

# 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 disease in 2012.
- Practice facilitation was adopted to address chronic disease management.
- Practice facilitation involves partnering with primary care teams to implement administrative and clinical changes to improve quality of care.
- Practice facilitator responsibilities include coaching members of the care team, collecting data, evaluating performance, and formulating quality improvement strategies.
- The impact of practice facilitation may be measured by improvement in quantifiable process and outcome quality measures.

## Objectives

- Review literature on practice facilitation supporting chronic disease management in North American primary care settings.
- Evaluate the impact of practice facilitation on chronic disease process and outcome measures.

## 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 between 1964 to 2016, including quantitative measure data
- **Inclusion Criteria:** 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
- **Results:** By disease group into either process or outcome measures

## Results

Figure 1. Flow Diagram of Search

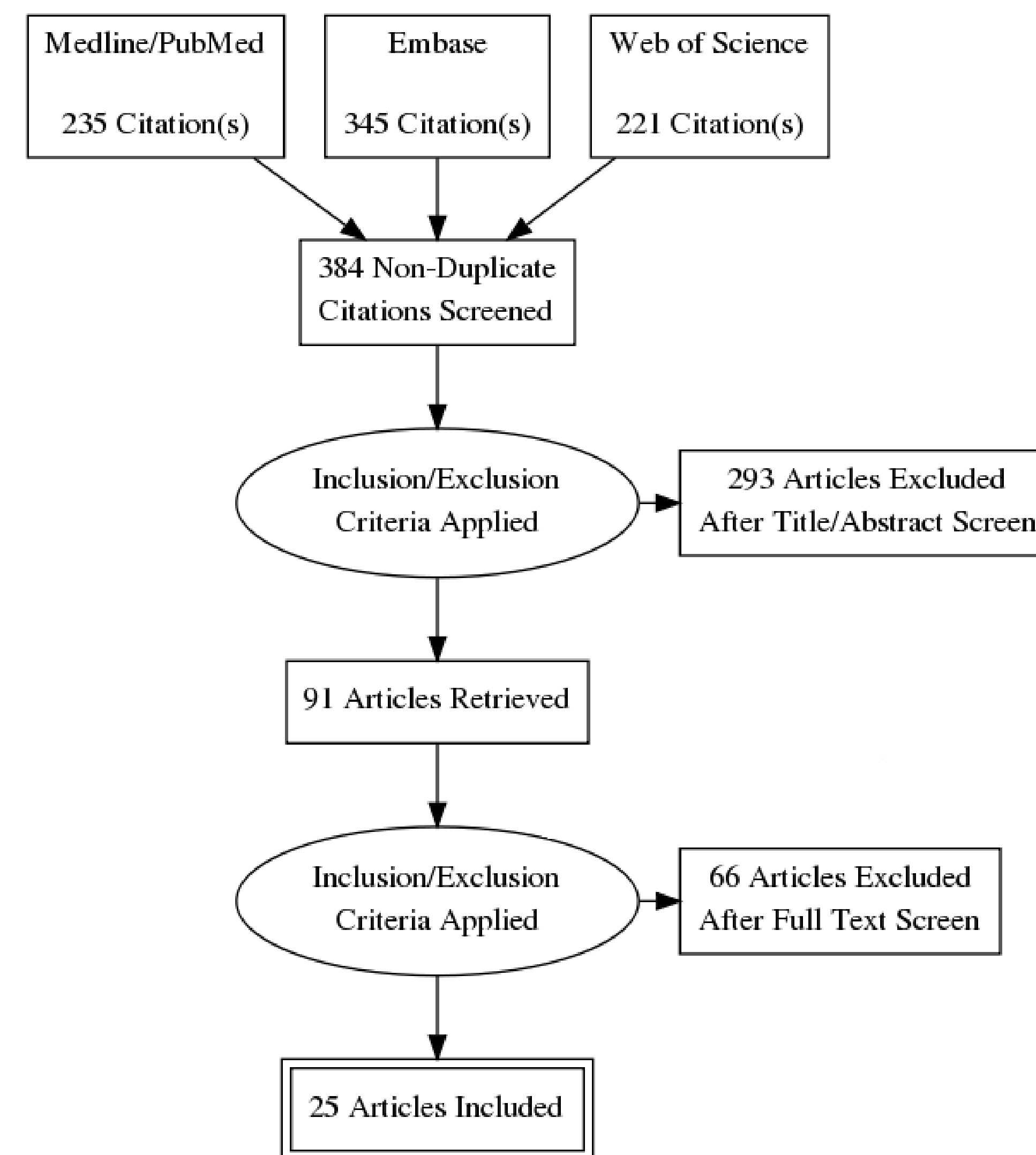


Table 2. Quality Assessment

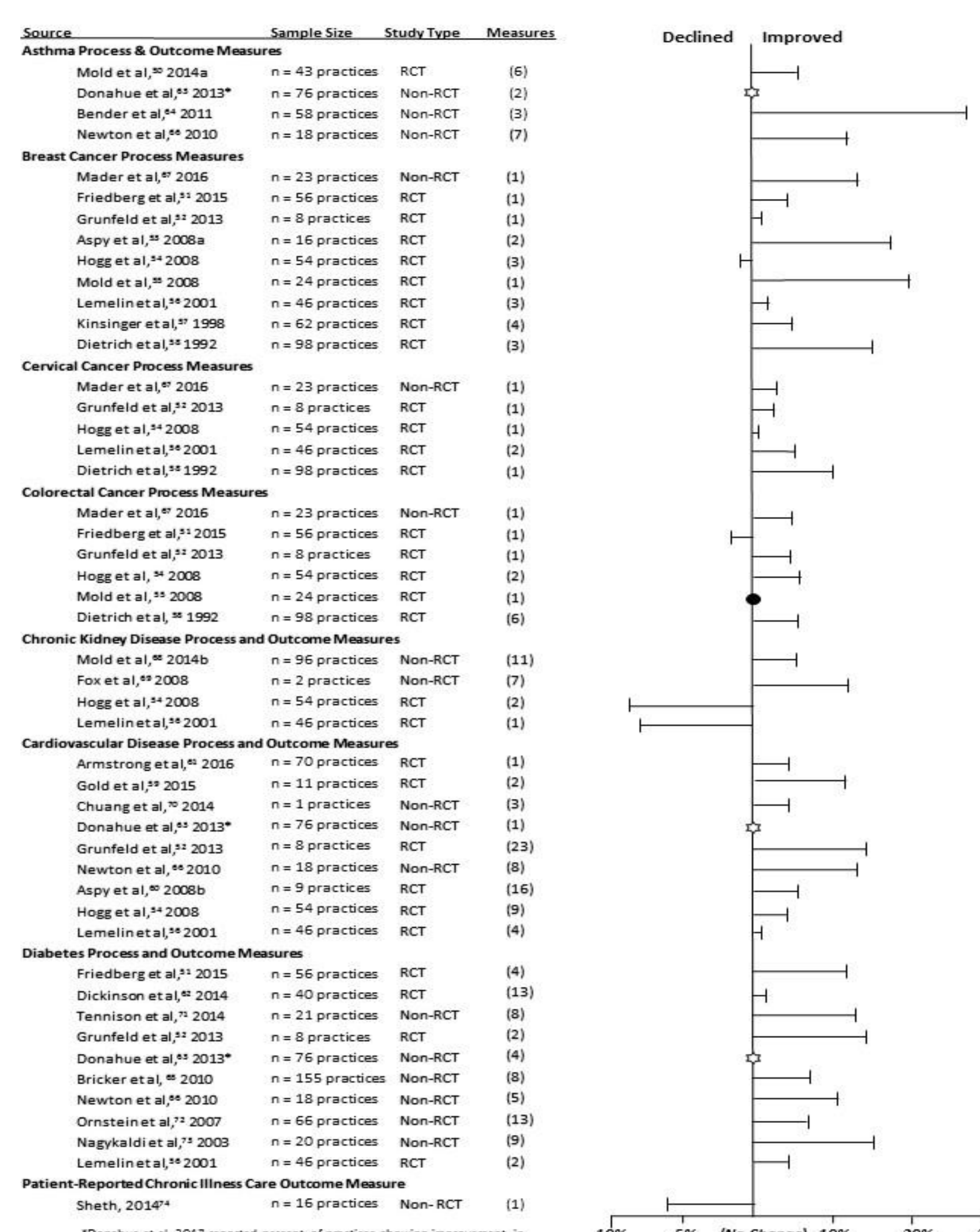
Chronic Disease Area	Study Design	Studies	Number of Patients	Quality
Asthma – Process Measures	Randomized Controlled Trial	Mold et al, 2014a	1,016	⊕⊕⊕○ MODERATE
Asthma – Process and Outcome Measures	Prospective Cohort Studies	Newton et al, 2010 Bender et al, 2011 Donahue 2013	8,000 15,508 Not Reported	⊕○○○ 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
	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
	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
	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
	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
	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
	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

Table 1. Measure Results by Disease

Chronic Disease	Process Measures	Outcome Measures
