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

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Team members

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❖ Managers: Jean Morneau, Mélanie Paradis
Complex needs (Chan 2002; Ruger 2004; Lee 2006) and frequent use of healthcare services (Joo 2017; Soril 2015)
Case management (CM) intervention

Effective and promising intervention

↑ integrated care and ↓ ED visits and hospitalizations

CM

Frequent users

Altaus 2011; Hudon 2017; Hudon 2018
Case management (CM) intervention

- Collaborative, dynamic and systemic approach
- Coordination and integration of care and services
- Key navigator
- Close collaboration with health, social and community partners
Case management (CM) intervention: settings

Advantages of better coordination

CM in hospitals

CM in primary care

Lee 2006; Bodennmann 2016; Crane 2012; Grover 2016; Pillow 2013; Segal 2004; Shah 2011; Sledge 2006
Aim of the study

❖ To implement an integrated CM intervention where nurses of primary care clinics worked in close collaboration with a hospital case manager to provide an integrated CM intervention to frequent users of healthcare services

❖ To evaluate contextual factors facilitating or impairing implementation

❖ To evaluate qualitative and quantitative outcomes
Multiple embedded case study design

Qualitative + Quantitative

Yin 2014; Gerring 2007
Consolidated Framework for Implementation Research (CFIR)

Five major domains

- Intervention characteristics
- Outer setting
- Inner setting
- Characteristics of the individuals
- Process of implementation

Damschroder 2009
Setting and sampling

2.9 inhabitants/km²

4 dyads primary care clinic-hospital

Saguenay-Lac-Saint-Jean region, Quebec, Canada

Adult frequent user list
CM training and community of practice

4 hour CM training session

Primary care nurses

Hospital case managers

Mentorship
Collective learning
Support
# Implementation committee

## Meetings

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Plan the project, obtain feedback from the field and address barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>1h every 2 weeks during implementation</td>
</tr>
<tr>
<td>Members</td>
<td>• 2-5 managers</td>
</tr>
<tr>
<td></td>
<td>• 1 patient partner</td>
</tr>
<tr>
<td></td>
<td>• 1 research coordinator</td>
</tr>
<tr>
<td></td>
<td>• 2 researchers</td>
</tr>
</tbody>
</table>
Integrated CM intervention steps

1. Ensuring eligibility
2. Evaluating global needs
3. Developing individualized services plan (ISP)
4. Implementing the plan
5. Following the plan
6. Facilitating healthcare transitions
Mixed-method data collection

- Individual interviews and focus groups
- Fieldnotes
- Questionnaires
- ED visits

* Study approved by the Ethics committee
Quantitative measures

- **Description**
  - Morbidity: French version of the Disease Burden Morbidity Assessment (21 items)

- **Outcomes**
  - Care integration: French version of the Patient Experience of Integrated Care Scale (13 items)
  - Self-management: French version of the Partners in Health Scale (12 items)

References:
- Gaudet 2018; Chew 2004; Hudon 2016a; Hudon 2016b; Bayliss 2005; Poitras 2012; Smith 2017
Analysis

Qualitative data: Deductive and inductive thematic analysis

Quantitative data: Wilcoxon test for continuous variables

Comparison and merging of qualitative and quantitative results for each case. Reporting and comparison of the 4 case stories

Miles 2014; Pluye 2018; Korstjens 2018
## Characteristics of the clinic in each dyad

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 site</td>
<td>1 site</td>
<td>4 sites (1 participated)</td>
<td>5 sites</td>
</tr>
<tr>
<td></td>
<td>External to hospital</td>
<td>Internal to hospital</td>
<td>Internal to the hospital</td>
<td>External to hospital</td>
</tr>
<tr>
<td></td>
<td>14,000 registered patients</td>
<td>15,000 registered patients</td>
<td>27,000 registered patients</td>
<td>22,000 registered patients</td>
</tr>
</tbody>
</table>
Characteristics of the participants in the interviews and focus group

Patients
- 84% women
- Mean age: 56.4
- 15.8% work

Professionals* and managers
- 84% women
- 35% between 25-34 yrs old
- Mean years of experience: 11.5

*Including hospital case managers, primary care nurses, family physicians and other healthcare professionals
Implementation level

