

# Impact of Practice Facilitation in Primary Care on Chronic Disease Care Processes and Outcomes: A Systematic Review

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## Background

- 117 million people in the US suffered from chronic diseases in 2012.
- Chronic disease has been managed through primary care with an approach using the Chronic Care Model.
- Practice facilitation was adopted to address chronic disease management.
- Practice facilitation involves individuals or a team who implement process changes in administrative and clinical areas.
- Practice facilitators have prior clinical experiences.
- Practice facilitator responsibilities have been to evaluate practice performance, collect data, formulate internal quality improvement, and improve process flows.

## Objectives

- Examine practice facilitation in the primary care setting and chronic diseases outcomes addressed.
- Evaluate the effect of practice facilitation on chronic disease outcomes.

## Methods and Data

- Systematic review** with a framework from PRISMA and standards by the National Academy's Standard for Systematic Reviews.
- Studies** from North America (US and Canada), in the English language, published during 1964 to 2016.
- Inclusion Criteria:** Study designs included were cohort and prospective studies, randomized controlled trials, and retrospective studies.
- Key Search Words:** Improvement, practice coach, enhancement assistant, practice facilitator.
- Databases:** Pubmed, Embase, and Web of Science
- Quality Assessment Tools:** Cochrane's Handbook for Systematic Reviews and GRADE Tool
- Outcomes:** By disease group and into either prevention or treatment outcomes.

## Results

Figure 1. Flow Diagram of Search

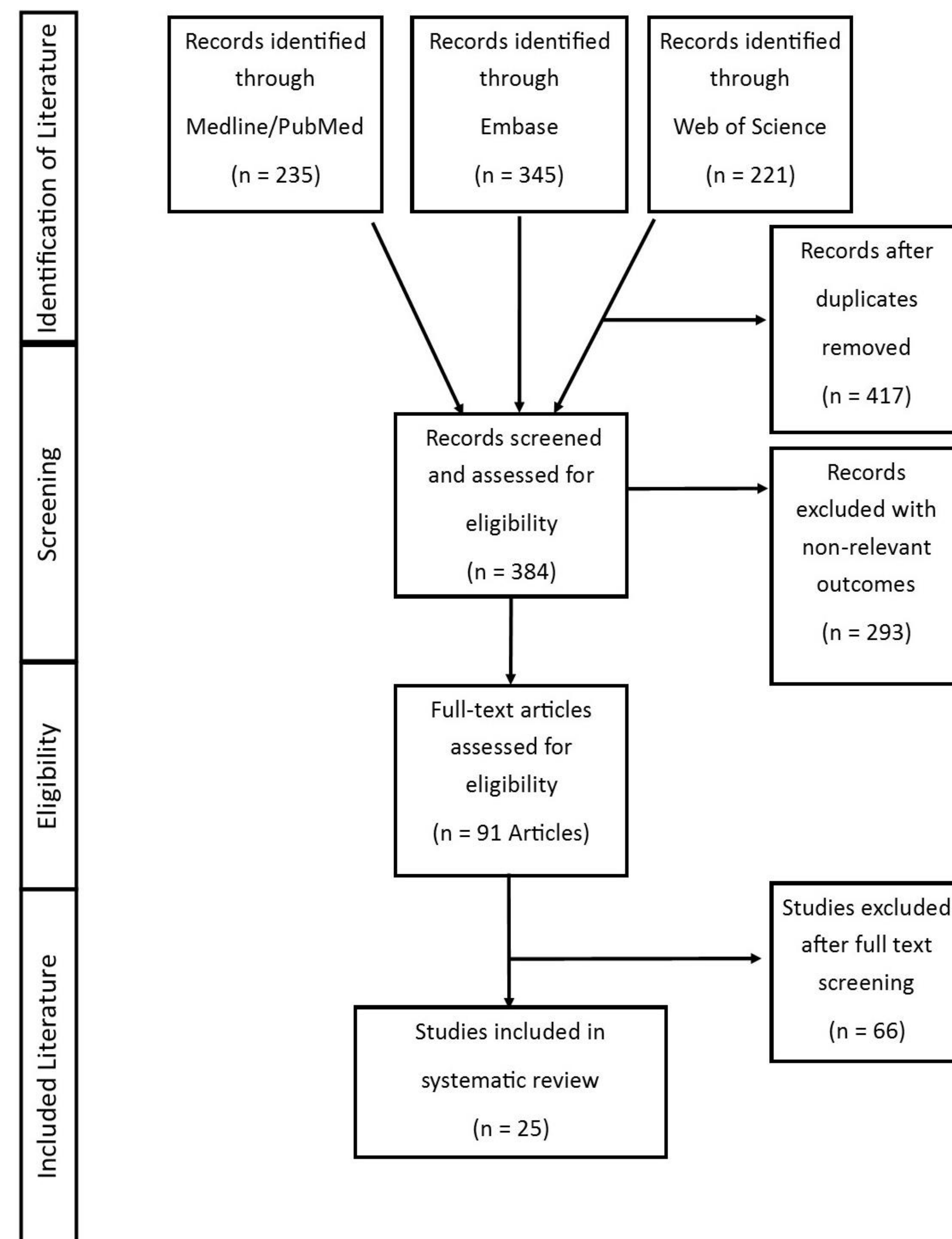


Table 1. Chronic Disease Outcomes

Chronic Disease Outcomes		
Chronic Disease	Prevention Outcome	Treatment Outcome
Asthma	N/A	Improved*
Cancer	Improved*	N/A
Cardiovascular Disease	Improved*	Improved**
Chronic Kidney Disease	N/A	Improved*
Chronic Illness	N/A	Declined*
Diabetes	Improved*	Improved*

