
Transformational Coaching: Effect on Process of Care Outcomes and Determinants of Uptake

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PREFACE

The VA Evidence Synthesis Program (ESP) was established in 2007 to provide timely and accurate syntheses of targeted healthcare topics of importance to clinicians, managers, and policymakers as they work to improve the health and healthcare of Veterans. These reports help:

- Develop clinical policies informed by evidence;
- Implement effective services to improve patient outcomes and to support VA clinical practice guidelines and performance measures; and
- Set the direction for future research to address gaps in clinical knowledge.

The program is comprised of three ESP Centers across the US and a Coordinating Center located in Portland, Oregon. Center Directors are VA clinicians and recognized leaders in the field of evidence synthesis with close ties to the AHRQ Evidence-based Practice Center Program and Cochrane Collaboration. The Coordinating Center was created to manage program operations, ensure methodological consistency and quality of products, and interface with stakeholders. To ensure responsiveness to the needs of decision-makers, the program is governed by a Steering Committee comprised of health system leadership and researchers. The program solicits nominations for review topics several times a year via the [program website](#).

Comments on this evidence report are welcome and can be sent to Nicole Floyd, Deputy Director, ESP Coordinating Center at Nicole.Floyd@va.gov.

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This topic was developed in response to a nomination by the Office of Veteran Access to Care, for the purpose of informing leadership, program offices, networks, and facilities on how to best measure the value of transformational coaching activities. The scope was further developed with input from the topic nominators (*ie*, Operational Partners), the ESP Coordinating Center, the review team, and the technical expert panel (TEP).

In designing the study questions and methodology at the outset of this report, the ESP consulted several technical and content experts. Broad expertise and perspectives were sought. Divergent and conflicting opinions are common and perceived as healthy scientific discourse that results in a thoughtful, relevant systematic review. Therefore, in the end, study questions, design, methodologic approaches, and/or conclusions do not necessarily represent the views of individual technical and content experts.

The authors gratefully acknowledge the following individuals for their contributions to this project:

Operational Partners

Operational partners are system-level stakeholders who have requested the report to inform decision-making. They recommend technical expert panel (TEP) participants; assure VA relevance; help develop and approve final project scope and timeframe for completion; provide feedback on draft report; and provide consultation on strategies for dissemination of the report to field and relevant groups.

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Technical Expert Panel (TEP)

To ensure robust, scientifically relevant work, the 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 are listed below:

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Peer Reviewers

The Coordinating Center sought input from external peer reviewers to review the draft report and provide feedback on the objectives, scope, methods used, perception of bias, and omitted evidence. Peer reviewers must disclose any relevant financial or non-financial conflicts of interest. Because of their unique clinical or content expertise, individuals with potential conflicts may be retained. The Coordinating Center and the ESP Center work to balance, manage, or mitigate any potential nonfinancial conflicts of interest identified.

EXECUTIVE SUMMARY

INTRODUCTION

High-quality health care is a priority for patients and clinicians alike. Quality improvement (QI) is a framework that guides health system actions to improve the delivery of high-quality health care. Quality improvement activities seek to promote high-quality health care by applying innovations, rapid-cycle testing, and spreading best practices that produce meaningful improvements. However, conducting QI activities in an effective and accurate manner may be challenging for health care teams with competing demands. Health care teams often need dedicated support to incorporate QI activities into busy clinical practices. One method for providing support around QI activities is through longitudinal coaching from an expert trained in QI and related methods (eg, Lean, Six Sigma, system redesign). Within the VA, transformational coaching is one commonly used strategy for the provision of longitudinal, expert support to clinical teams seeking to engage in QI processes.

Transformational coaching is a team-centered approach to support an interdisciplinary health care delivery team in pursuit of catalyzing and building capacity for sustained change and enabling improvement. Transformational coaches provide support by assisting with goal setting and attainment, connecting teams to system-level resources for change, and improving efficiency and team dynamics around improvement processes. The coach is not part of the particular health care practice or team receiving the coaching, but can be from the larger health care system in which the team or practice sits. The coach role is agnostic to the clinical content area and does not require topical expertise. Since 2012, the VA has employed transformational coaches to advance numerous national collaboratives (eg, Patient Aligned Care Team [PACT] Collaborative, [Transitioning Levels of Care Collaborative](#)).

