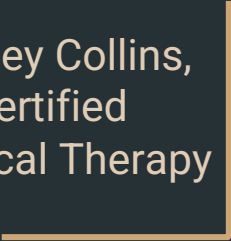


# The Value of Home Health Physical Therapy for Acute Stroke: A Mixed-Methods Systematic Review

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# Objectives

- ❖ Attendees will understand the three components of value in healthcare.
- ❖ Attendees will understand the importance of value in healthcare for patients following acute stroke.
- ❖ Attendees will understand the current evidence related to value for HHPT and alternative PAC after acute stroke.
- ❖ Attendees will understand the limitations to current evidence.
- ❖ Attendees will understand the clinical relevance of the presented research.

# Background

# What is Value?

Three components of value in healthcare:

1. Patient outcomes<sup>1,2</sup>
2. Cost<sup>1</sup>
3. Patient experience<sup>1</sup>

# What is Value?

## **Patient experience:<sup>2</sup>**

- ❖ Consistent, timely appointments
- ❖ Good communication
- ❖ Competent, knowledgeable providers
- ❖ Easy provision of information

# Why is Value in Healthcare Important?

- ❖ Value places the patient at the center of healthcare goals.<sup>2</sup>
- ❖ Utilizing only cost control sacrifices effectiveness and quality of care.<sup>2</sup>
- ❖ A focus on only outcomes provides higher volume, but not necessarily better care. It additionally puts a burden of cost on the patient and the system.<sup>2</sup>

# Why is Value in Healthcare Important?

- ❖ Value looks at the balance between improving outcomes while controlling cost.<sup>2</sup>
  - An example might be identifying the best laboratory tests to perform for an individual patient instead of ordering a standard list.
- ❖ Assessing all three components of value benefits both the patient and the agency delivering healthcare services.<sup>2</sup>

# Why is Value After Stroke Important?

- ❖ Up to 30% of patients experience permanent disability after a stroke.<sup>3</sup>
- ❖ Poststroke care places a burden on caregivers and healthcare systems.<sup>3</sup>
- ❖ Rehabilitation that improves patient outcomes, is cost effective, and that the patient finds valuable is essential in reducing poststroke disability and healthcare burden.<sup>3</sup>



# Settings for Post-Acute Care (PAC)

- ❖ Home health<sup>1</sup>
- ❖ Acute inpatient rehabilitation<sup>1</sup>
- ❖ Subacute inpatient rehabilitation<sup>1</sup>
- ❖ Skilled nursing<sup>1</sup>
- ❖ Assisted living<sup>1</sup>
- ❖ Day rehabilitation<sup>4</sup>
- ❖ Home with outpatient rehabilitation<sup>1</sup>

# Settings for PAC

## **Day rehabilitation:<sup>4</sup>**

- ❖ Day rehabilitation is increasingly common in European countries.
- ❖ The type and intensity of rehabilitation is similar to inpatient rehabilitation in the US.
- ❖ Patients are dropped off by caregivers and receive several hours of multidisciplinary therapy.
- ❖ Patients return home with caregivers at night.

# Purpose

The purpose of this study was to determine the value of home health physical therapy (HHPT) compared to alternative PAC for patients in the acute phase after stroke.

# Materials and Methods

# Databases

- ❖ CINAHL
- ❖ Cochrane
- ❖ MEDLINE/PubMed
- ❖ ProQuest
- ❖ Wiley

# Search Terms

("home health physical therapy" OR "home health PT" OR "home health therapy" OR "home health rehabilitation" OR "home-based physical therapy" OR "home-based PT" OR "home-based therapy" OR "home-based rehabilitation" OR "home physical therapy" OR "home PT" OR "home therapy" OR "home rehabilitation" OR "rehabilitation at home" OR "physical therapy at home" OR "PT at home")

**AND**

("acute stroke" OR "acute CVA")