\*\* : No Serious Risk of Bias  
\* : Serious or Very Serious Risk of Bias

Figure 2. Average Absolute Change

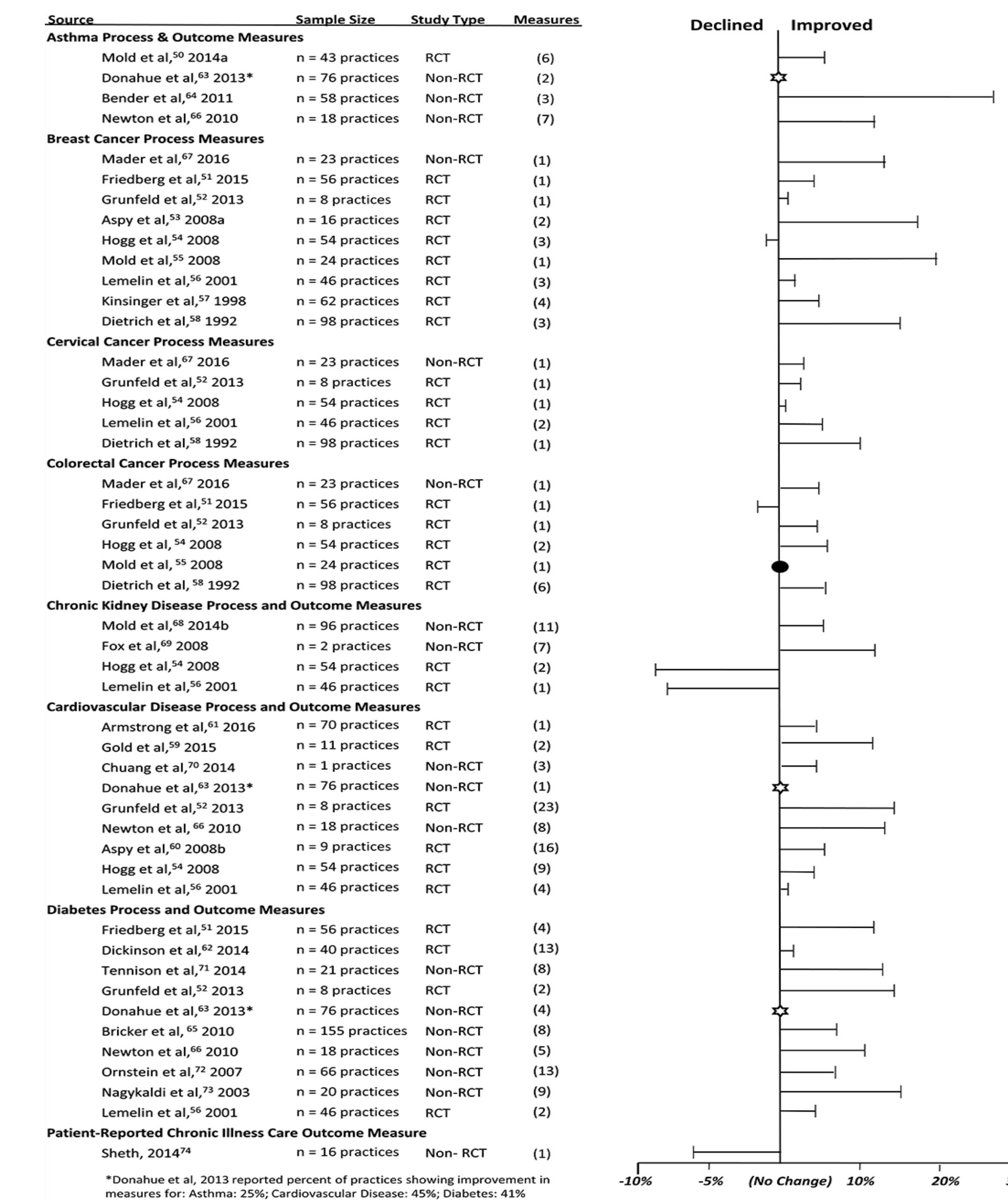


Table 2. Quality Assessment

Chronic Disease Area	Study Design	Studies	Total Number of Patients	Quality
Asthma – Process Measures	Randomized Controlled Trial	Mold et al, 2014a	1,016	⊕⊕⊕○ MODERATE
Asthma – Process and Outcome Measures	Prospective Cohort Studies	Newton et al, 2010 Bender et al, 2011 Donahue 2013	8,000 15,508 Not Reported	⊕○○○ VERY LOW
Cancer – Process Measures (breast, cervical, colorectal)	Randomized Controlled Trials	Dietrich et al, 1992 Kinsinger et al, 1998 Lemelin et al, 2001 Aspy et al, 2008a Hogg et al, 2008 Mold et al, 2008 Grunfeld et al, 2013 Friedberg et al, 2015	2,595 2,874 4,000 332 3,049 150 789 17,363	⊕⊕⊕○ MODERATE
Cancer – Process Measures (breast, cervical, colorectal)	Prospective Cohort Study	Mader et al, 2016	Not Reported	⊕○○○ VERY LOW
Cardiovascular Disease – Process Measures (cerebrovascular disease, hypertension, myocardial infarction, and unspecified)	Randomized Controlled Trials	Lemelin et al, 2001 Aspy et al, 2008b Hogg et al, 2008 Grunfeld et al, 2013 Gold et al, 2015	4,000 150 3,049 789 2,070	⊕⊕○○ LOW
Cardiovascular Disease – Process Measures (unspecified)	Prospective Cohort Study	Newton et al, 2010	8,000	⊕○○○ VERY LOW
Cardiovascular Disease – Outcome Measures (cerebrovascular disease, coronary artery disease, dyslipidemia, hypertension, peripheral vascular disease)	Randomized Controlled Trials	Grunfeld et al, 2013 Armstrong et al, 2015	789 54,085	⊕⊕⊕⊕ HIGH
Cardiovascular Disease – Outcome Measures (hypertension and unspecified)	Prospective Cohort Studies	Newton et al, 2010 Chuang et al, 2014	8,000 40	⊕○○○ VERY LOW
Diabetes, Type 2 – Process Measures	Randomized Controlled Trials	Lemelin et al, 2001 Grunfeld et al, 2013 Dickinson et al, 2014 Friedberg et al, 2015	4,000 789 821 17,363	⊕⊕○○ LOW
Diabetes, Type 2 – Process Measures	Prospective Cohort Studies	Nagykaldi et al, 2003 Ornstein et al, 2007 Bricker et al, 2010 Newton et al, 2010 Donahue et al, 2013 Tennison et al, 2014	595 24,250 1,000,000 8,000 Not Reported 10,000	⊕○○○ VERY LOW
Diabetes, Type 2 – Outcome Measures	Randomized Controlled Trials	Dickinson et al, 2014	821	⊕⊕⊕○ MODERATE
Diabetes, Type 2 – Outcome Measures	Prospective Cohort Studies	Ornstein et al, 2007 Bricker et al, 2010 Newton et al, 2010 Donahue et al, 2013 Tennison et al, 2014	24,250 1,000,000 8,000 Not Reported 10,000	⊕○○○ VERY LOW
