Continuous Quality Improvement for Clinical Teams
A Systematic Review of Reviews

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What is the ESP?

Nimble

We adapt traditional methods, timelines, and formats to meet our partners' specific needs.

Rigorous

Rigor, transparency, and minimization of bias underlie all our products.

Relevant

Emphasis on Veteran population helps ensure our reviews are relevant to VA decision-makers' needs.

The VA **Evidence Synthesis Program (ESP)**, established in 2007, helps VA fulfill its vision of functioning as a continuously learning health care system. We provide timely, targeted, independent syntheses of the medical literature for the VHA to translate into evidence-based clinical practice, policy, and research.

What is the ESP?

- ESP reports are used to help:
  - Develop clinical policies informed by evidence
  - Implement effective services and support VA clinical practice guidelines and performance measures
  - Set the direction for future research to address gaps in clinical knowledge
- Four ESP Centers across the US
  - Directors are VA clinicians and recognized leaders in the field of evidence synthesis, and have close ties to the AHRQ Evidence-based Practice Center Program
- ESP Coordinating Center in Portland
  - Manages national program operations, ensures methodological consistency and quality of products, and interfaces with stakeholders
  - Produces rapid products to inform more urgent policy and program decisions
- To ensure responsiveness to the needs of decision-makers, the program is governed by a Steering Committee composed of health system leadership and researchers

The ESP accepts topic nominations throughout the year, and nominations are considered every 4 months.

