Integrated case management between primary care clinics and healthcare centers for frequent users of healthcare services: A multiple embedded case study

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BACKGROUND

- Certain people frequently use healthcare services due to complex healthcare needs[1] and are more at risk of incapacity and mortality.[2]
- An abundance of literature supports case management (CM) to improve outcomes of this clientele.[3]
- Challenges remain in the interaction between healthcare centers and primary care (PC) clinics.

AIM AND OBJECTIVES

- **Aim:** To implement and evaluate an intervention, with PC nurses working closely with case managers in healthcare centers, to improve care integration for frequent users of healthcare services.
- **Objectives:** 1) to describe the barriers and facilitators to implementation, and 2) to evaluate the influence of context on implementation and impacts (self-management, care integration, resources utilization and costs).

DESCRIPTION OF CM

Case managers identified frequent users in each PC clinic with the computerized platform of the healthcare centers. PC nurses worked in close collaboration with case managers to develop an individualized services plan and ensure coordination and self-management support over a 6-month period.

METHODS

- **Design:** Multiple embedded case study[4]
- **Setting:** 3 healthcare centers and 4 PC clinics (Saguenay-Lac-St-Jean, Quebec, Canada)
- **Definition of frequent use:** ≥ 4 ED visits and/or ≥ 3 hospitalizations in the previous year
- **Conceptual model:** Consolidated Framework for Implementation Research (CFIR)[5]
- **Data collection (0 and 6 months):**
  1) Semi-structured interviews with case managers (n=3), PC nurses (n=10), programs managers (n=3), and patients (n=19), and 2 focus groups per clinic with family physicians and other professionals
  2) Participant observation of implementation meetings (n=7) and non-participant observation of CM activities (25 hours)
  3) Patient self-administered questionnaires (n=33): Patient Experience of Integrated Care Scale[6]; Partners in Health Scale[7]
  4) Services use: ED and PC visits, hospitalizations (not presented here)
  5) Intervention fidelity (not presented here)
- **Analysis:**
  - Qualitative data: mixed thematic analysis using the CFIR
  - Quantitative data: descriptive statistics; paired pre-post t test
  - Cases were compared using case histories (integrating qualitative results). Quantitative results were integrated at the end.

RESULTS

Qualitative results

Case A

- Small clinic in a low population density area
- Close collaboration between the case manager and the clinic since 2013
- Regular discussions between the case manager and PC nurses for the past 4 years, allowing for quick project start-up
- Case manager experience helped nurses gain confidence in their new role
- Strong support from the clinical administrative coordinator
- High stakeholder satisfaction with the intervention and willingness to ensure sustainability

Case B

- Teaching clinic located in an urban health center
- Strong interest from professionals for the intervention from the beginning
- Delays in the production and review of the frequent users list
- Strong collaboration between PC nurses and the case manager due to her availability and guidance with patient recruitment
- Positive outcomes observed by nurses (low patient anxiety and improved confidence, low visits)
- Outcomes encouraged nurses to pursue the intervention in the future, but with a reserve regarding the frequent users selection process

Case C

- Teaching clinic located in a sub-urban health center
- One PC nurse with extensive experience with liaison and coordination and willing to take leadership in the intervention
- The family physician responsible for the clinic not convinced of the plus-value of this new role and fears work overload for the nurses
- Shortage in nurses due to sick leaves
- Negative medical leadership undermining nurses' motivation to engage in their new role
- The clinic decided to stop the intervention

Case D

- Clinic located in a sub-urban area
- An experienced case manager who already had a good relationship with physicians of the clinic
- Close communication between the lead physician and the case manager
- Relationship had to be built between the case manager and nurses
- Lack of nursing resources mixed with other projects already going on slowing the start of the project
- Stakeholder satisfaction at the end of the project and willingness to ensure sustainability

Main observations from the cases integration

- Leadership from case managers, physicians and nurses were the main facilitator for cases that fully implemented the intervention.
- Most clinics did not have access to patient hospital records for confidentiality reasons and were not always informed of patient services use, hence the risk of duplication of services.
- Training and coaching were needed for the nurses to feel comfortable in their new role.

Quantitative results

Table 1. Patients sociodemographic characteristics (n=33)

Age: mean (SD)	56 (20.9)
Male: n (%)	5 (15.6)
Number of conditions: mean (SD)	5.6 (2.8)
Most frequent conditions: n (%)	
• Arthritis	19 (57.6)
• Overweight	19 (57.6)
• Back pain	18 (54.5)
• Depression & anxiety	24 (72.7)

Table 2. Paired sample t test results for pre- and post-measures

Variable		Mean (SD)	*p*
Self-management	Pre	75.3 (10.2)	0.21
	Post	77.5 (8.4)	
Care integration	Pre	33.9 (7.0)	0.00*
	Post	40.0 (5.5)	

**Significant at the 0.05 level (2-tailed)*

DISCUSSION

- Full implementation of the intervention and positive patient outcomes were observed in clinics where leadership of stakeholders and support for nurses were present.
- More access to information from frequent users hospital records and strategies to support engagement of physicians in regards to the intervention are needed to overcome the main barriers.
- No improvement in the self-management of the participants, that may require a longer follow-up for patients with such complex healthcare needs.

STRENGTHS AND LIMITS

- This study provides an in-depth examination of how an intervention where PC nurses work closely with case managers in healthcare centers can improve the care integration of frequent users of healthcare services.
- Sample size for the quantitative questionnaires and patient interviews was low in some clinics.

CONCLUSION

- Integrated case management between primary care clinics and healthcare centers for frequent users of healthcare services is a promising intervention that facilitates collaboration between providers and care integration for patients.

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