Chronic Kidney Disease – Process and Outcome Measures	Randomized Controlled Trials	Lemelin et al, 2001 Hogg et al, 2008	4,000 3,049	⊕○○○ VERY LOW
Chronic Kidney Disease – Process and Outcome Measures	Prospective Cohort Studies	Mold et al, 2014b Fox et al, 2008	1,890 181	⊕○○○ VERY LOW
Patient-Reported Chronic Illness Care – Outcome Measure	Retrospective Cohort Study	Sheth et al, 2014	1,411	⊕○○○ VERY LOW

## Discussion

- 28 studies** met the inclusion criteria of implementing practice facilitation and reporting chronic disease outcomes
- Outcomes improved** in disease areas of **Asthma, Cancer, Cardiovascular Disease, and Diabetes.**
- Risk of bias assessment showed **serious risk of bias** among the different outcomes except among cardiovascular disease treatment outcomes.
- Quality assessment showed **higher quality evidence** among the randomized controlled trials in outcomes for asthma, cancer, diabetes, and cardiovascular diseases.
- Quality assessment showed **lower quality of evidence** among the non-randomized controlled studies in outcomes for asthma, cancer, cardiovascular disease, chronic kidney diseases, chronic illness, and diabetes.

## Limitations

- Studies had self-awareness of the intervention with the presence of facilitators.
- Studies had varying time commitments among facilitators.
- Several studies had financial incentives and small sampling sizes.
- A meta-analysis was excluded.

## Conclusions

- Practice facilitation may have led to **effective improvement** of cancer prevention, asthma, cardiovascular disease, and diabetes treatment outcomes.
- Practice facilitation may have led to **ineffective** improvement of cardiovascular disease and diabetes prevention and chronic kidney disease treatment outcomes.
- Understanding the effects of different aspects of practice facilitation will provide insight into the next stages of its implementation.

## Key Reference

- Agency for Healthcare Research and Quality. (2013). Practice Facilitation Handbook.

## Acknowledgements

The first author is a National Research Service Award predoctoral fellow at the Center for Education in Health Sciences, Northwestern University, under an institutional award from the Agency for Healthcare Research and Quality, T-32 HS 000078/HS000084 (PI: Jane L Holl, MD, MPH). Assistance provided by Northwestern Librarians Corinne Miller and Jonna Peterson.