ESP Locations
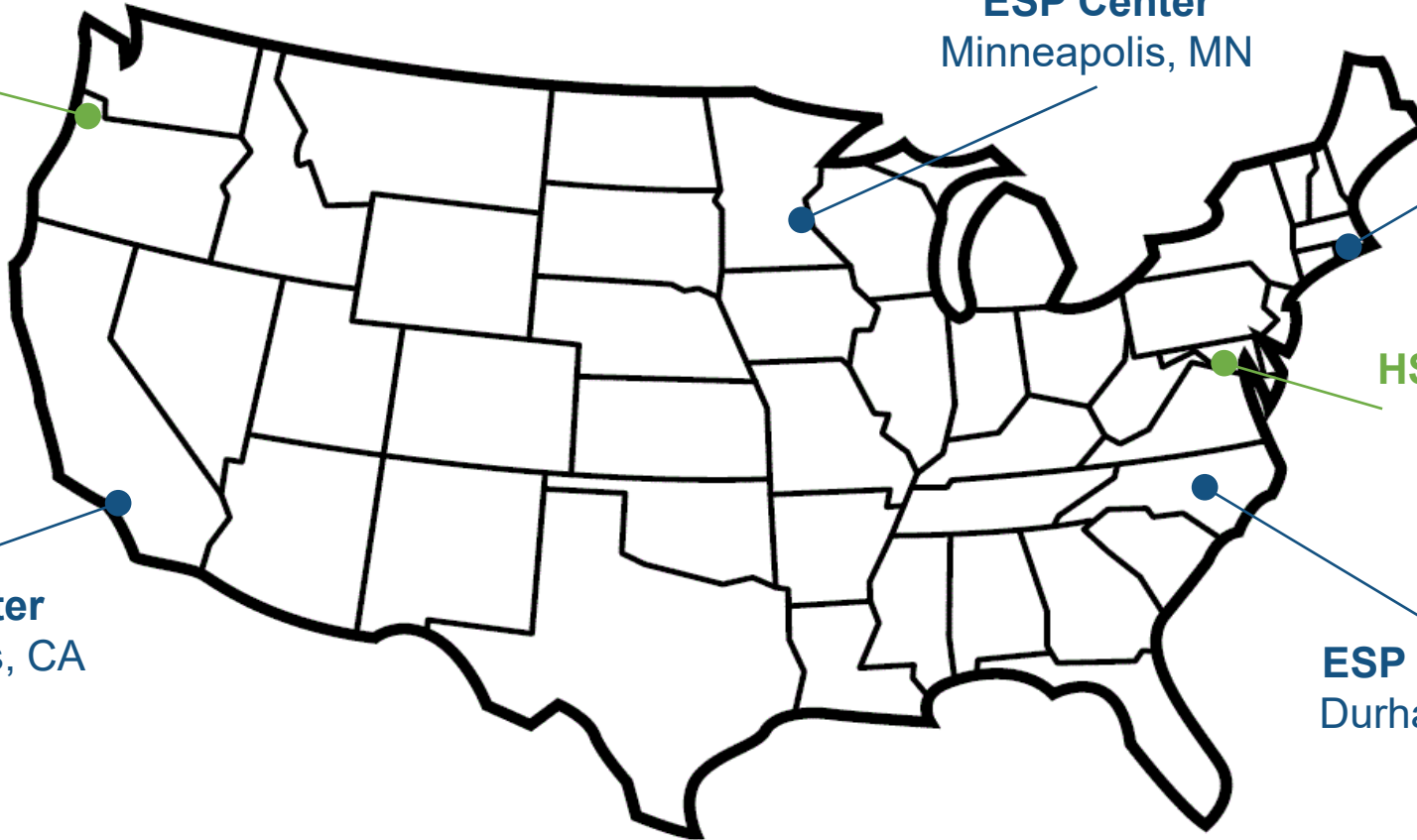

Coordinating Center
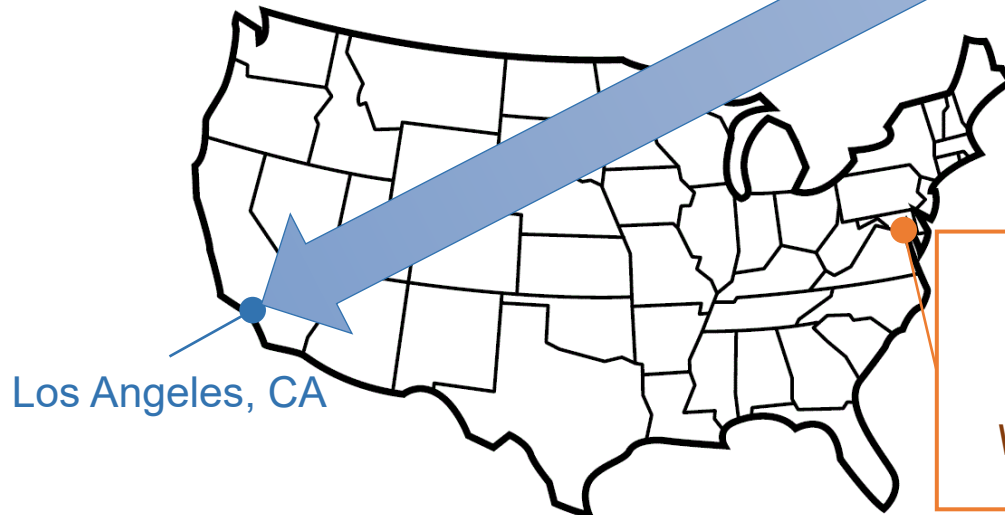Portland, OR

ESP Center
Minneapolis, MN

ESP Center
Providence, RI

HSR&D/QUERI, VACO
Washington, DC

ESP Center
Los Angeles, CA

ESP Center
Durham, NC

Topic Development

Is one continuous quality improvement (CQI) framework more effective than others in healthcare settings? Are there factors that affect the success or failure of different frameworks?
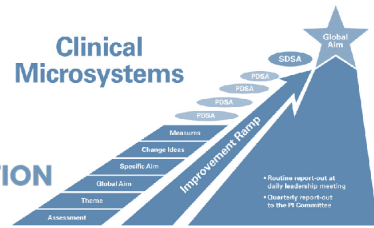
Los Angeles, CA

VA Central Office

Vince Watts, MD
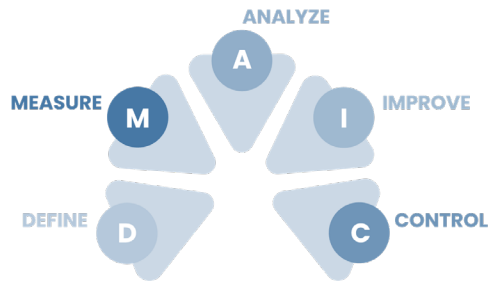*VA Office of System Redesign and Improvement*

What is CQI?

Many frameworks

LEAN METHODOLOGY

- IDENTIFY VALUE
- MAP VALUE STREAM
- CREATE FLOW
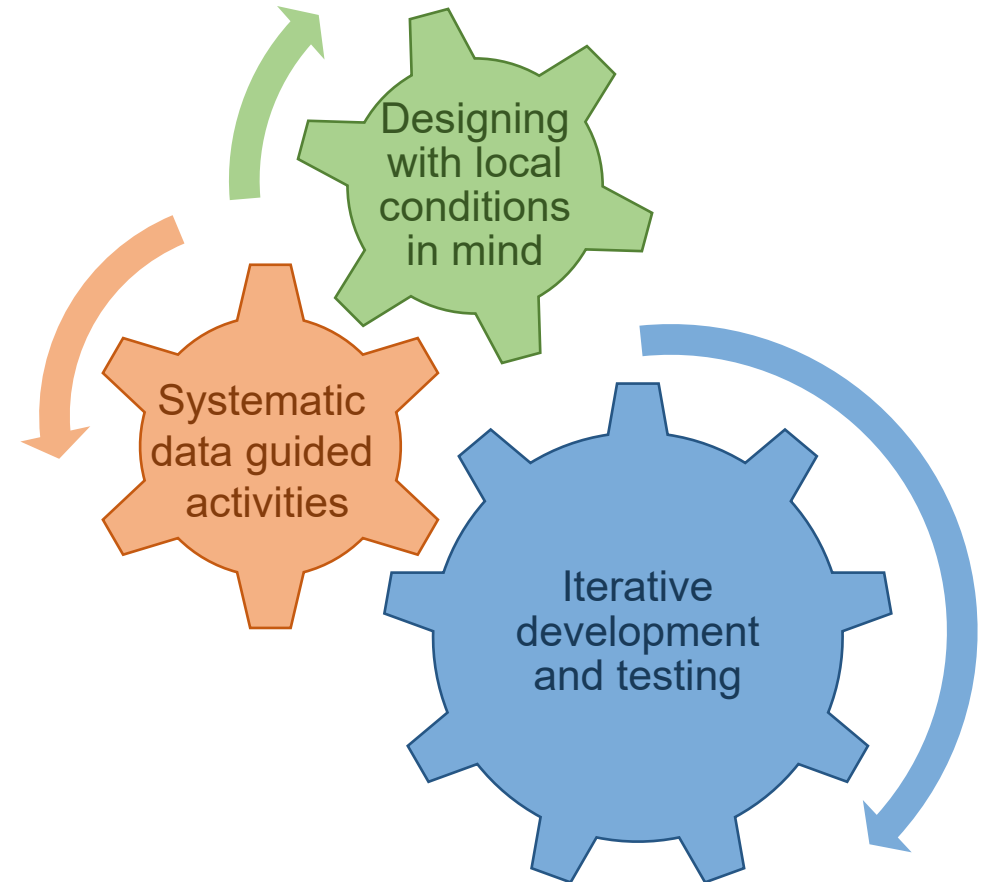- CREATE FLOW
- SEEK PERFECTION

