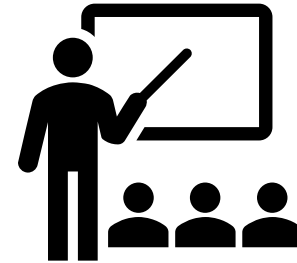


Developing Preliminary Quality Indicators for Chiropractic Care: A Scoping Review

Robert Vining, Jennifer Smith, Brian Anderson, Zachary Almquist, Danveshka Wong

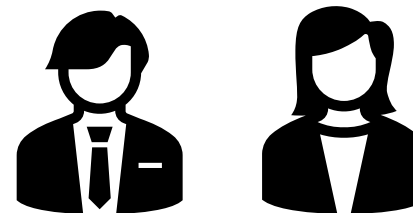
Student/Faculty ratio



Graduation rate



Job placement rate



Quality

What is quality chiropractic care?

How is quality in healthcare measured?

Quality Indicators

- Standardized, evidence-based measures of health care quality
- Administrative data
 - Avoid dependence on file audits
 - Attributable to organization
 - Inform system – level quality improvement

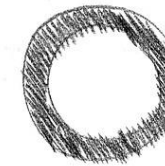
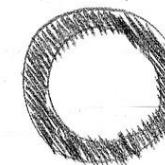
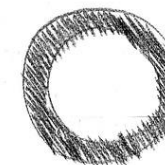
Examples

- Post-operative sepsis rate
- In-Hospital fall with fracture rate
- Emergency department visit time

Agency for Healthcare Research and Quality:

https://qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2023/Version_2023_Benchmark_Tables_PSI.pdf

<https://www.ahrq.gov/research/findings/final-reports/ptflow/section3.html>



- Evidence-based practice
- Choices
- Integration



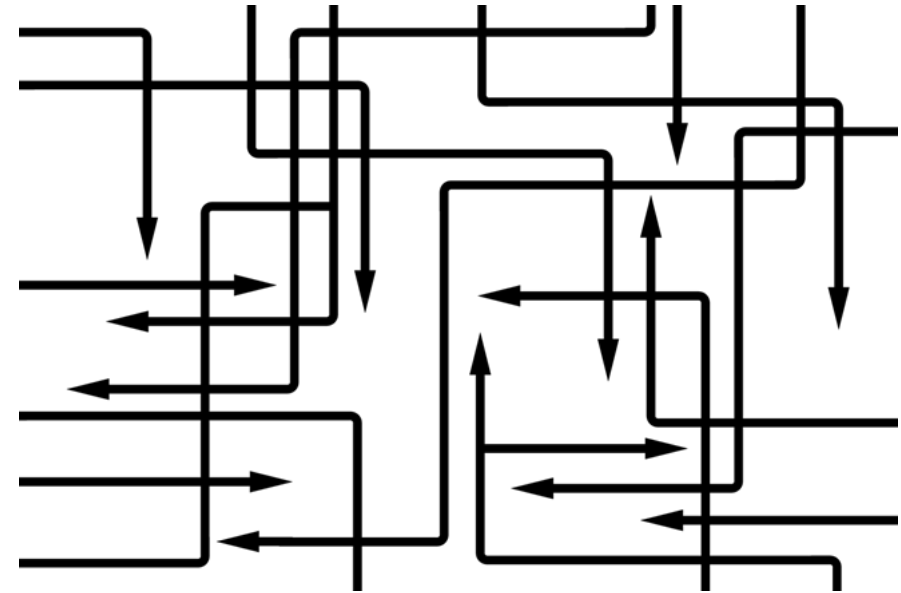
Aim

Long-term: Develop and validate quality indicators for chiropractic care

Project 1: Develop a preliminary set of quality indicators

Methods

- Systematic/scoping review
 - Guidelines
 - Best Practices
 - Care standards



Stelfox HT, Straus SE. Measuring quality of care: considering measurement frameworks and needs assessment to guide quality indicator development. *J Clin Epidemiol.* 2013 Dec;66(12):1320–7.

Stelfox HT, Straus SE. Measuring quality of care: considering conceptual approaches to quality indicator development and evaluation. *J Clin Epidemiol.* 2013 Dec;66(12):1328–37.

