The Effectiveness of an Interprofessional Ambulatory Care Health System Redesign on Patient Outcomes

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Aim

The aim of this study was to determine if a nurse-led, interprofessional, collaborative, care coordinated model of care (ICCCM) in primary care affected patient engagement, health care utilization and clinical indicators for a Type II diabetes population compared to pre-intervention and in comparison to a propensity matched sample (HRSA #UD7HP26040, PI Vlasses).

Study Design

Design:
- Retrospective
- Longitudinal
- Propensity Score Matched
- Secondary data from Epic health record (EHR)
- 2 arms:
  - Pre/post (N=204)
  - Propensity Matched (N=171 matched pairs)

N = Patients at Intervention Clinic who received care coordination for at least one year.
N = Patients at Ambulatory Care Site at same institution propensity score matched
T1 = Baseline (BL); Closest data when Care Coordination added to problem list from 6 months prior to 6 months after
T2 = 1 year prior to BL
T3 = 1 year after BL

Theoretical Framework

The Care Model (Wagner)

Variables

Independent Variable: ICCCM intervention
Dependent Variables:
- Patient Engagement
- Missed visits
- Influenza immunizations
- Dilated eye examination
- Healthcare Utilization
- Number of hospitalizations
- Number of emergency room visits
- Number of days hospitalized
- Clinical Indicators
- A1C
- Weight
- Blood pressure (systolic & diastolic)

Findings

Patient Engagement

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre-Post</th>
<th>Matched Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total # missed visits</td>
<td>p = 0.28</td>
<td>Unadjusted p = 0.02, Adjusted p = 0.22</td>
</tr>
<tr>
<td># Annual influenza immunizations</td>
<td>p = 0.90</td>
<td>p = 0.10, 95% CI [-0.798, 0.064]</td>
</tr>
<tr>
<td># Annual dilated eye examinations</td>
<td>p = 0.63</td>
<td>p &gt; 0.01, 95% CI [-1.058, -0.013]</td>
</tr>
</tbody>
</table>

Healthcare Utilization

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre-Post</th>
<th>Matched Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td># hospitalizations</td>
<td>p = 0.86</td>
<td>p = 0.59</td>
</tr>
<tr>
<td># ER visits</td>
<td>p = 0.27</td>
<td>p = 0.24</td>
</tr>
<tr>
<td># days hospitalized</td>
<td>p = 0.64</td>
<td>p = 0.48</td>
</tr>
</tbody>
</table>

Conclusion

ICCCM significantly improved clinical indicators (A1C, weight and diastolic blood pressure at goal) and had no effect on healthcare utilization and patient engagement of the type 2 diabetes population in a primary care clinic within a high-need geographical community

Acknowledgements

Thank you to the Jonas Foundation for their support through the Jonas Leaders Scholarship Fund

Sample

Race

- White: 26% (n=54)
- African-American: 63% (n=128)
- Other: 11% (n=22)

Gender

- Male: 43% (n=87)
- Female: 57% (n=117)
- Other: 2% (n=3)

Insurance

- Medicaid: 9% (n=19)
- Medicare: 29% (n=59)
- Private: 60% (n=123)
- Other: 2% (n=3)

Age

- <55: 46% (n=94)
- 55-65: 33% (n=67)
- 65+: 21% (n=43)

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