Clinical Microsystems

The Model for Improvement

- **AIM** What are we trying to accomplish?
- **MEASURES** How will we know that a change is an improvement?
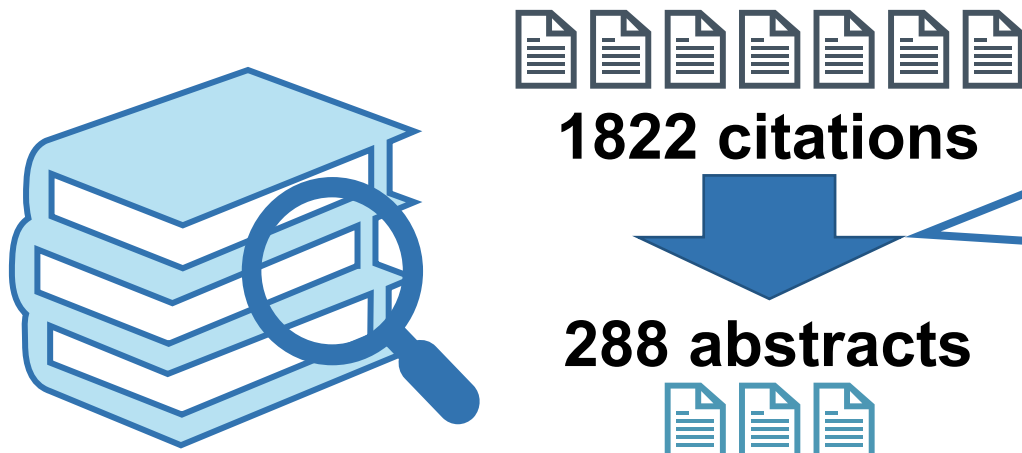- **CHANGES** What changes can we make that will result in improvement?

Act | Plan
Study | Do

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SIX SIGMA METHODOLOGY

- ANALYZE (A)
- MEASURE (M)
- IMPROVE (I)
- DEFINE (D)
- CONTROL (C)

Three essential features

- Designing with local conditions in mind
- Systematic data guided activities
- Iterative development and testing

Rubenstein 2014 Intl J Qual Health Care

U.S. Department of Veterans Affairs
Veterans Health Administration
Health Services Research & Development Service

Search for reviews

VA | U.S. Department of Veterans Affairs
Veterans Health Administration
Health Services Research & Development Service

