

The Impact of Home Health Care on Cost Effectiveness Compared to Other Post-Acute Settings in Individuals Status Post Total Joint Arthroplasty: A Systematic Review

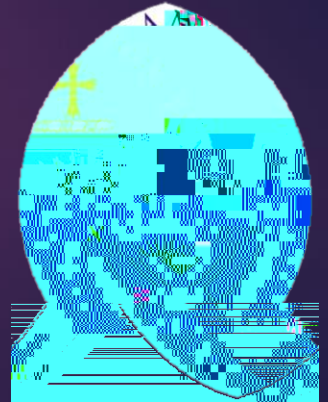
William R. Cavanaugh, SPT, Certified Strength And Conditioning Specialist

Nicholas F. Mullery, SPT

John P. Huller, SPT, Certified Strength And Conditioning Specialist

Joseph M. Pichiarello, SPT

Tracey L. Collins PT, PhD, MBA, Board-Certified Clinical Specialist In Geriatric Physical Therapy



Outline

2

Purpose

Background

Methods

MINORS

PRISMA

Results

Conclusion

Limitations

Future Research

Clinical Relevance

Acknowledgements



Purpose

3

To determine the cost effectiveness of home health care (HHC) compared to other post-acute care (PAC) settings in individuals status post total joint arthroplasty (TJA)



Background

Hip and knee replacements are the most common procedure for Medicare patients¹

In 2014, over 400,000 total hip and total knee replacements were performed¹

Resulted in over 7 billion dollars in hospitalization alone¹

By 2030, projected increase to 3.48 million TKAs and 572,000 THAs²

Post-surgery physical therapy settings presently vary between outpatient, inpatient, and rehab



Implications

With the expected increase of patients undergoing TJA procedures, a need to determine the most cost effective PAC route is needed

It is currently unclear which post-acute settings deliver the greatest value to an episode of care



Methods

Databases:

PubMed

Medline

Health Source: Nursing/Academic Edition

CINAHL

Two reviewers independently assessed each study

MINORS scale



Methods

Search Terms

("Total Joint Replacement" OR "Total Joint Arthroplasty" OR "Total Hip Replacement" OR "Total Hip Arthroplasty" OR "Total Knee Replacement" OR "Total Knee Arthroplasty") AND (Home-health* OR home health* OR home care OR home-based rehab* OR home intervention*) AND (Cost* Effect* OR Cost* OR cost-benefit* OR cost value analysis)

Search Limits

English, published 2008-2018, human subjects, and peer reviewed scholarly journals