# Search Limits

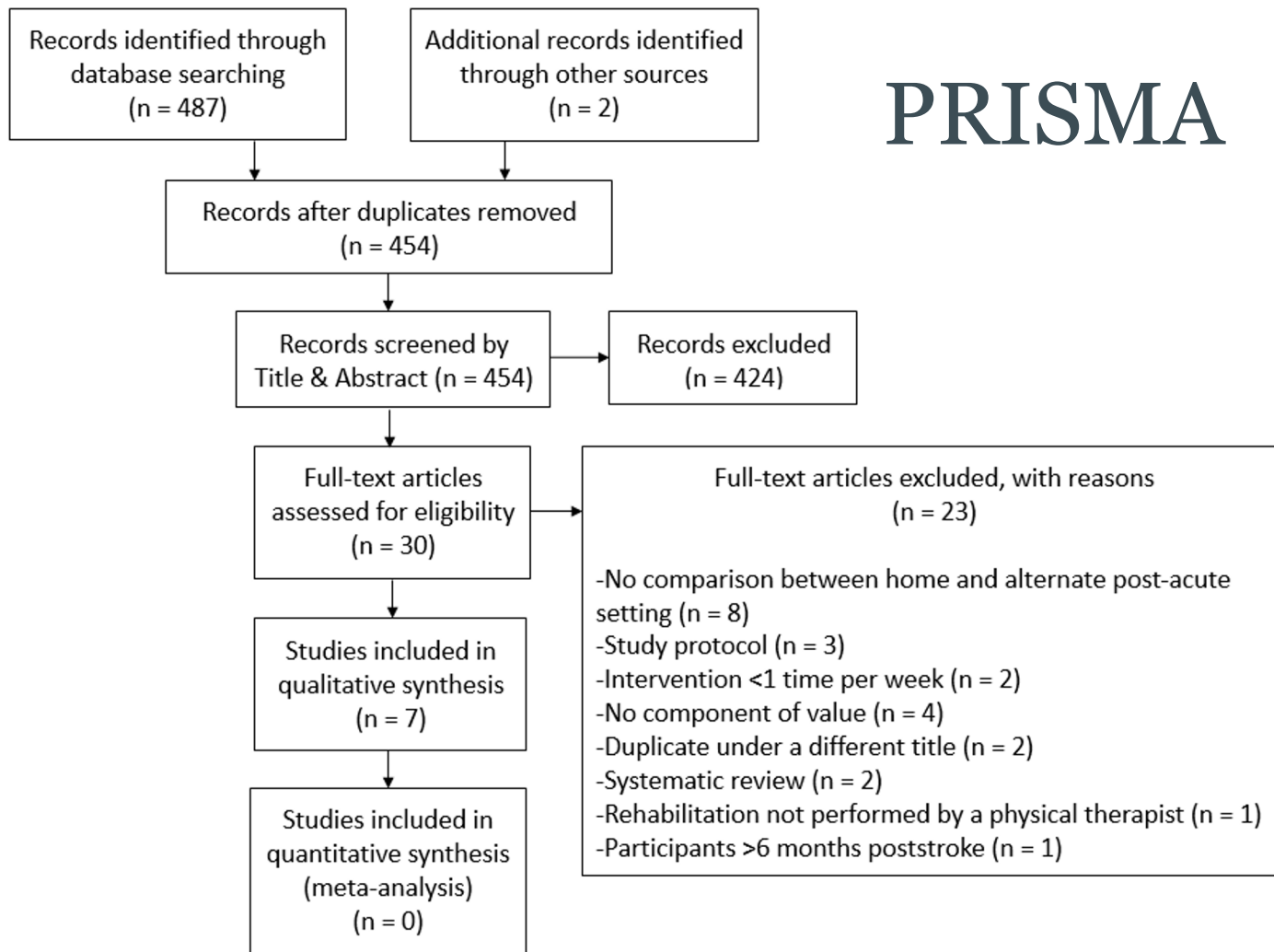
- ❖ English
- ❖ Human
- ❖ Peer reviewed
- ❖ Scholarly journal
- ❖ 2011-2021

# Selection Criteria

- ❖ Adults 18+
- ❖ Acute stroke: within 6 months of stroke onset
- ❖ Receiving in person home health rehabilitation by a PT
- ❖ Minimum frequency one session per week
- ❖ Comparison to at least one alternative PAC setting
- ❖ Explores at least one component of value



# PRISMA



# Results

# Results

- ❖ There were 489 articles screened for eligibility.
- ❖ A total of 7 articles fulfilled all criteria.
  - **Six** reported on patient outcomes<sup>3, 5-9</sup>
  - **Two** reported on costs<sup>3, 9</sup>
  - **One** reported on patient experience<sup>10</sup>
- ❖ Sample size
  - Range: 27 - 306
  - Total: 1,068
- ❖ Mean age: 71.34 years old

# Methodological Quality

Each article was assessed for methodological quality by two independent reviewers who came to consensus.