Our process

1822 citations
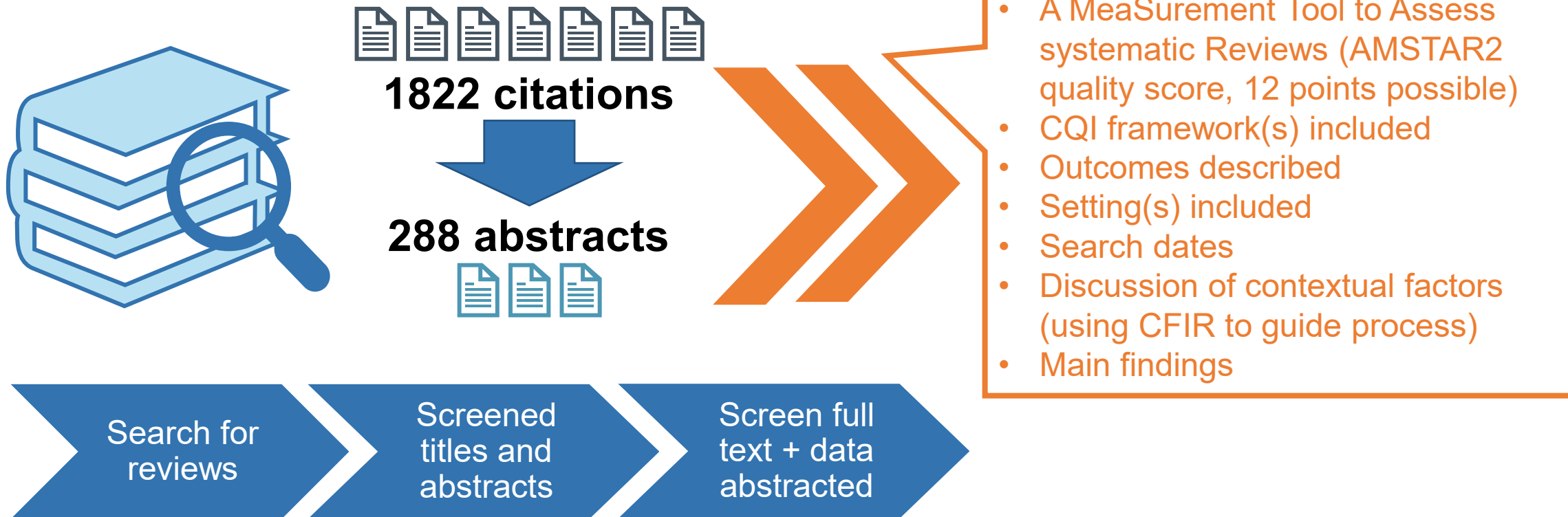
288 abstracts
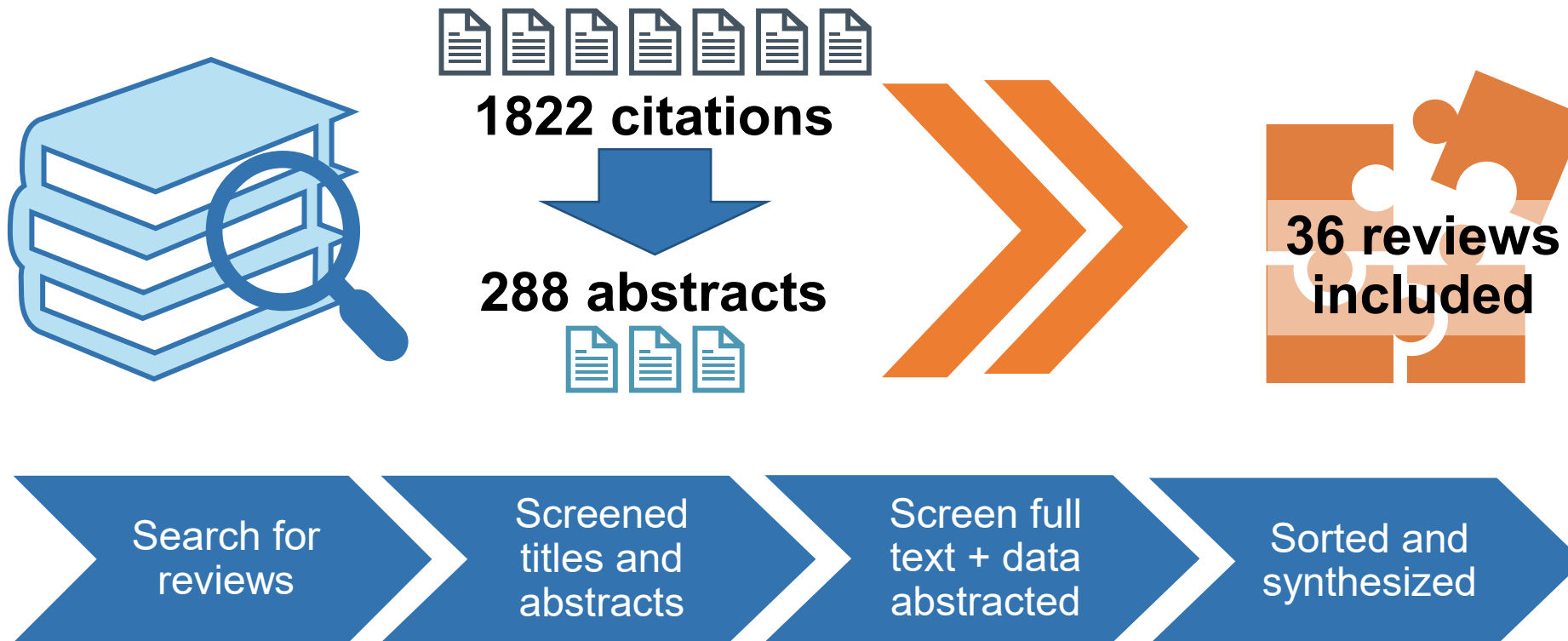
Search for reviews
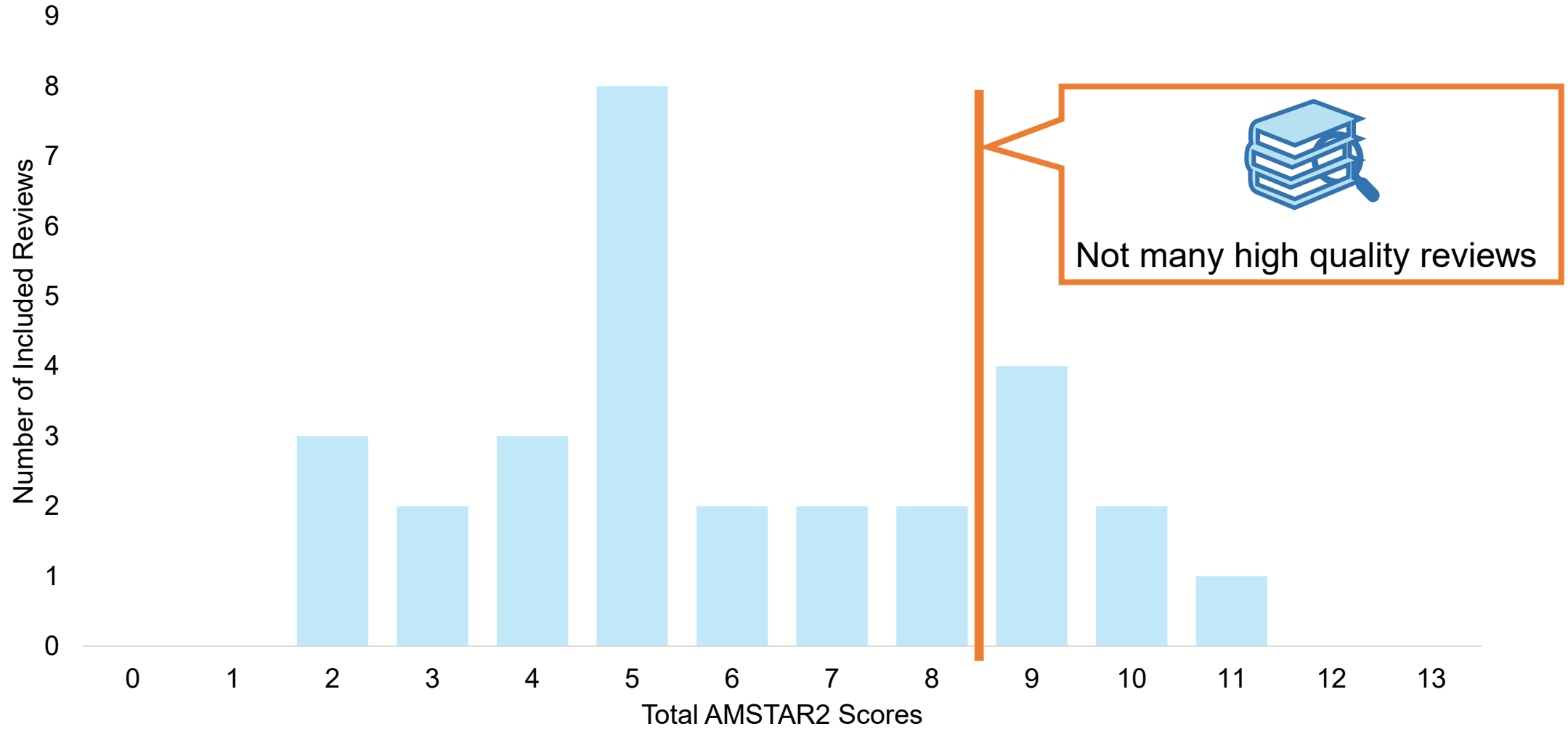
Screened titles and abstracts