This report seeks to support future development of transformational coaching by addressing several knowledge gaps: (1) how the impacts of transformational coaching-like interventions have been measured; (2) what the effect of coaching is on practice- or clinical team-level behaviors (or process outcomes); and (3) what the barriers and facilitators are to the uptake of transformational coaching. In recognition that transformational coaching is not explicitly defined outside of the VA nor studied in the peer-reviewed literature, we used a broad search strategy to identify interventions that shared the essential ingredients that must be maintained to ensure fidelity to the transformational coaching intervention as defined within the VA. Specifically, we incorporated related concepts from the fields of QI, improvement science, and implementation science, which themselves employ overlapping terms and methods pertaining to the support of clinical teams and practices in the uptake and improvement of evidence-based clinical processes.

The Key Questions for this review were:

KQ 1a: What outcomes have been used to assess the effects of transformational coaching across practice, provider, and patient levels?

KQ 1b: What are the effects of transformational coaching for team-based health care improvement and practice change efforts on process outcomes, specifically:

- Adoption of targeted process of care activities (eg, more appropriate documentation of screening)
- Quality improvement process goal attainment (eg, the number of quality improvement projects reaching completion)
- Team member knowledge
- Team member self-efficacy

KQ 2: What are the identified barriers and facilitators that impact the uptake of transformational coaching in a large health care system such as the VA?

METHODS

We developed and followed a standard protocol for this review in collaboration with our operational partners and a Technical Expert Panel (PROSPERO registration number CRD42020165069).

To guide review activities, we established a definition of transformational coaching in collaboration with our operational partners through a series of communications and iterative revisions. The final definition of transformational coaching for this review is as follows:

Transformational coaching is a team-centered approach wherein an external, clinical content-agnostic individual (ie, the coach) supports an interdisciplinary health care delivery team within the context of a longitudinal, proactive relationship in pursuit of catalyzing and/or building capacity for sustained change and improvement processes through providing support such as assisting with goal setting, goal attainment, connection to system-level resources for change, and/or improving efficiency and team dynamics around change/improvement processes.

DATA SOURCES AND SEARCHES

We conducted 2 primary literature searches for this review, a search for KQ 1 (1a and 1b) and a second search for KQ 2. For each, we searched MEDLINE[®] (via Ovid[®]), Embase (via Elsevier), and CINAHL Complete (via EBSCO) from inception through October 7, 2019. As there is no MeSH term for transformational coaching, and there are multiple terms for similar interventions, we identified the most commonly used terms and pseudonyms for a person (or persons) who potentially shared the essential ingredients based on our operationalized definition of transformational coaching (eg, practice facilitator, outreach visitor, QI coach). We also conducted hand searches of references from selected high-quality systematic reviews and exemplar studies identified during the topic development process and by our stakeholders and/or technical expert panel. The reproducible search strategies for each key question are in an appendix.

STUDY SELECTION

All studies identified in our searches were screened independently by 2 investigators according to *a priori* established eligibility criteria. Citations classified for inclusion by at least 1 investigator were reviewed at full text. At the full-text level, 2 investigators were required to agree on inclusion or reason for exclusion. All articles meeting eligibility criteria at this level were included for data abstraction.

For KQ 1b we included a broad set of comparative studies meeting Cochrane Effective Practice and Organisation of Care (EPOC) study design criteria, which included relevant process of care outcomes (eg, QI process goal attainment, adoption of targeted process of care activities), and team member knowledge or self-efficacy. In addition, included studies needed to share the essential ingredients of transformational coaching as established in the definition of transformational coaching developed with our operational partners for this review. The effect of a coaching-like intervention had to be specified in analysis separately from other major interventions (eg, not co-delivered with another major intervention such as a longitudinal learning collaborative). The outcomes used to assess transformational coaching (KQ 1a) were drawn from included publications identified in the KQ 1b search.

For KQ 2, we included qualitative studies of coaching-like interventions or qualitative components of mixed-methods studies that collected primary qualitative data from individuals involved in a coaching-like intervention (eg, the coach or members of the interdisciplinary team receiving the coaching). Our eligibility criteria also allowed for surveys or observational studies that provided quantitative measurement of uptake of coaching by a health care team. Studies were eligible if they had other major co-intervention components so long as the primary purpose of the study was to evaluate factors that either created barriers to or facilitated the uptake of coaching.

DATA ABSTRACTION AND QUALITY ASSESSMENT

For KQ 1a and 1b, key data elements (eg, intervention details, outcomes, quality assessment elements) were abstracted into a customized DistillerSR (Evidence Partners Inc., Manotick, ON, Canada) database by 1 reviewer and reviewed for accuracy and completeness by a second reviewer. Multiple reports from a single study were treated as a single data point, prioritizing results based on the most complete and appropriately analyzed data. Key features relevant to applicability included the match between the sample and target populations (eg, age, large health care system). For quality assessment of articles included for KQ 1, we used the Cochrane EPOC risk of bias (ROB) tool. We assigned a summary ROB score (low, unclear, high) to individual studies, based on the impact of sources of bias on the results of the study.