Eligibility Criteria

9

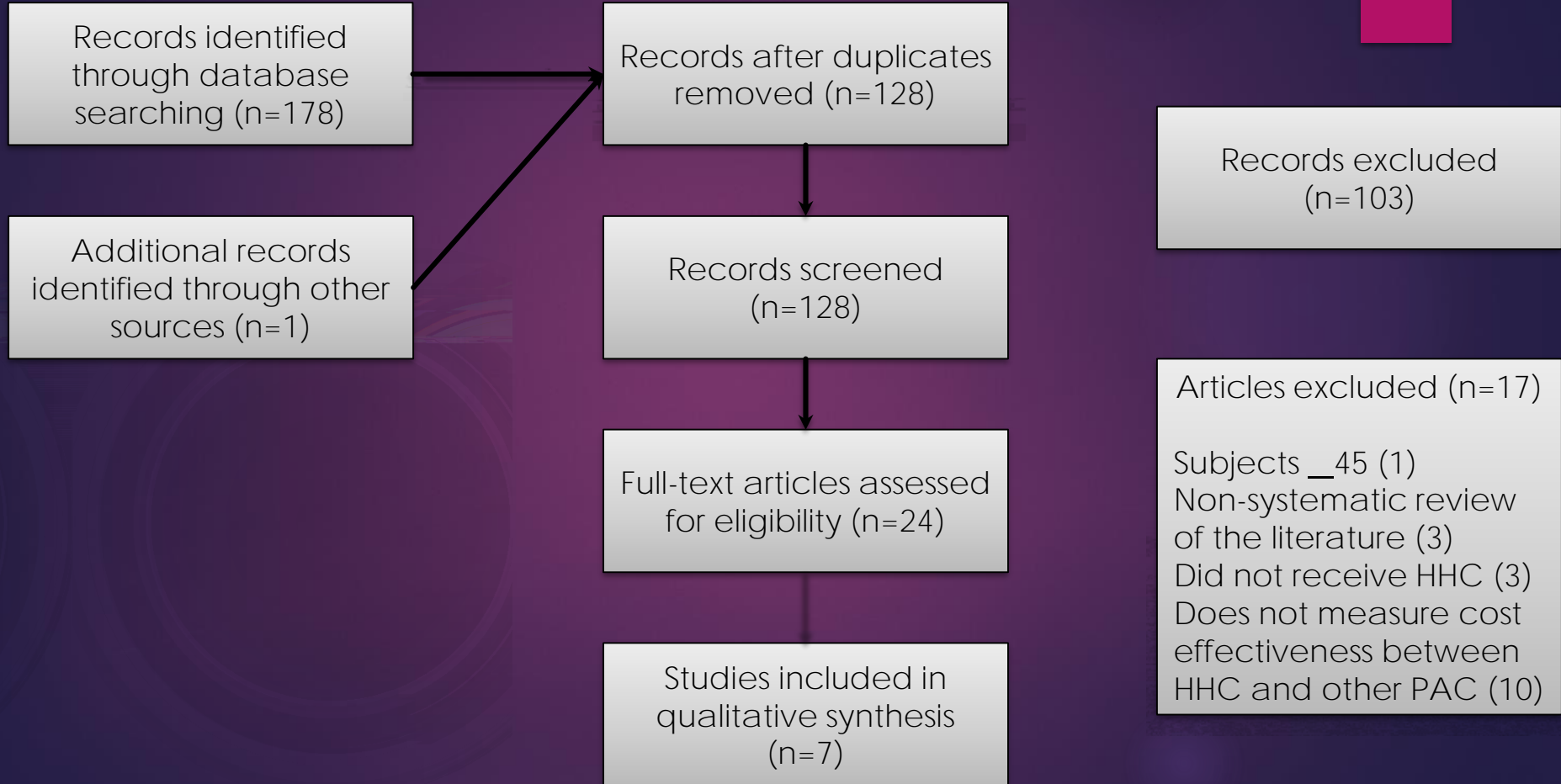
Adults 45 years of age

Underwent a TJA

HHC vs. other PAC settings

Must examine at least one cost-effectiveness outcome measure





Results

Sample size

Range: 50-468,075

Total: 729,983

Primary Outcomes

Cost of Post-Acute Care Routes³⁻⁹

Secondary Outcomes

Length of Stay^{3,5,7,9}

Physical Function & Quality of Life^{3,4}

Readmission Rates^{5,7,8}

Comorbidities^{3,5,7}



Results

Article	Home Health	Skilled Nursing	Inpatient Rehab
Mahomed N et al ³	\$11,082	N/A	\$14,531
Sigurdsson E et al ⁴	\$8,550	N/A	\$11,952
Ramos NL et al ⁵	\$4,000	\$7,560	\$11,000
Sabeh KG et al ⁶	\$11,592	\$14,544	\$25,284
Ponnusamy et al ⁷	\$5,785	\$8,480	12,510
Bozic KJ et al ⁸	\$5,054	\$13,387	\$7,135
Slover JD et al ⁹	\$4657	\$11,719	N/A*

Results

Economic Evaluation

All seven studies found that HHC costs were lower than any other PAC route that was examined³⁻⁹

Readmission Rate

Two studies found HHC was comparable to SNF but was significantly lower than IRF^{5,7}

Patient Comorbidities

Three studies found those discharged to IRF had significantly higher comorbid conditions compared to HHC or SNF^{3,5,7}



Results

Length of Stay

Inconsistent across studies^{3,5,7,9}

Functional Outcomes

One study found it to be more cost effective when analyzing the OHS⁴

All other functional outcomes (WOMAC, SF-36, patient satisfaction) were comparable no matter what the discharge setting³



Conclusion

15

Findings consistently showed that a discharge to home health costs significantly less than an IRF or SNF

Moderate evidence suggesting that discharge to HHC is shown to be more cost effective than discharge to a SNF or IRF



Limitations

16

- Inconsistent sample characteristics
- Unclear protocols
- Lack of long-term follow up
- Inadequate reporting of comorbidities
- Lack of uniform outcome measures



Future Research

Future research should aim at providing PAC discharge recommendations for middle age and older populations post total joint arthroplasty

There is a need to obtain more RCT's on this subject

Also, determining the effect of comorbidities, caregiver status/availability, and home environment on discharge disposition for patients

i.e. I M I M M I M M I M
 I M I I I I I M I J L
 L



Clinical Relevance

Discharge home is a safer and more cost-effective option for patients after TJA compared to other PAC settings

PTs should recommend a discharge to HHC after TJA compared to other PAC settings based on:

Acknowledgements

19

Thank you!

Dr. Tracey Collins, PT, PhD, MBA

Board-Certified Clinical Specialist in Geriatric Physical Therapy

Dr. Peter Leininger, PT, PhD

Board-Certified Clinical Specialist in Orthopaedic Physical Therapy

Certified Strength and Conditioning Specialist

Dr. Renée Hakim, PT, PhD

Board-Certified Clinical Specialist in Neurologic Physical Therapy

The University of Scranton Physical Therapy Department



References

1. Kurtz S, Ong K, Lau E, Mowat F, Halpern M. Projections of primary and revision hip and knee arthroplasty in the United States from 2005 to 2030. *M*

Questions?

