
Effectiveness and Implementation of Teach-Back as an Approach to Patient Education

May 2025

VA



U.S. Department of Veterans Affairs

Veterans Health Administration
Health Systems Research

Recommended citation: Vick JB, Pace R, Klimek-Johnson P, et al. Effectiveness and Implementation of Teach-Back as an Approach to Patient Education: A Systematic Review. Washington, DC: Evidence Synthesis Program, Health Systems Research, Office of Research and Development, Department of Veterans Affairs. VA ESP Project #9-010; 2025.

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PREFACE

The VA Evidence Synthesis Program (ESP) was established in 2007 to conduct timely, rigorous, and independent systematic reviews to support VA clinicians, program leadership, and policymakers to improve the health of Veterans. ESP reviews have been used to develop evidence-informed clinical policies, practice guidelines, and performance measures; to guide implementation of programs and services that improve Veterans' health and wellbeing; and to set the direction of research to close important evidence gaps. Four ESP Centers are located across the United States. Centers are led by recognized experts in evidence synthesis, often with roles as practicing VA clinicians. The Coordinating Center, located in Portland, Oregon, manages program operations, ensures methodological consistency and quality of products, engages with stakeholders, and addresses urgent evidence synthesis needs.

Nominations of review topics are solicited several times each year and submitted via the [ESP website](#). Topics are selected based on the availability of relevant evidence and the likelihood that a review on the topic would be feasible and have broad utility across the VA system. If selected, topics are refined with input from Operational Partners (below), ESP staff, and additional subject matter experts. Draft ESP reviews undergo external peer review to ensure they are methodologically sound, unbiased, and include all important evidence on the topic. Peer reviewers must disclose any relevant financial or non-financial conflicts of interest. In seeking broad expertise and perspectives during review development, conflicting viewpoints are common and often result in productive scientific discourse that improves the relevance and rigor of the review. The ESP works to balance divergent views and to manage or mitigate potential conflicts of interest.

ACKNOWLEDGMENTS

The authors are grateful to Rebecca L. Watkin, PhD (CHB Wordsmith, Inc) and Liz Wing for editorial and citation management support, and the following individuals for their contributions to this project:

Operational Partners

Operational partners are system-level stakeholders who help ensure relevance of the review topic to the VA, contribute to the development and approval of the final project scope and timeframe for completion, provide feedback on the draft report, and provide consultation on strategies for dissemination of the report to the field and relevant groups.

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Technical Expert Panel

To ensure robust, scientifically relevant work, the technical expert panel (TEP) guides topic refinement, provides input on key questions and eligibility criteria, advising on substantive issues or possibly overlooked areas of research, assures VA relevance, and provides feedback on work in progress. TEP members included:

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DISCLOSURES

This report was prepared by the ESP Center located at the **Durham VA Medical Center**, directed by Jennifer M. Gierisch, PhD, MPH, and Karen M. Goldstein, MD, MSPH and funded by the Department of Veterans Affairs, Veterans Health Administration, Health Systems Research.

The findings and conclusions in this document are those of the author(s) who are responsible for its contents and do not necessarily represent the views of the Department of Veterans Affairs or the United States government. Therefore, no statement in this article should be construed as an official position of the Department of Veterans Affairs. The final research questions, methodology, and/or conclusions may not necessarily represent the views of contributing operational and content experts. No investigators have affiliations or financial involvement (eg, employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties) that conflict with material presented in the report.