For KQ 2, we abstracted key study characteristics (eg, intervention characteristics, setting, method of data collection) into a customized DistillerSR database by 1 reviewer and verified by a second reviewer. Barriers and facilitators (ie, descriptions of elements that impede or foster the uptake of transformational coaching) were abstracted directly into NVivo (QSR International Pty Ltd, Version 12, 2018)—a specialized software suited for textual data gathering and synthesis. For quality assessment of articles included for KQ 2, we applied individual criteria from the Critical Appraisal Skills Programme (CASP) tool, which does not have a summary ROB score.

For mixed/multiple methods studies, we applied the CASP tool to the qualitative portion of the study included.

DATA SYNTHESIS AND ANALYSIS

For KQ 1a, we collected all outcomes reported by studies meeting eligibility criteria for KQ 1b and organized them by the level at which they produced potential changes. Specifically, we grouped them by 2 types of process outcomes: practice level (*eg*, creation of information systems for population) or provider level (*eg*, use of point-of-care decision support for target condition/patients). Other measures targeted clinical outcomes at the patient level (*eg*, improved individual health outcomes). For KQ 1b, we described key study characteristics of the included studies using summary tables. Across included studies, we identified the intervention activities employed by coaches to support interdisciplinary teams and matched them to Expert Recommendations for Implementing Change (ERIC) strategies. ERIC was chosen because it is widely cited and incorporates relevant QI ideas, and because there is a Consolidated Framework for Implementation Research-ERIC matching tool supporting connection to the conceptual framework used in KQ 2. Given the conceptual heterogeneity in process of care outcomes assessed, the measure used to assess a given outcome, and the selection and dosing of coaching strategies employed, we did not calculate summary effects (*ie*, meta-analysis). Rather, we described the specified outcomes narratively.

Due to the large number of studies that measured adoption of targeted process of care activities, we grouped these outcomes by the complexity of actions required to deliver the specific process of care activity. Within these groupings, we prioritized lower ROB studies when possible. To support meta-synthesis across the included studies, we employed a vote-counting method based on direction of effect. Following this approach, we categorized the intervention effect as harmful or beneficial based on the direction of effect without consideration for magnitude or statistical significance. Outcomes for which a given study did not provide information from which to determine direction of effect were omitted. We calculated the overall proportion of beneficial findings and obtained the exact 95% confidence interval (CI) for the true proportion of beneficial findings. We employed an exact binomial probability test to provide the p value testing hypothesis that the intervention was truly ineffective (*ie*, the probability of observed or more extreme proportion if in fact the proportion of beneficial studies is truly 0.5). Exact CIs and p values were calculated using “binom.test” function in the R statistical package. The certainty of evidence for KQ 1b was assessed using Grading of Recommendations Assessment, Development and Evaluation (GRADE). For KQ 1b, we described all outcomes (process and clinical) from studies meeting KQ 1b eligibility criteria using summary tables organized by the level of outcome measured (*ie*, practice, provider, patient).

For KQ 2, we used a modified “best-fit framework” synthesis approach. In accordance with this approach, we identified an existing model—in this case the Consolidated Framework for Implementation Research (CFIR)—upon which to guide abstraction and analysis of textual data. We ultimately supplemented the CFIR for this review with constructs from the socioecological framework in order to better fit the identified data. Pairs from a subteam of investigators dedicated to the analysis of KQ 2 initially coded all included articles for barriers and facilitators to the uptake of transformational coaching. We then coded identified barriers and facilitators across established CFIR domains (*ie*, context, transformational coaching intervention characteristics, team/individual characteristics, QI project/process, and patient) followed by

CFIR subdomain constructs (eg, external policies and incentives, relative advantage). To ensure rigor and validity, the KQ 2 subteam of investigators met regularly to achieve consensus on coding and for identification of themes. The overall approach to using CFIR was vetted in consultation with the originator of CFIR, who was a member of our TEP. The qualitative team used NVivo software to support first- and second-level coding and analysis. We applied certainty of evidence ratings to findings using the Confidence in the Evidence from Reviews of Qualitative research (GRADE-CERQual) on CFIR constructs prioritized by the key VA operations stakeholders.