Institute of Medicine (US) Committee on Quality of Health Care in America. *Crossing the Quality Chasm: A New Health System for the 21st Century.* National Academies Press (US) 2001

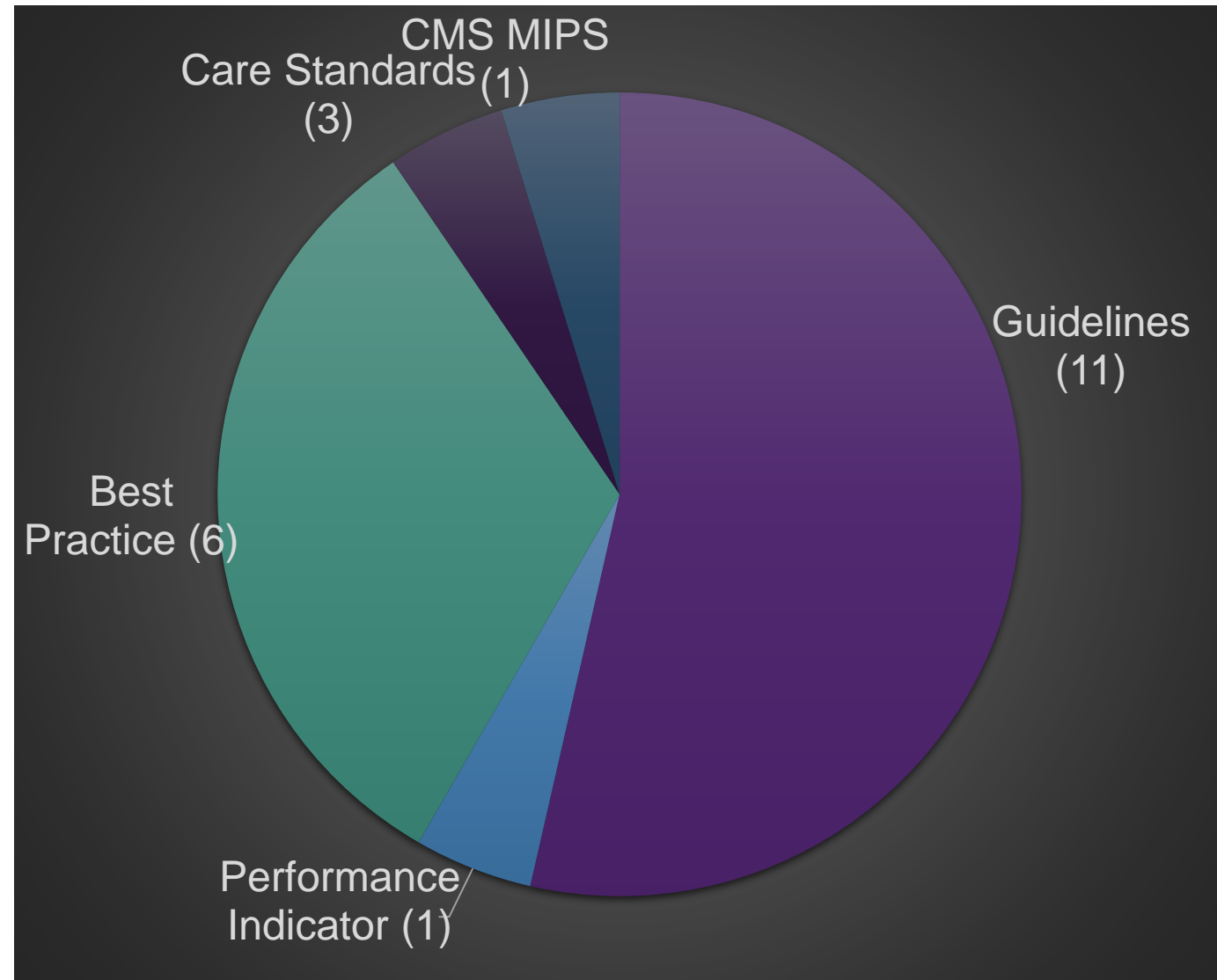
Search

- 2012 to present
- English
- Best practices
- Clinical guidelines



Results - Sources

- 2562 Articles
- 18 eligible
- 4 non-peer reviewed sources
 - U.S. Veteran's Affairs clinical guideline
 - Royal College of Chiropractors Quality Standards
 - CMS quality measures
 - Australian Commission on Safety and Quality in Research



Data Abstraction & Transformation

Step 1: Recommendation: “Evaluate patients for potentially serious red flags”

Step 2: Title: Red flag screening

Step 3: Description: Percentage of patients screened for signs and symptoms of serious pathology

Step 4: Metric: Numerator: # of visits for a new problem with screening for serious underlying pathology