Inclusion criteria
- ✓ In any healthcare setting?

- ✓ Self-identified as CQI
OR
- ✓ Self-identified as one of our prespecified frameworks
OR
- ✓ Comprised of CQI 3 essential features
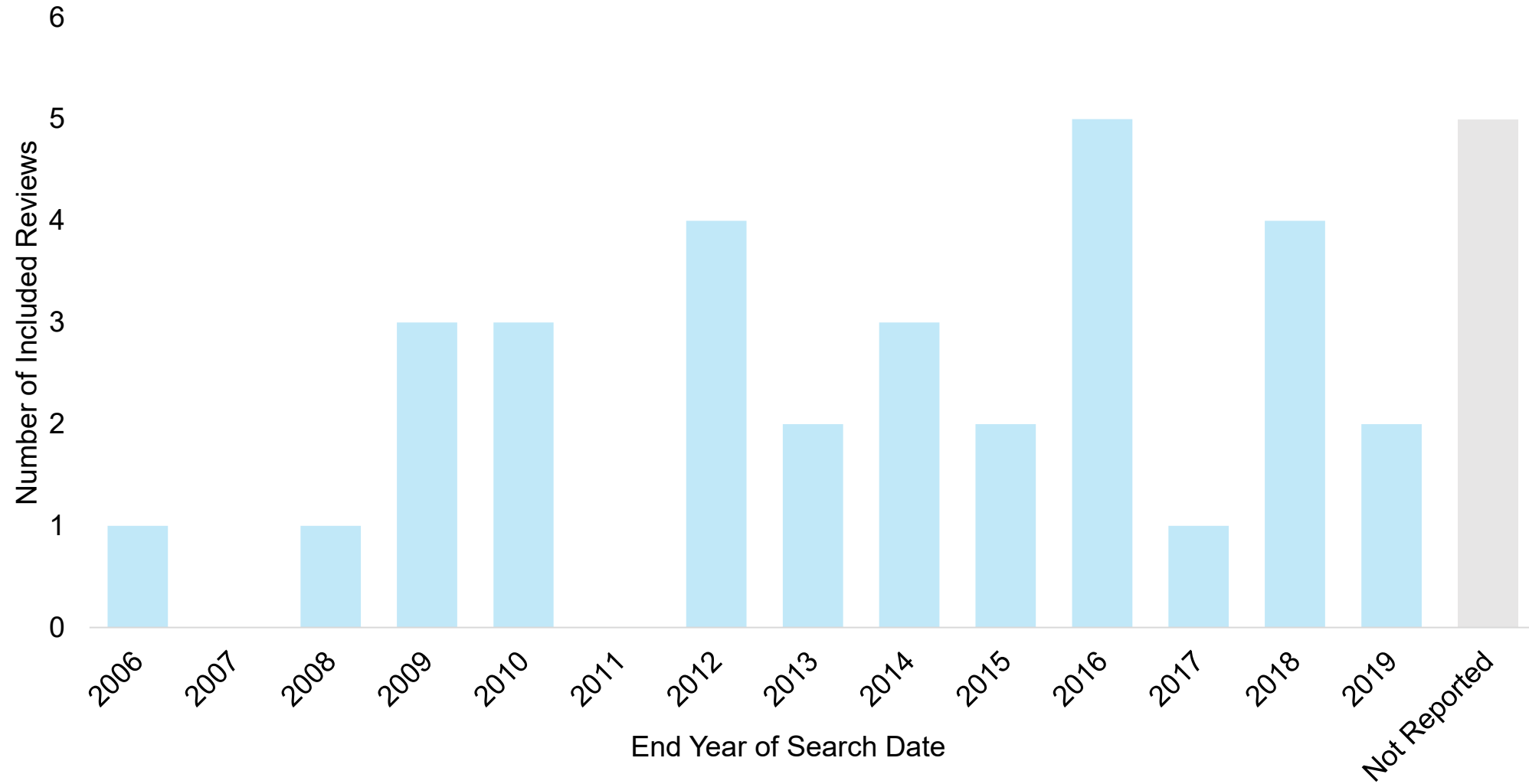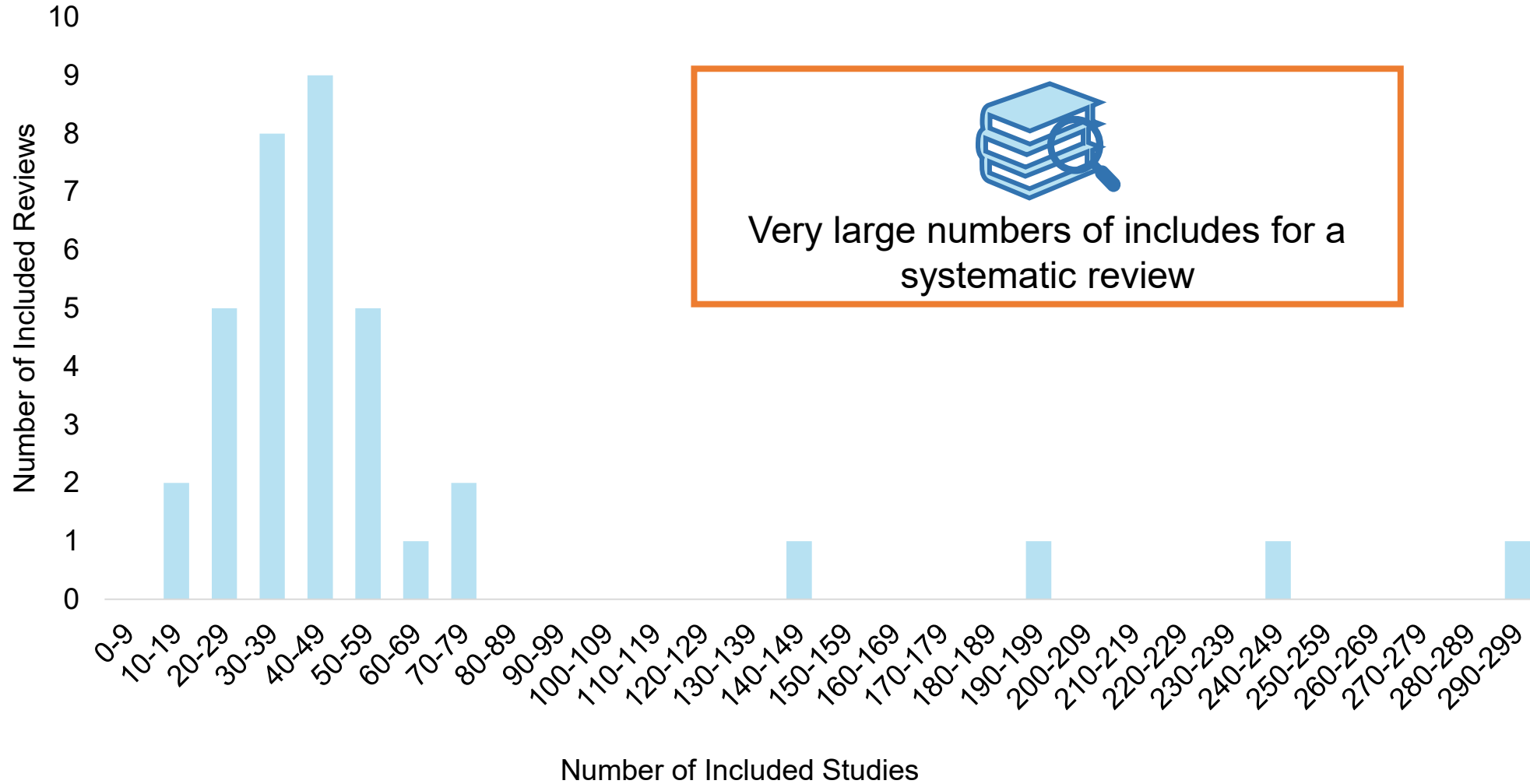
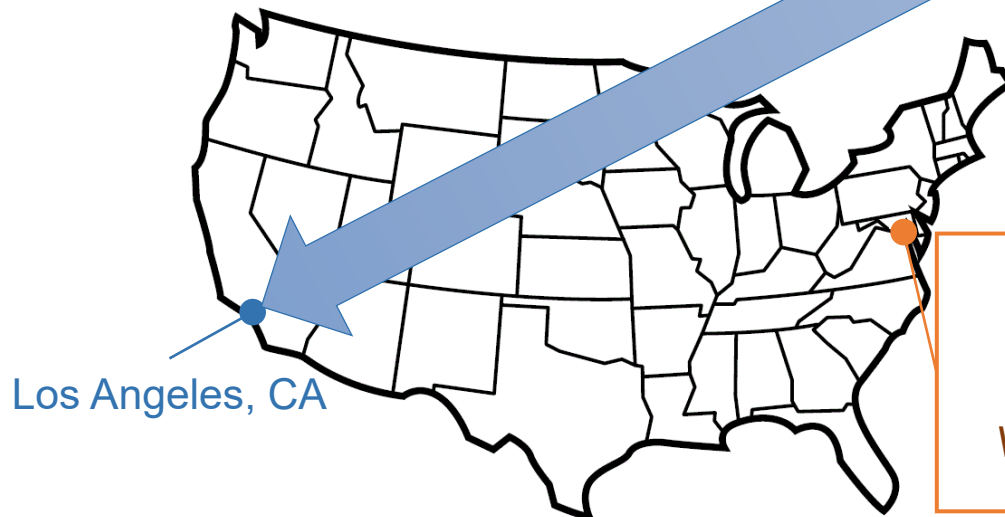- ✗ Component of CQI or QI
- ✗ Not a systematic review

Our process

ESP
Evidence Synthesis Program

1822 citations

288 abstracts

- A MeaSurement Tool to Assess systematic Reviews (AMSTAR2 quality score, 12 points possible)
- CQI framework(s) included
- Outcomes described
- Setting(s) included
- Search dates
- Discussion of contextual factors (using CFIR to guide process)
- Main findings

Search for reviews → Screened titles and abstracts → Screen full text + data abstracted