RESULTS

SUMMARY OF RESULTS FOR KEY QUESTIONS

KQ 1a and KQ 1b

We identified 1,753 citations, of which 99 were reviewed at the full-text stage. We identified 19 cluster-randomized trials (CRTs) that addressed the effects of transformational coaching on process of care outcomes of interest; all but 1 trial was conducted within the primary care setting, and 1 study was conducted in the VA. Terms used for the transformational coach role included practice facilitator, practice outreach facilitation, practice coach, nurse facilitator, nurse prevention facilitator, and outreach visitor. Interventions varied in duration from 6 months to 36 months. Coaches employed varied combinations of 13 distinct implementation strategies. Studies reported a median of 5.73 implementation strategies (range 3 to 9) delivered by the coach-like role. The 3 most commonly used coach-delivered implementation strategies were to develop a formal implementation plan (18/19 studies), audit and provide feedback (17/19), and develop/distribute educational materials (14/19). The least-used strategies were organizing clinician team meetings (3/19) and developing stakeholder interrelationships (2/19). Interventions typically targeted multiple simultaneous process of care activities requiring disparate clinical behaviors (eg, ordering a lab test, complicated patient counseling) but which were usually linked by a common goal (eg, improving management and outcomes for a specific disease).

KQ 1a

Five studies included outcomes at the practice level with measures addressing care delivery style, practice organization, culture, practice management, number of QI projects initiated, and QI objectives met. Sixteen studies included measures at the provider level. Measures at the provider level generally included guideline-concordant actions taken by providers during the delivery of disease-specific or prevention-related care delivery. Six studies created composite measures of groups of guideline-concordant actions as the outcome of interest. No studies measured team member satisfaction with the coaching experience, team member knowledge, or team member self-efficacy. Outcomes measures at the patient level were almost exclusively related to clinical outcomes (eg, achieving target blood pressure). One study measured patient self-reported satisfaction with diabetes treatment.

KQ 1b

We organized the adoption of targeted process of care activities according to the complexity of the specific behavior required by the relevant QI activity. Specifically, we used the following 8

categories: composite outcomes of multiple clinical processes of care, organizational processes of care, documentation, medication prescription, counseling, provider exams and procedures, lab tests, and vital signs. Heterogeneity, primarily of outcome measurement, precluded pooled assessment of the effect of coaching across or within any of these categories.

Of the 7 trials that assessed composite process of care outcomes, 6 were low or unclear ROB and 1 was high ROB. Five trials favored the intervention (83%; 95% CI 36% to 99%). The probability of observing 83% of trials with a beneficial effect if coaching interventions are truly ineffective is $p=0.22$. For organizational process of care outcomes, 4 of 5 trials (including the 2 low ROB studies) favored the coaching interventions (80%; 95% CI 28% to 99%; $p>0.99$). Of the 4 studies (2 unclear and 2 high ROB) that assessed the effect of coaching on appropriate documentation, 3 included outcomes that favored the interventions (75%; 95% CI 0.19 to 99%; $p=0.625$). Three of 4 studies (1 unclear and 2 high ROB) studying the effect of coaching on appropriate medication prescription contributed to analysis. Two included at least 1 outcome that favored the coaching intervention (66%; 95% CI 9% to 99%; $p>0.99$). The 2 trials (both low ROB) that assessed the effect of coaching on counseling provision favored the intervention (100%; 95% CI 16% to 100%). Four trials assessed provision of appropriate exams or procedures, and 3 included at least 1 outcome that favored the interventions (75%; 95% CI 19% to 99%). Of the 5 trials that assessed the effect of coaching on ordering of labs or vitals, all included at least some outcomes that favored the intervention (100%; 95% CI 48% to 100%; $p=0.0625$).

Two trials measured the effect of coaching on QI process goal attainment. One unclear ROB study found a significant increase in the number of QI projects per practice in the intervention versus the comparator arms with a mean of 3.9 QI projects per practice versus 2.6 ($p<0.001$). In a high ROB trial, there was no significant difference between the intervention and control practices in the percentage of mean QI indicators at or above target ($p>0.2$). No studies directly addressed self-efficacy of team members related to QI method skills or a specific QI project activity. No trials addressed the effect of transformational coaching or similar roles on team member knowledge.

KQ 2

We identified 1,867 citations, of which 172 were reviewed at the full-text stage. We included 16 qualitative (including 1 survey with open-ended questions) and mixed-methods studies that addressed the barriers and facilitators to the implementation of coaching-like interventions. Two of the studies evaluated facilitators and barriers of an intervention included in KQ 1. Five of the 16 studies were mixed or multi-method in design and 1 was a survey study. The focus of the interventions included cardiovascular health, electronic health record use, chronic disease management, and improvement of general QI capacity. Data were collected from coaches, teams, and practice leadership.