Asthma	Improved*	No Change
Cancer	Improved*	N/A
Cardiovascular Disease	Improved*	Improved
Chronic Kidney Disease	Improved*	No Change
Chronic Illness	N/A	Declined*
Diabetes	Improved*	Improved*

\* Serious or Very Serious Risk of Bias

Figure 2. Average Absolute Change



## Discussion

- **25 studies** met inclusion criteria.
- **Process measures improved** in Cancer, Cardiovascular Disease and Diabetes.
- **Outcome measures improved** in Asthma, Cardiovascular Disease, Chronic Kidney Disease and Diabetes.
- Risk of bias assessment showed **serious risk of bias** in studies demonstrating measure improvement in areas other than cardiovascular disease outcome measures.
- Quality assessment showed **higher quality evidence** among the randomized controlled trials for measures on asthma (process), cancer (process), cardiovascular disease (outcome) and diabetes (outcome).
- Quality assessment showed **lower quality of evidence** among the non-randomized controlled studies.

## Limitations

- Studies had self-awareness of the intervention with the presence of practice facilitators.
- Studies had varying time commitments among practice staff and practice facilitators.
- Several studies had financial incentives and small sampling sizes.
- Review did not include meta-analysis.

## Conclusions

- Practice facilitation may have led to **effective improvement** of quality measures in primary care, especially in cardiovascular disease outcomes.
- Much of the existing literature on practice facilitation suffers from **serious risk of bias and low quality of evidence**.
- **Additional research into practice facilitation** as a tool for dissemination and implementation of evidence-based care for chronic disease is needed, including a focus on components of facilitation activities that relate to success on quality measure improvement.

## Key Reference

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

## Acknowledgements

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