

BACKGROUND

- Cardiovascular disease (CVD) is the leading cause of death worldwide, causing an estimated 17.8 million deaths in 2017
- Within the United States the care and management of CVD costs nearly \$149 billion spent annually accounting for approximately 17% of the national health expenditure
- As the population continues to age the burden of CVD is expected to increase as well, with expenditures attributable to CVD expected to triple by 2030
- Distance delivered care is becoming increasingly more necessary due to stay at home measures to mitigate the spread of COVID-19
- Telehealth is a distance-based form of healthcare delivery relying on audio, visual, or electronic health information to manage care

OBJECTIVE

- The goal of this rapid review is to:
 - Assess the effectiveness of telehealth before widespread implementation to ensure high quality care
 - Fill previous gaps in reviews by evaluating cost effectiveness and quality of life in patients

METHODS

Data Sources

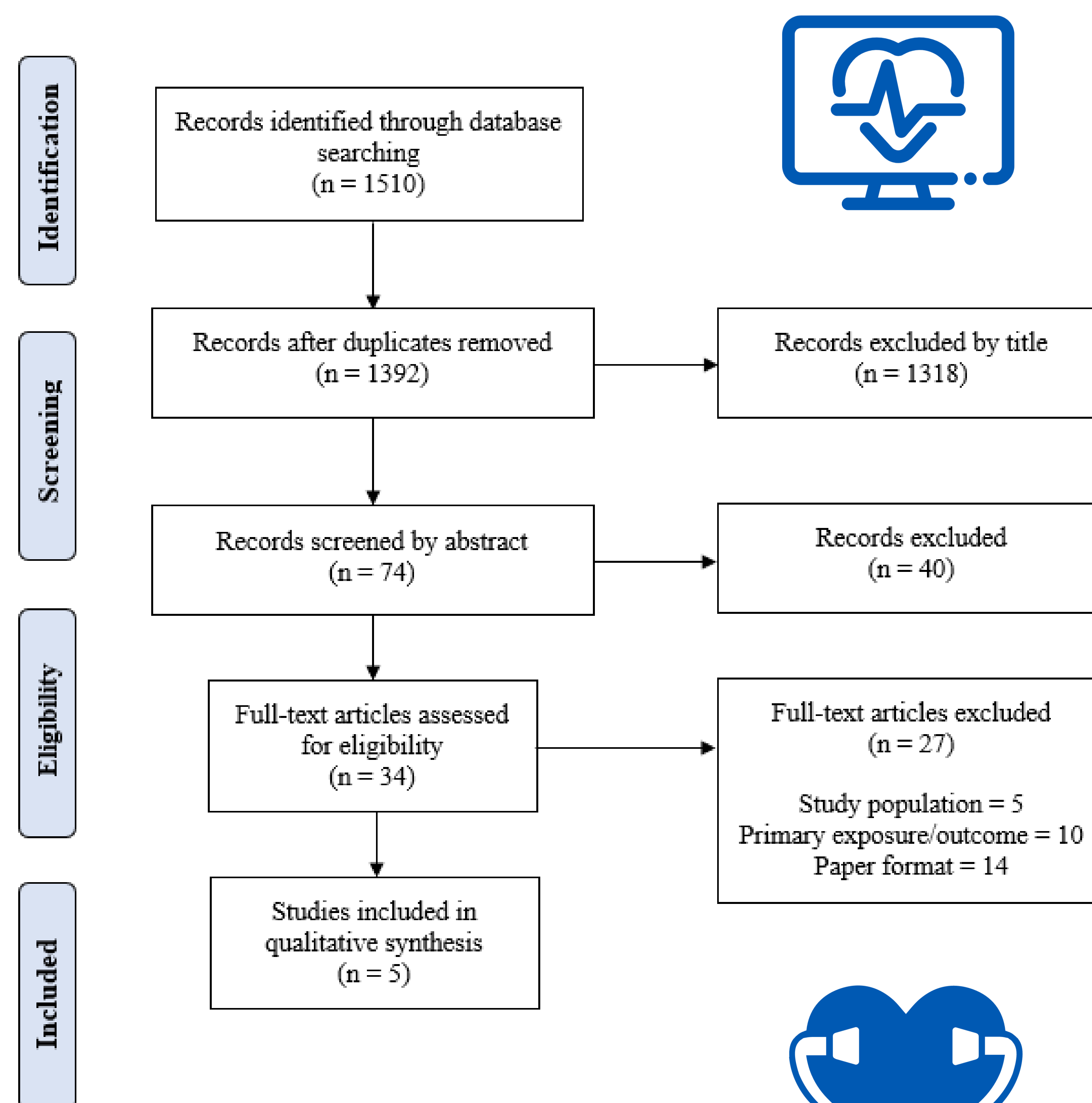
- All studies were drawn from PUBMED and Scopus

Inclusion Criteria

- All interventions described in this review feature telehealth through phone, app, or other electronic devices
- All studies evaluated intervention with population diagnosed with a form of CVD
- Study designs included in this review include: randomized controlled trials, pilot randomized controlled trials, and cohort studies

RESULTS

- Five studies were included in the final review, four randomized control trials and one cohort study
- The primary outcomes of the studies were physical activity (2), cost effectiveness (2), and hospitalization rate (1)



First Author (year)	Country	Setting	Sample Size	Mean Age years (SD)	Study Design
Bernocchi (2017)	Italy	Home	112	70 (9)	Randomized open controlled trial
Claes (2020)	Belgium	Home	120	61.4 (13.5)	Randomized single-blind, controlled pilot trial
Eilat-Tsanani (2015)	Israel	Home	141	70.32 (11.17)	Cohort study
Frederix (2015)	Belgium	Hospital	140	61 (9)	Randomized control trial
Whittaker (2014)	Australia	Home and Hospital	120	Not reported	Randomized control trial

RESULTS

First Author (year)	Telehealth Intervention	CVD Studied	Primary Outcome	Significance
Bernocchi (2017)	Telerehab-HBP Calls	Congestive Heart Failure	Exercise tolerance (6MWT)	✓
Claes (2020)	PATHway - cardiac rehabilitation for CVD Telemonitoring	CVD	Physical activity (MTVP)	✓
Eilat-Tsanani (2015)	Telemonitoring	Congestive Heart Failure	Hospitalization rate & duration	✓
Frederix (2015)	Telerehabilitation Telemonitoring	Congestive Heart Failure Coronary Artery Disease	Cost-effectiveness	✓
Whittaker (2014)	Telehealth-based cardiac rehabilitation	CVD	Cost of delivery	✓

DISCUSSION

- All of the studies found that the telehealth intervention improved the primary outcomes being measured
- Of the primary outcomes cost-effectiveness was consistently better for telehealth programs when compared to traditional care
- Telehealth can be used to increase clinical distancing in healthcare settings and reduce medical distancing from patients concerns
- Due to small sample size and limited CVDs definitive conclusions cannot be drawn at this time, however results indicate positive effects on telehealth in CVD management and care

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