Overall, we found that the interdependent nature of transformational coaching activities requires that the coach see both the big-picture context and small details of a given team and QI project in order to overcome barriers and maximize facilitators. Specifically, coaches were sometimes able to overcome team-level barriers to successfully engaging with their QI project (eg, lack of knowledge/skills/support/resources). For example, some teams struggled to obtain data to measure the outcomes of QI projects, and the coach worked with them to obtain the data or find

workarounds. In this way, adaptability is an essential characteristic of coaching, as the coach often needs to modify the approach and/or QI project to fit the context and needs of the team. In addition to adapting their own behavior, coaches may also offer the team different choices in QI projects to allow some customization. Uptake of coaching was more successful when teams had the knowledge, skills, engagement level, and resources to apply learned coaching strategies to successfully conduct their QI project. Interpersonal relationships were also critical; the ability to foster relationships within and outside the team was cited as an important aspect of coaching. Finally, working with the team to set expectations of both the QI project and the coaching process is a key for success.

For findings under prioritized CFIR domains, we also assessed the certainty of evidence. Under the CFIR construct of external policy and incentives, there was very low certainty of evidence that it was a barrier when external policies did not align with QI project objectives. In addition, we found low certainty of evidence that unanticipated challenges from outside the practice could derail a team's focus on coaching and QI activities (eg, the H1N1 influenza outbreak). There was 1 facilitator at this level for which there was low certainty of evidence. Specifically, it was helpful when government guidelines aligned with QI project-targeted activities.

Under the CFIR domain of intervention characteristics, there were findings under the prioritized constructs of relative advantage and cost. First, with relative advantage, a barrier to the implementation of coaching was the lack of engagement at the practice level (moderate certainty of evidence), which was exemplified by practices not prioritizing QI project activities and the need to “push” practices along. Relatedly, practices that were engaged with coaching and QI activities facilitated planned coaching activities (moderate to high certainty of evidence). Active engagement was demonstrated by teams having dedicated time and space for coaching activities and the support of practice leadership to make it happen. In turn, coaches were able to provide accountability to engaged teams. Two findings were related to cost. A high workload in coaching was a barrier (moderate certainty of evidence). High workloads typically occurred when coaches needed to do a lot of administrative tasks instead of planned coaching activities, when data problems required extra work, or when coaching tasks changed daily. Investing in the initial and ongoing training of coaches was a facilitator (low certainty of evidence).

Under the CFIR construct of knowledge and beliefs about the intervention (CFIR domain of team and individual characteristics), there were 2 key barriers. First, there was low certainty of evidence that a lack of knowledge among team members regarding the coaching process and QI project details was a barrier. This included limitations in knowledge about technical aspects of electronic medical record systems. In addition, there was very low certainty of evidence that team discomfort or inability to work with QI data was a barrier.

Finally, under the CFIR construct of reflecting and evaluating, there was 1 barrier. Specifically, we found moderate certainty of evidence that obstacles to acquiring and processing QI data impaired team ability to adequately complete and evaluate QI activities.

DISCUSSION

We sought to identify the effect of transformational coaching on process of care outcomes, to understand the ways that coaching has been evaluated, and to clarify the barriers and facilitators to uptake of transformational coaching interventions. To that end, we identified 19 cluster-

randomized trials (CRTs) that addressed the effects of transformational coaching on process of care outcomes of interest; all but 1 trial was conducted within the primary care setting. Across the included studies, 5 studies measured practice-level outcomes, 16 measured provider-level outcomes, and 6 measured patient-level outcomes. Six studies evaluated composite measures of process of care activities. Overall, interventions typically targeted multiple simultaneous process of care activities requiring disparate clinical behaviors (*eg*, ordering a lab test, complicated patient counseling) but which were usually linked by a common goal (*eg*, improving management and outcomes for a specific disease). Across outcomes related to uptake of targeted process of care activities, there was very low to low certainty of evidence that coaching probably has an effect on composite process of care outcomes and ordering of labs and vital signs, and possibly has an effect on changes in organizational process of care and delivery of appropriate counseling. It is uncertain if coaching has an effect on the conduct of specific exams and procedures, and coaching probably does not have an effect on prescription of diagnosis-appropriate medications. Two trials assessed the effect of coaching on team QI process goal attainment. There was low certainty of evidence for an increase in the mean number of QI projects initiated based on 1 CRT (3.9 among intervention practice vs 2.6 comparator practices). We have very low certainty that coaching-like interventions have no effect on the number of indicators at target levels, based on 1 CRT. No studies specifically assessed team member knowledge or self-efficacy after coaching. One trial examined clinician self-confidence in assessment of various lifestyle behaviors as a secondary outcome after a coaching intervention compared to an unspecified control and found mixed results.

We identified 16 studies relevant to barriers and facilitators of coaching implementation. