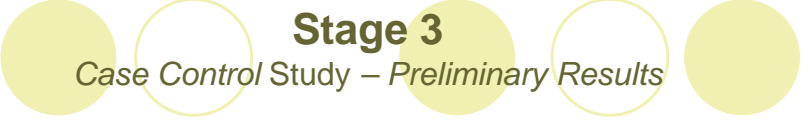
1. To identify factors at 4 levels that contribute to knowledge transfer of CPGs at 4 specific stages in the transfer process.
2. To determine the *relative* influence of these factors on each stage of the knowledge transfer process.

Theoretical Model of Innovation Adoption



* We acknowledge that adaptation can precede replication



 **Stage 3**
Case Control Study – Preliminary Results

- Private LTC facilities in urban locations are significantly more likely to consider/use care protocols to guide care practices
- Accredited LTC facilities rely on compliance advisors, and on other accredited facilities, for care protocol implementation advice/information
- Chain-owned homes rely on HQ for implementation processes and resources, and have the resources to send staff to extra-facility training venues
- Independent homes rely significantly more on in-house resources (e.g., staff trainer and training materials) and structural mechanisms (e.g., assigning “Champions”), and on information exchange with other, similar homes for implementation advice/information
- 3 distinct strategies/motivations for implementing care protocols

 **Next Steps**

- Share findings with guideline producers and inform the development of implementation strategies
- Develop a tool to assess “guideline adoption readiness” for use in planning guideline implementation in LTC facilities

Thank You!