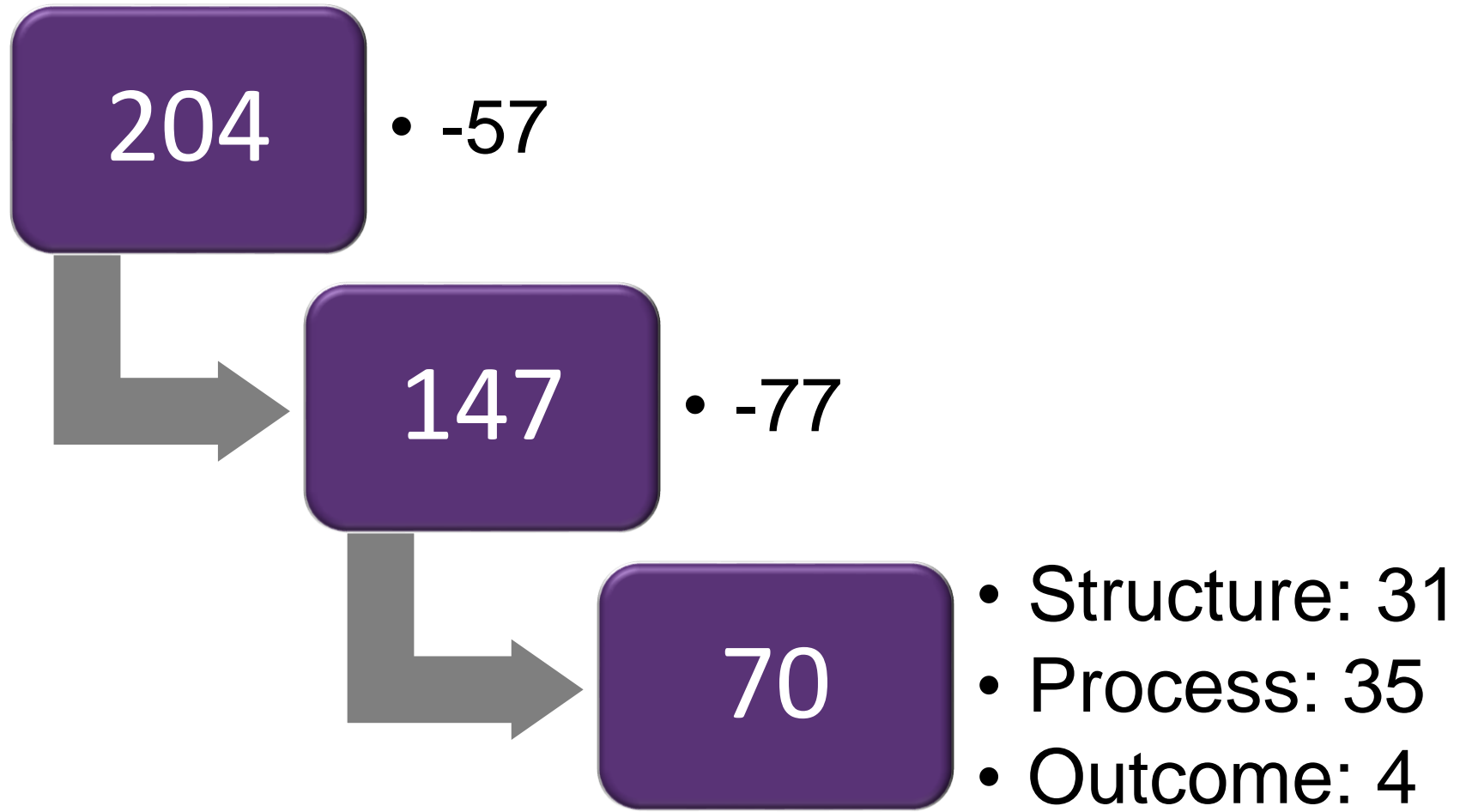
Denominator: # of visits for a new problem

