The Effect of Home Health Care in Reducing Hospital Readmissions: A Systematic Review

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Background

- Hospital readmission is defined as a subsequent hospital admission within 30 days of discharge from an original hospital admission.\textsuperscript{1-5}

- Hospital readmission affects 20-30% of Medicare beneficiaries.\textsuperscript{1,2}

- This accounts for costs exceeding $17 billion annually.\textsuperscript{1}
Background (continued)

• Patients with heart failure have the highest re-hospitalization rates of all patient groups.3,4
• Approximately 25% of patients hospitalized with heart failure are re-admitted within 30 days.3,4
• In 2012, the Centers for Medicare and Medicaid Services initiated the use of 30-day readmission rates as a health care metric to give health systems an incentive to reduce re-hospitalization rates.4

Background (continued)

• Transitional care models are implemented for older adults who are hospitalized to facilitate a safe discharge and decrease hospital readmission.
• It is imperative to establish an effective model while keeping common goals in mind such as:
  • Decreasing hospital readmissions
  • Maintaining a high level of patient satisfaction
  • Increasing the patient’s ability to self-manage their health
Purpose

• The purpose of this systematic review was to determine if home health care was effective in reducing hospital readmissions in adults.

Methods

• **Databases:** CINAHL, HealthSource: Nursing/Academic Edition, PubMed, and ProQuest Central

• **Search Terms:** (home care OR home health) AND (rehospitalization OR readmission OR hospital readmission) AND (physical therapy or physiotherapy or rehabilitation)
Methods (continued)

- **Search Limits:** Peer-reviewed, published between 2008 and 2018, English language, and human subjects

- **Selection Criteria:** Adults over 18 years old, and primary outcome measures including hospital readmission
Minors Scale

<table>
<thead>
<tr>
<th>Studies</th>
<th>Clearly stated aim</th>
<th>Inclusion of consecutive patients</th>
<th>Prospective collection of data</th>
<th>Unblinded assessment of outcomes</th>
<th>Total Follow up Length of study</th>
<th>Prospective determination of study size</th>
<th>Adequate control group</th>
<th>Appropriate groups</th>
<th>Adequate statistical analysis</th>
<th>Total</th>
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<td>Maliakkal AV, Sun AZ</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
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<td>0</td>
<td>16/24</td>
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<td>2</td>
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<tr>
<td>Average Score</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15.6</td>
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</tbody>
</table>

Results

- 5 studies were included2-6
- MINOR scores ranged from 15/24-17/24 with an average score of 15.6
- Sample size ranged from 68-1,348 subjects
- Average age ≥ 65 years old
  - The average age among 4 of the studies was 79 years old2-5
- Home health care sessions ranged from 1-6 months2-6
- All studies included multidisciplinary care that included physical therapy
### Results (continued)

<table>
<thead>
<tr>
<th>Other Disciplines</th>
<th>Treatment</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician, social worker, and others if needed&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Patient education on medications, evaluation of home environment, and provide community resources&lt;sup&gt;2&lt;/sup&gt;</td>
<td>At least 30 days, up to 4 months depending on the patient’s needs&lt;sup&gt;2&lt;/sup&gt;</td>
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<tr>
<td>Physician, nursing and occupational therapy&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Vitals, physical exam, patient education on medications, diet/fluids, and lifestyle modifications&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Monthly visits for 6 months (patients were seen more frequently if indicated)&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td>Physician and nursing&lt;sup&gt;4&lt;/sup&gt;</td>
<td>Vitals, medication management, patient education on signs and symptoms of heart failure and self-monitoring habits&lt;sup&gt;4&lt;/sup&gt;</td>
<td>Two, 1 hour sessions prior to discharge and then 2 weeks of home health in accordance with plan of care&lt;sup&gt;4&lt;/sup&gt;</td>
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<tr>
<td>Physician, nursing, occupational therapy, and home health aide&lt;sup&gt;5&lt;/sup&gt;</td>
<td>Therapeutic exercise, patient education on self-management and medications, and assistive device training&lt;sup&gt;5&lt;/sup&gt;</td>
<td>Dependent on patient’s plan of care and health needs&lt;sup&gt;5&lt;/sup&gt;</td>
</tr>
<tr>
<td>Not specified&lt;sup&gt;6&lt;/sup&gt;</td>
<td>Patient education and other intervention dependent on patient needs&lt;sup&gt;6&lt;/sup&gt;</td>
<td>Dependent on patient needs&lt;sup&gt;6&lt;/sup&gt;</td>
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</tbody>
</table>

- 3 of the 5 studies found a statistically significant decrease in hospital readmission.<sup>2,3,5</sup>
- Average decrease of 51.4%
- 2 of the 5 studies reviewed patients with congestive heart failure and also found a statistically significant decrease in hospital readmission.<sup>3,4</sup>
- Average decrease of 46.6%
Results (continued)

• One study found that home care had a low rate of negative outcomes of 6.7%.\(^6\)
• Negative outcomes were defined as death and hospital readmission
• One study determined home health care showed statistically significant improvements in quality of life and patient satisfaction.\(^2\)
• One study noted a statistically significant increase in patient compliance.\(^3\)

Conclusion

• There is moderate evidence to support the implementation of multidisciplinary home health care to reduce hospital readmission among patients ≥ 65 years old.\(^2\text{–}^6\)
• The most effective outcomes were found with treatment lasting 6 months, however, similar results were found with home health care lasting 1 month.\(^2\text{–}^6\)
• Home health care improved patient compliance, physical and emotional quality of life, and patient satisfaction.\(^2,^3\)
Limitations

• One study had a small sample size of 68 individuals
• All databases were not searched
• Lack of explanation of interventions performed by the physical therapists as well as the members of the multidisciplinary team

Recommendations

• Future research should consider:
  • Larger sample sizes of patients
  • Patients with varying diagnoses
  • Including a detailed explanation of interventions
Clinical Relevance

• Multidisciplinary home health care should be considered by physicians in order to reduce hospital readmissions.

• This will simultaneously reduce the increasing health expenditures pertaining to hospital readmission.

• Reducing hospital readmission will optimize patient outcomes, improve quality of life, and increase patient satisfaction.

Acknowledgements

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• The rest of The University of Scranton’s DPT faculty and students
References


Questions?