U.S. Department of Veterans Affairs
Veterans Health Administration
Health Services Research & Development Service

Our process

1822 citations

288 abstracts

36 reviews included

| Search for reviews | Screened titles and abstracts | Screen full text + data abstracted | Sorted and synthesized |

U.S. Department of Veterans Affairs
Veterans Health Administration
Health Services Research & Development Service

Results: AMSTAR2 Scores

Not many high quality reviews

Results: included review search dates

Results: number of included studies

Results: key questions

Results: what we found

Included relevant CQI frameworks

From NHS Scotland

Low quality score (2)

Old (from 2008)

- 5 organizational-level approaches for quality improvement:
    1. Total Quality Management
    2. the CQI method
    3. Lean and Six Sigma
    4. business process reengineering
    5. the IHI's rapid cycle change (Model for Improvement)

Results: head to head comparison

No evidence that any single CQI strategy was more effective than others.

Significant overlap in defining and implementing different approaches

Local context should guide which CQI framework is implemented.

Powell 2008

"Necessary, but not sufficient" conditions

1. provision of resources to enable CQI
2. active engagement of frontline
3. sustained managerial focus and attention
4. use of multi-faceted interventions
5. coordinated action at all levels of the system
6. substantial investment in training/development
7. robust and timely data in supported IT systems

# Results: healthcare settings
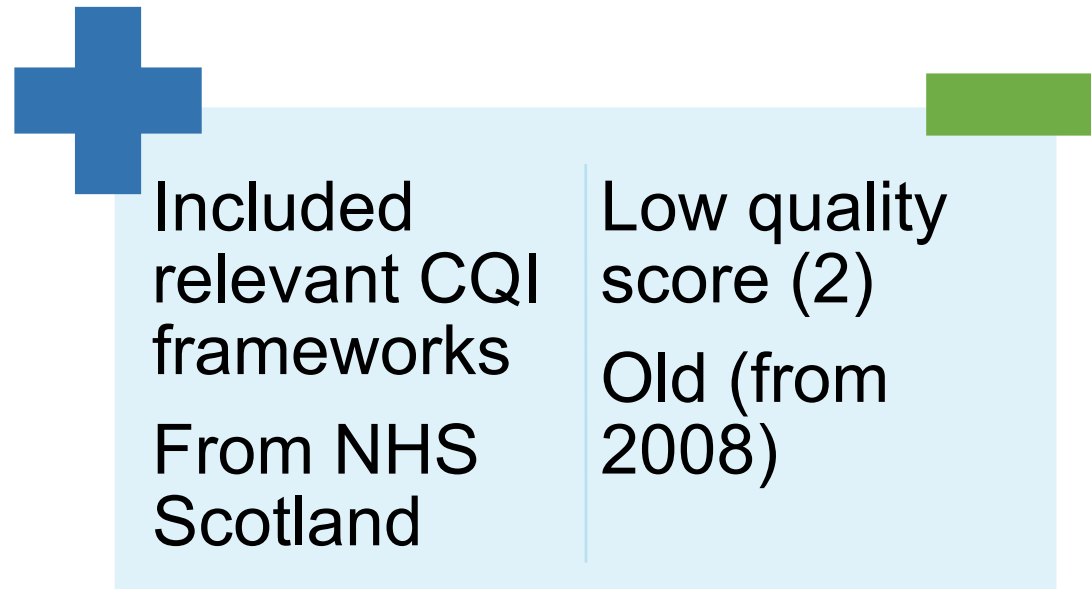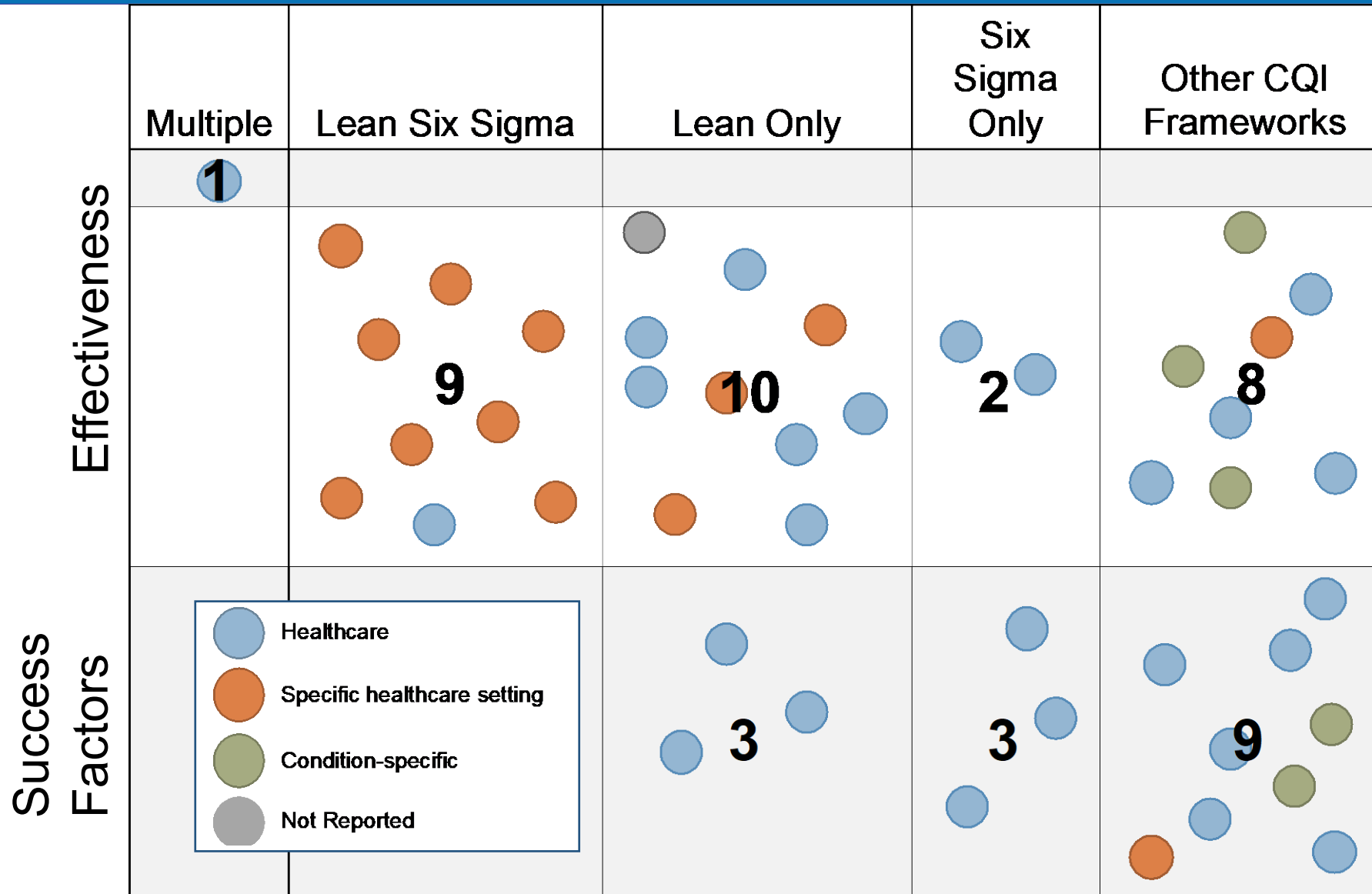
more detailed version in report