Executive Summary

KEY FINDINGS

- ▶ Sixteen randomized trials addressed effectiveness of teach-back.
 - ▶ Seven pre-post, single site studies evaluated the effect of efforts to increase clinician use of teach-back.
 - ▶ While we identified 8 trials ($N = 721$) that evaluated the effect of teach-back on short-term patient knowledge acquisition, all had significant methodologic limitations making it difficult to draw strong conclusions.
 - ▶ Teach-back led to a moderate increase in short-term health behavior adherence based on data from 6 trials ($N = 497$) which primarily used self-report assessments.
 - ▶ Teach-back led to a large increase in self-efficacy in 4 trials ($N = 412$), all with significant methodologic limitations.
 - ▶ There were minimal data exploring differences in the effect of teach-back across different clinical settings, methods of delivering teach-back, or patient-level characteristics.
 - ▶ Limited evidence on the implementation of teach-back suggested that most sites used staff training along with additional strategies to encourage clinicians to use teach-back.
 - ▶ Future studies of teach-back should continue to evaluate its short- and long-term effectiveness using validated measures, as well as evaluate different approaches to supporting implementation and sustainability.
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Patients often forget or misremember a significant proportion of health information conveyed during medical encounters. Individuals with barriers to information acquisition (*eg*, low health literacy) may be at increased risk for misunderstanding key concepts and recommendations made by health care providers. Yet, meaningful patient engagement and optimized self-management of health conditions outside the health care setting requires that patients and their families receive, comprehend, and act on important health care information. It is often unknown if information was conveyed to patients in an understandable manner or if the patient fully understood the information, instruction, or guidance provided. To address this challenge, the VHA 2022-2025 Long Range Plan endorses the intent to improve outcomes and knowledge by using bi-directional communication with Veterans and their caregivers.

Teach-back has been identified as a strategy to promote patient and family understanding of health-related information. Teach-back involves a health care professional providing information (verbally or by demonstration), followed by a request for the recipient to fully and accurately repeat or redemonstrate this information. This is often followed by an opportunity for the health care professional to provide correction until the patient confirms understanding. Prior systematic reviews of teach-back effectiveness have suggested a beneficial impact on multiple outcomes, although findings were limited by inadequate comparator groups and risk of bias in the identified literature.

CURRENT REVIEW

This systematic review aimed to provide an updated synthesis on the effectiveness of teach-back for individual clinical encounters and strategies employed to support clinician use of teach-back. We

identified 29 studies evaluating the effectiveness of teach-back in comparison to another form of patient education, typically usual care. None of the identified studies took place in the VHA or reported the inclusion of Veterans.

What is the effect of teach-back on patient and provider outcomes?

We prioritized evidence from the 16 trials (1,727 patients) meeting criteria for higher quality study designs for health care interventions (eg, randomized trials) for our assessment of teach-back effectiveness. These 16 trials were set within both inpatient and outpatient settings across a range of clinical contexts including an outpatient rheumatology clinic, perioperative care, and inpatient cardiac units. Information conveyed and assessed with teach-back was generally complex and addressed multiple different behaviors (eg, glucose testing, daily foot self-evaluation, and dietary intake as parts of diabetes self-management).

Eight randomized trials ($N = 721$) evaluated changes in patient knowledge acquisition after teach-back. Seven of the 8 trials took place in the outpatient setting, including the emergency department (ED), and addressed health information related to conditions such as obstructive lung disease, myocardial infarction, perioperative health issues, rheumatologic diseases, and diabetes. These studies demonstrated marked variation in the way that they conceptualized and measured knowledge acquisition and used unvalidated measures. In the setting of these methodological limitations, we found no clear pattern suggesting benefit of teach-back on short-term knowledge acquisition (at 0 days to 3 months). We have very low confidence in these findings (very low strength of evidence) due to the methodologic limitations and inconsistency of results across studies. Of note, we did not conduct a meta-analysis of this outcome due to important differences in the way that knowledge acquisition was measured.

Seven randomized trials ($N = 613$) measured short-term patient adherence based on the demonstration or reporting of recommended health behaviors after receipt of patient education delivered by teach-back compared to usual care. These trials were set across both inpatient and outpatient settings and evaluated adherence to behaviors including breastfeeding, self-care in the context of a variety of cardiac procedures and diagnoses, and type 2 diabetes mellitus. Results of a meta-analysis which included 6 of the 7 trials ($N = 497$) demonstrated a moderate increase in adherence after using teach-back for patient education roughly equivalent to a number needed to treat (NNT) of 3 (ranging from 2 to 10). We have moderate confidence in this finding which was limited by methodologic issues. Notably, 6 of the 7 trials used self-reported measures of adherence.

Self-efficacy was assessed in 5 studies, all of which were conducted within inpatient settings ($N = 421$). Self-efficacy was related to the performance of behaviors related to breastfeeding and self-care for heart failure, cardiovascular disease, or diabetes. We found a large increase in self-efficacy in a meta-analysis of 4 of the 5 studies roughly equivalent to a NNT of 2 (ranging from 1 to 8). However, we have very low confidence in this finding due to substantial methodologic limitations and imprecision of the summary effect estimate.

Two studies evaluated patient satisfaction, an aspect of patient experience, after receipt of teach-back interventions: 1 in an ED setting and 1 in an outpatient rheumatology clinic. Both had substantial methodologic concerns and results were conflicting, with 1 reporting improved satisfaction and 1 without improvement.

Seven studies reported changes in clinical (eg, hemoglobin A1c, perioperative blood pressure) or utilization (eg, hospital readmissions, ED visits) outcomes after teach-back. Overall, there was no consistent pattern of benefit to these outcomes with receipt of teach-back. This finding should be considered exploratory as we did not include studies that reported clinical or utilization outcomes without more proximal or intermediate outcomes.

Does the effect of teach-back vary based on clinical, intervention characteristic, or patient characteristics?

We found no pattern of difference in effectiveness of teach-back across inpatient versus outpatient settings and had insufficient data to discern differences in effect across clinical contexts. Similarly, we found no studies comparing teach-back delivered by approaches that differed by content (eg, clinical context or specific behavior), interventionist (eg, professional training), or modality (eg, in-person, virtual). In addition, there was insufficient evidence to discern differences in the effect of teach-back based on the complexity of information conveyed.

What is the effect of strategies to increase use of teach-back on implementation outcomes?

Seven studies measured implementation outcomes after attempts to get clinicians to use teach-back in a health care system or unit within a health care system. All 7 were pre-post designs at a single site, self-described as quality improvement (QI) or, in the case of 1 study, evidence-based practice project. None described their approach using a formal classification system of implementation strategies or used standard implementation outcome terminology. Most used at least 2 different implementation strategies and all included staff training. Self-reported adoption of teach-back increased after implementation in 2 studies, although a third study reported poor documentation of teach-back use. Appropriate use of teach-back (fidelity) improved in a mix of direct observation and self-reported evaluations across 4 studies ($N = 548$).

Summary of Evidence on the Effectiveness of Teach-Back

Outcome	Evidence	Findings
Patient Knowledge	8 RCTs $N = 721$	Very low COE due to methodologic limitations and serious inconsistency: The teach-back approach has no clear pattern of effect on short-term patient knowledge.
Adherence	6 RCTs ^a $N = 497$	Moderate COE: The teach-back approach to conveying health information moderately increases adherence to health behaviors (eg, heart failure self-care); NNT = 2.69; ranging from 2.05 to 4.10.
Self-Efficacy	5 RCTs $N = 412$	Very low COE due to serious risk of bias and imprecision: The teach-back approach to conveying health information has a large increase upon self-efficacy specific to health behaviors; NNT = 2; ranging from 1 to 8.
Patient Satisfaction	2 RCTs $N = 285$	There is insufficient information on the effect of teach-back approach to conveying health information on patient satisfaction.

Notes. ^aOne adherence study is not shown in this table and was not included in the meta-analysis due to inconsistency in outcome reporting.

Abbreviations. COE=certainty of evidence; NNT=number needed to treat.

CONCLUSIONS

Teach-back is a low-risk health education strategy that improves patient self-efficacy and adherence to recommended health behaviors, including self-care. Areas of residual uncertainty include impact on health knowledge and skill acquisition and how to successfully implement routine use of teach-back. Additional important questions remain about the duration of effect and the populations and settings in which teach-back would be most useful. Studies of the real-world impact of teach-back that also evaluate which strategies are most effective at increasing the routine use of teach-back are needed. Such findings could improve the incorporation of this communication approach across clinical settings and ultimately impact meaningful patient and population outcomes.