

# 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.<sup>1-5</sup>
- Hospital readmission affects 20-30% of Medicare beneficiaries.<sup>1,2</sup>
- This accounts for costs exceeding \$17 billion annually.<sup>1</sup>

# Background (continued)

- Patients with heart failure have the highest re-hospitalization rates of all patient groups.<sup>3,4</sup>
- Approximately 25% of patients hospitalized with heart failure are re-admitted within 30 days.<sup>3,4</sup>
- 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.<sup>4</sup>

# 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.

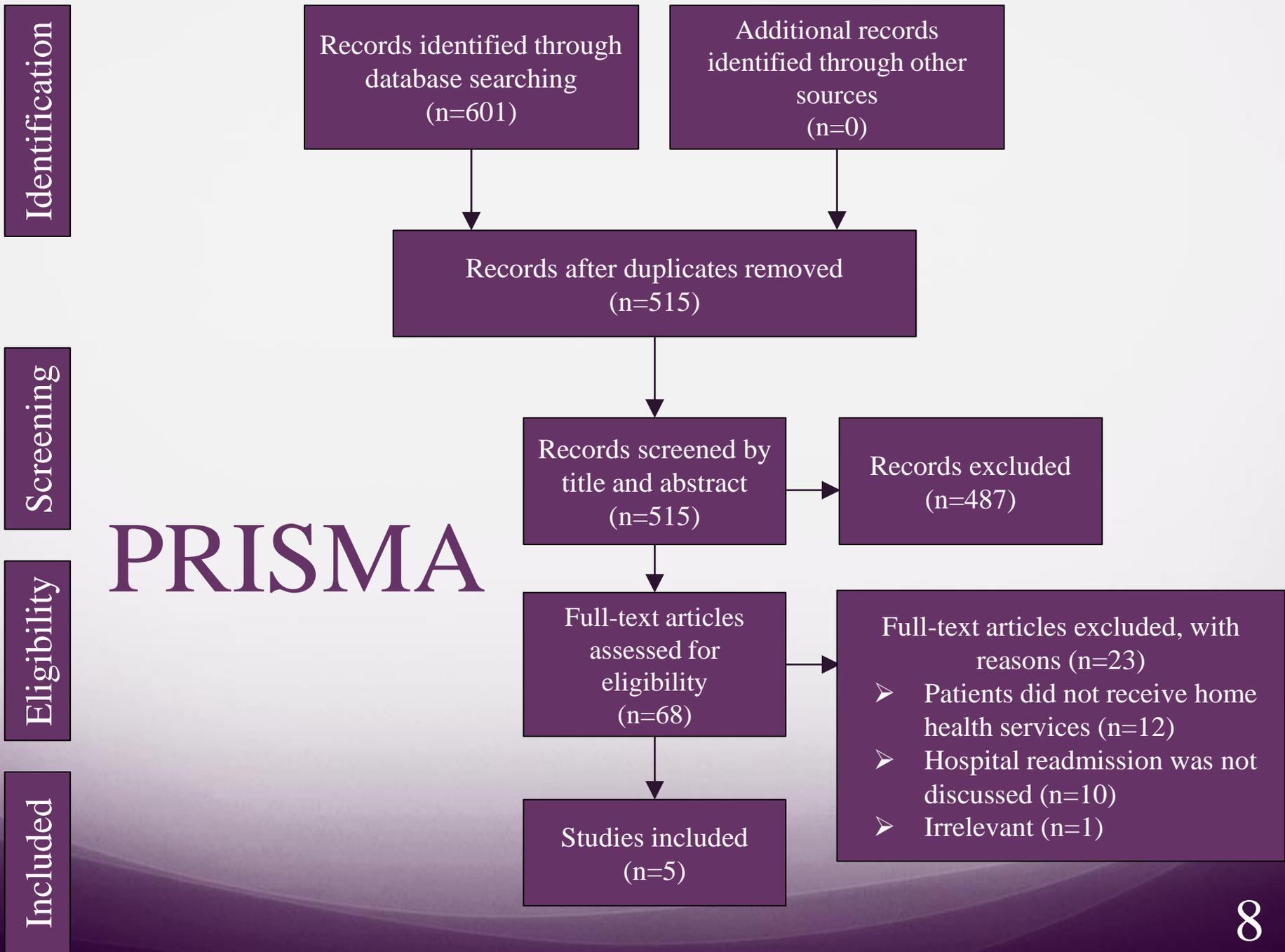
# Methods

- **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

# PRISMA



# Minors Scale

Studies	Clearly stated aim	Inclusion of consecutive patients	Prospective collection of data	Endpoints appropriate to end of study	Unbiased assessment of study endpoint	Follow-up period appropriate to end of study	Loss to follow up less than 5%	Prospective calculation of the study size	Adequate control group	Contemporary groups	Baseline Equivalence of groups	Adequate statistical analyses	Total
Maliakkal AV, Sun AZ	2	2	2	1	2	1	2	2	0	0	0	2	16/24
Miller A, Edenfield EE, Roberto J, Erb JK	2	0	2	1	1	0	2	2	1	0	2	2	15/24
Tinetti ME, Charpentier P, Gottschalk M, Baker, DI	2	0	1	1	2	0	2	2	2	1	2	2	17/24
Watkins L, Hall C, Kring D	2	2	2	1	2	0	2	2	0	0	0	2	15/24
Bharadwaj S, Bruce D	2	2	2	1	2	2	2	2	0	0	0	0	15/24
<b>Average Score</b>													<b>15.6</b>

# Results

- 5 studies were included<sup>2-6</sup>
- 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  $\geq 65$  years old
  - The average age among 4 of the studies was 79 years old<sup>2-5</sup>
- Home health care sessions ranged from 1-6 months<sup>2-6</sup>
- All studies included multidisciplinary care that included physical therapy

# Results (continued)

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

# Results (continued)

- 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%.<sup>6</sup>
  - 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.<sup>2</sup>
- One study noted a statistically significant increase in patient compliance.<sup>3</sup>

# Conclusion

- There is moderate evidence to support the implementation of multidisciplinary home health care to reduce hospital readmission among patients  $\geq 65$  years old.<sup>2-6</sup>
- The most effective outcomes were found with treatment lasting 6 months, however, similar results were found with home health care lasting 1 month.<sup>2-6</sup>
- Home health care improved patient compliance, physical and emotional quality of life, and patient satisfaction.<sup>2,3</sup>

# Limitations

- One study had a small sample size of 68 individuals<sup>3</sup>
- 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.

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# Questions?