## Quantitative analysis

- ❖ The Oxford Center for Evidence-Based Medicine (OCEBM) 2011 Levels of Evidence (n = 6)
- ❖ Levels ranged from 2-3 with an average of 2.3

## Qualitative analysis

- ❖ Joanna Briggs Institute (JBI) Checklist for Qualitative Research (n = 1)
- ❖ JBI score was 8/10

# HHPT Interventions

- ❖ Frequency: 1-5 times per week<sup>3, 5-10</sup>
- ❖ Duration: 4-6 weeks<sup>3, 5-10</sup>
- ❖ Interventions: individualized to each patient based on patient and PT goals<sup>3, 5-10</sup>
  - Training to reduce impairments
  - Functional activity and task-oriented training
  - ADL training
  - Family and caregiver education and training

# Alternative PAC Settings

- ❖ Day rehabilitation<sup>5-6</sup>
- ❖ Outpatient rehabilitation<sup>5-10</sup>
- ❖ Inpatient rehabilitation<sup>3,6</sup>

# Results: Patient Outcomes

- ❖ There were significant improvements in the following outcome measures for both HHPT and alternative PAC groups:
  - Barthel Index (BI)<sup>8</sup>
  - Tinetti Performance Oriented Mobility Assessment (POMA)<sup>8</sup>
  - Modified Rankin Scale (mRS)<sup>6</sup>

# Results: Patient Outcomes

- ❖ Groups receiving HHPT interventions showed significantly greater improvements than alternative PAC groups in:
  - BI<sup>3,8</sup>
  - ADL performance based on a Numeric Rating Scale (NRS)<sup>5</sup>
  - Tinetti POMA<sup>8</sup>
  - Trunk Impairment Scale (TIS)<sup>5</sup>
  - mRS<sup>7,9</sup>



## Results: Cost

- ❖ There were no significant difference in direct costs of care between outpatient PT and HHPT.<sup>9</sup>
  - Indirect costs were not evaluated.
- ❖ There were significantly lower costs for HHPT compared to inpatient rehabilitation.<sup>3</sup>

# Results: Patient Experience

## Key Themes:<sup>10</sup>

- ❖ Transition from hospital to home was smooth.
- ❖ Home healthcare providers were knowledgeable, competent, and provided good communication.
- ❖ Agencies provided consistent, regular home healthcare appointments.
- ❖ Patients and caregivers did not get enough information about stroke causes, preventative measures and lifestyle changes.

# Conclusions

- ❖ There is moderate to strong evidence that HHPT improves **patient outcomes** with equal or greater effectiveness compared to alternative PAC settings for patients following acute stroke.<sup>3, 5-9</sup>
- ❖ Conclusions cannot be made about **cost** or **patient experience** components of value due to minimal current research.<sup>3, 9-10</sup>
- ❖ The lack of evidence shows a need for new research exploring all three components of value in comparing HHPT to a broader range of PAC settings.

# Limitations

- ❖ There are a limited number of **current** articles related to cost and patient experience.
- ❖ All articles found were international articles, limiting generalizability to the US healthcare system.
  - Countries: Sweden, Denmark, Norway, Spain, Taiwan, Australia<sup>3, 5-10</sup>

# Limitations

- ❖ There was generally poor selection of outcome measures.<sup>5-7,9</sup>
  - Ex. mRS, BI
- ❖ Some studies lacked well-defined control groups and had limited tracking of interventions delivered to control groups.<sup>5-7</sup>
- ❖ All studies had short intervention periods (4-6 weeks).<sup>3, 5-10</sup>

# Clinical Relevance

- ❖ Home-based physical therapy after acute stroke provides a setting that is safe and effective at improving patient outcomes.
- ❖ Home health physical therapy should be considered at discharge from acute hospital care for acute stroke patients.

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Ileana Armendi, SPT

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**Questions?**