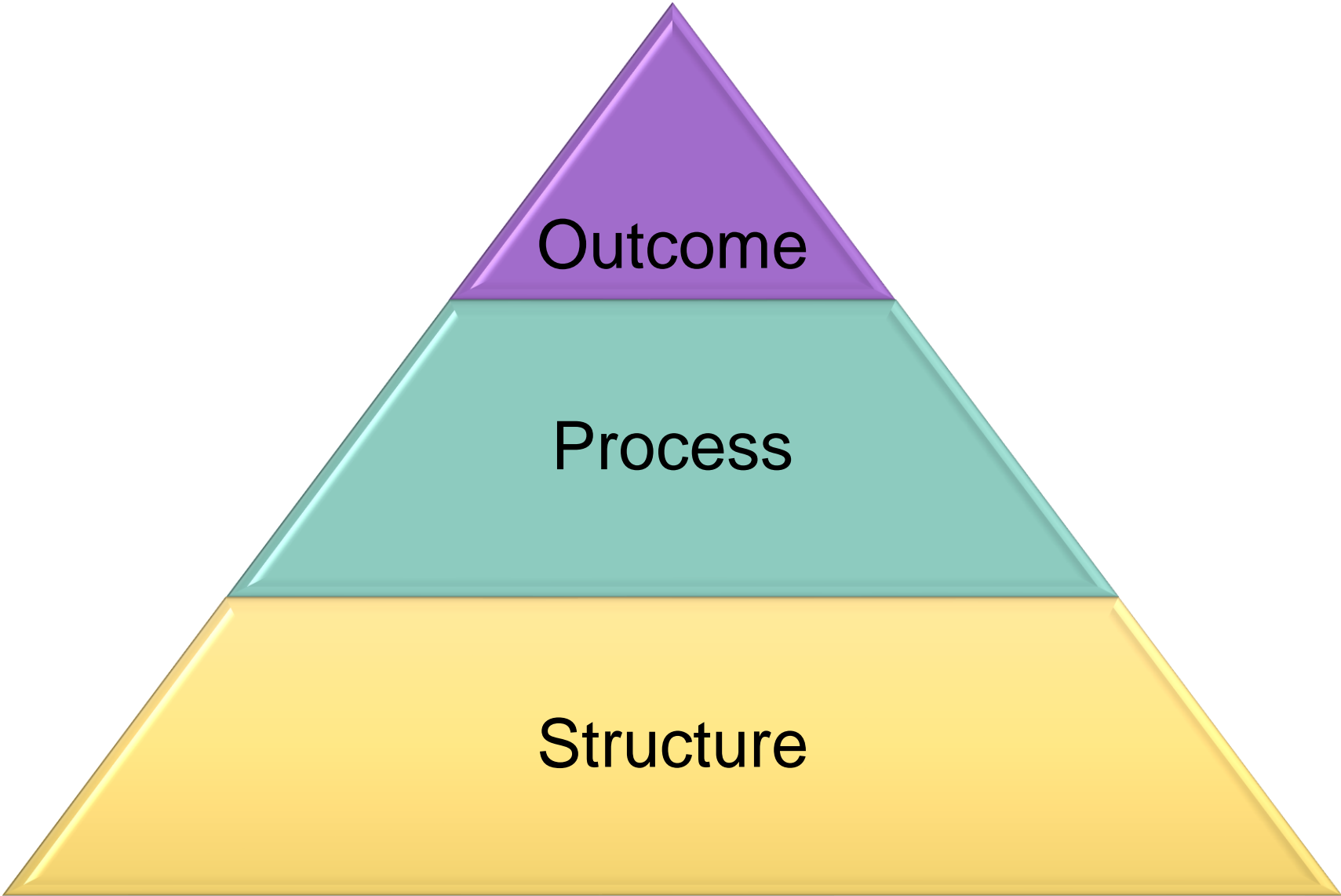
Step 5: Assess

1. Specific: Structure, Process, Outcome
2. Measurable
3. Achievable
4. Relevant
5. Timely



Results

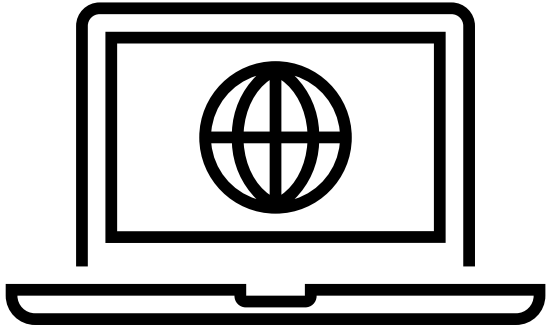
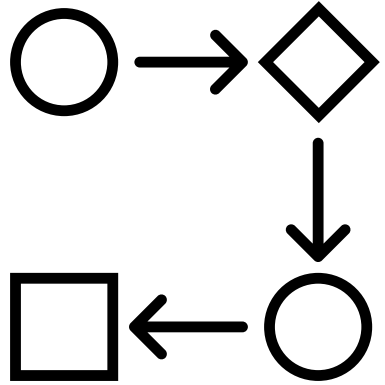
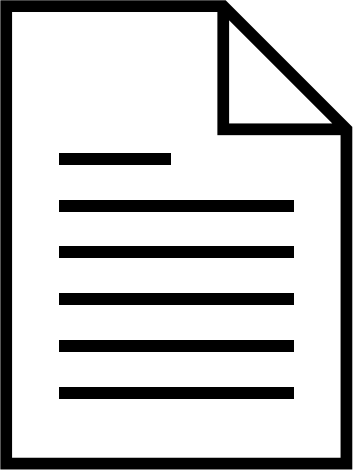