MANY REVIEWS	BUT…
• Mostly focused on Lean/Six Sigma • CQI frameworks may be successfully implemented in a variety of clinical settings.	• None of the 11 reviews that included more than 1 CQI strategy reached a strong conclusion that any strategy was superior to any other(s).

Results: key questions

Is one continuous quality improvement (CQI) framework more effective than others in healthcare settings? Are there factors that affect the success or failure of different frameworks?
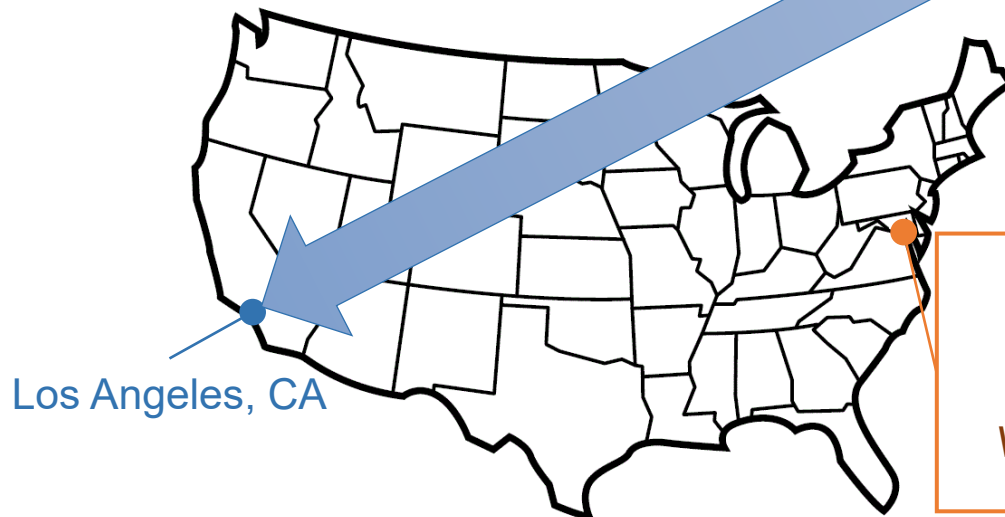
Los Angeles, CA

VA Central Office

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VA Office of System Redesign and Improvement

MANY REVIEWS	BUT…

• 15 reviews with some info
 	
• Addressed three CFIR domains
  • intervention characteristics (n=15)
  • characteristics of individuals (n=6)
  • inner setting (n=10)
	• Very little information provided
	
	• Superficial discussion, not enough to draw strong conclusions about how these relate to success or failure

Limitations

- Only covers what is included in identified reviews
- Evolving terminology/definitions → no reliable, standardized term for identifying relevant literature
- Likely publication bias
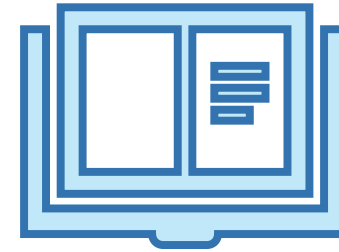
- Low quality reviews overall
- Comparative effectiveness relied on one older review
- Not sure what "it" is: lack of definitional clarity around frameworks
- Not sure how "it" is done: lack of implementation/contextual detail

Putting the pieces together

Local context should guide which CQI framework is implemented.

- No one right answer, overlap in use
- Some CQI frameworks have different focus or more evidence with certain settings

Lean/Six Sigma may work best when outcomes are "repetitive and can be standardized"

- Iterative, context-sensitive interventions that engage critical thinking
- NO plug and play if done right

- Lean is still going strong
- QUERI researchers
  - doing trainings
  - using rigorous and novel methods to study HOW and WHEN and WHY these interventions work

Acknowledgements

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Veterans Health Administration
Health Services Research & Development Service

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Full-length report available here:
http://vaww.hsrd.research.va.gov/publications/esp/reports.cfm