- None: Dyad C
- Moderate: Dyads B and D
- High: Dyad A
### Qualitative outcomes in each dyad

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easier and quicker care access</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>Patients’ feeling of security</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>Better self-management</td>
<td>(+/-)</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>Better patient management</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>Less ED visits</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>Overall satisfaction with the intervention</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
</tr>
</tbody>
</table>
Characteristics of participants who completed the questionnaire (n=33)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age: mean (SD)</td>
<td>56 (21)</td>
</tr>
<tr>
<td>Women: n (%)</td>
<td>27 (84)</td>
</tr>
<tr>
<td>Number of conditions: mean (SD)</td>
<td>5.6 (2.8)</td>
</tr>
<tr>
<td>Most frequent conditions: n (%)</td>
<td></td>
</tr>
<tr>
<td>Depression &amp; anxiety</td>
<td>24 (73)</td>
</tr>
<tr>
<td>Arthritis</td>
<td>19 (58)</td>
</tr>
<tr>
<td>Overweight</td>
<td>19 (58)</td>
</tr>
<tr>
<td>Back pain</td>
<td>18 (54)</td>
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</table>
### Quantitative outcomes in each dyad

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>A (N=8)</th>
<th>B (N=12)</th>
<th>C (N=2)</th>
<th>D (N=11)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Care integration</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline mean (SD)</td>
<td>31.1 (6.4)</td>
<td>36.6 (6.7)</td>
<td>37.0 (4.2)</td>
<td>32.3 (7.5)</td>
</tr>
<tr>
<td>6 months mean (SD)</td>
<td>43.6 (3.1)</td>
<td>39.3 (5.7)</td>
<td>43.0 (1.4)</td>
<td>37.6 (6.0)</td>
</tr>
<tr>
<td>(P)</td>
<td>0.01*</td>
<td>0.28</td>
<td>0.18</td>
<td>0.15</td>
</tr>
<tr>
<td><strong>Self-management</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline mean (SD)</td>
<td>73.9 (9.0)</td>
<td>76.2 (8.6)</td>
<td>87.0</td>
<td>74.2 (12.8)</td>
</tr>
<tr>
<td>6 months mean (SD)</td>
<td>81.1 (5.1)</td>
<td>76.4 (10.7)</td>
<td>77.5</td>
<td>75.3 (7.3)</td>
</tr>
<tr>
<td>(P)</td>
<td>0.06</td>
<td>0.48</td>
<td>-</td>
<td>0.67</td>
</tr>
<tr>
<td><strong>ED visits</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline mean (SD)</td>
<td>5.4 (2.1)</td>
<td>3.3 (2.8)</td>
<td>3.0 (4.2)</td>
<td>2.7 (2.0)</td>
</tr>
<tr>
<td>6 months mean (SD)</td>
<td>1.9 (3.7)</td>
<td>1.9 (2.0)</td>
<td>3.5 (3.5)</td>
<td>1.5 (1.4)</td>
</tr>
<tr>
<td>(P)</td>
<td>0.06</td>
<td>0.14</td>
<td>0.32</td>
<td>0.08</td>
</tr>
</tbody>
</table>
## Case stories

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Description</th>
</tr>
</thead>
</table>
| A        | • Great leadership of the whole team  
• Great collaboration with hospital case manager  
• Qualitative + quantitative outcomes  
• Motivated to continue |
| B        | • Difficulty in identifying patients  
• Good support from hospital case manager  
• Qualitative outcomes  
• Motivated to continue if easier to identify patients |
| C        | • No buy-in from the leader physician  
• Almost no implementation  
• No outcomes |
| D        | • Lack of buy-in by the medical team at the beginning but great leadership from the leader physician and good support from hospital case manager  
• Positive perception of the intervention by the primary care nurses  
• Qualitative outcomes  
• Motivated to continue |
Strengths and limits

- In-depth description of the implementation context
- Diversity of the contexts

- Lack of power
- Transferable to similar contexts

Future research: replicate on a larger scale with economic analysis
Key messages

- Integrated CM intervention = promising innovation
- High level of implementation = positive impacts
- Collective leadership greatly facilitates implementation
- Physicians’ buy-in: an essential ingredient
Questions?

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References


References


References