Outcome

Process

Structure



Structure

Title	Description
Shared decision-making policy	Policy requiring providers to use shared decision-making
Psychosocial factor screening policy	Policy designating psychosocial factor screening
Continuity of care policy	Policy supporting consistent care by the same provider

Process

Title	Description
Shared decision-making process	Percentage of visits with documented patient involvement in care planning
Examination	Percentage of patients receiving an exam for a presenting problem
Response to care	Percentage of patients whose response to care is assessed

Outcome

Title	Description
Patient satisfaction	Percentage of patients reporting satisfaction with care
Functional outcomes	Functional outcomes using validated instruments
Return to work	Percentage of patients from a work-related injury returning to work in 30, 60, 90 days

Limitations

- Missed resources
- Abstraction & Transformation
- Patient input

Next Steps

- Consensus
- Patient input



Team



Jennifer Smith,
MLIS: Head
Librarian of
Public Services



Brian Anderson,
DC, MPH, MS,
PhD: Asst. Prof.
(Research)



Zachary
Almquist, MA:
Manager of
Research
Programs



Danveshka
Wong Palmer
College of
Chiropractic
Student

RESEARCH

Open Access

Developing an initial set of quality indicators for chiropractic care: a scoping review



Robert Vining^{1*}, Jennifer Smith², Brian Anderson¹, Zachary Almquist¹ and Danveshka Wong²

Abstract

Background Quality indicators are standardized, evidence-based measures of health care quality. Currently, there is no basic set of quality indicators for chiropractic care published in peer-reviewed literature. The goal of this research is to develop a preliminary set of quality indicators, measurable with administrative data.

Methods We conducted a scoping review searching PubMed/MEDLINE, CINAHL, and Index to Chiropractic Literature databases. Eligible articles were published after 2011, in English, developing/reporting best practices and clinical guidelines specifically developed for, or directly applicable to, chiropractic care. Eligible non-peer-reviewed sources such as quality measures published by the Centers for Medicare and Medicaid Services and the Royal College of Chiropractors quality standards were also included. Following a stepwise eligibility determination process, data abstraction identified specific statements from included sources that can conceivably be measured with administrative data. Once identified, statements were transformed into potential indicators by: 1) Generating a brief title and description; 2) Documenting a source; 3) Developing a metric; and 4) Assigning a Donabedian category (structure, process, outcome). Draft indicators then traversed a 5-step assessment: 1) Describes a narrowly defined structure, process, or outcome; 2) Quantitative data can conceivably be available; 3) Performance is achievable; 4) Metric is relevant; 5) Data are obtainable within reasonable time limits. Indicators meeting all criteria were included in the final set.

Results Literature searching revealed 2562 articles. After removing duplicates and conducting eligibility determination, 18 remained. Most were clinical guidelines ($n=10$) and best practice recommendations ($n=6$), with 1 consensus and 1 clinical standards development study. Data abstraction and transformation produced 204 draft quality indicators. Of those, 57 did not meet 1 or more assessment criteria. After removing duplicates, 70 distinct indicators remained. Most indicators matched the Donabedian category of process ($n=35$), with 31 structure and 4 outcome indicators. No sources were identified to support indicator development from patient perspectives.

Conclusions This article proposes a preliminary set of 70 quality indicators for chiropractic care, theoretically measurable with administrative data and largely obtained from electronic health records. Future research should assess feasibility, achieve stakeholder consensus, develop additional indicators including those considering patient perspectives, and study relationships with clinical outcomes.

Trial registration Open Science Framework, <https://osf.io/t7kgm>

Keywords Chiropractic, Quality, Quality indicator, Benchmarking, Health care quality, Scoping review, Outcome and process assessment

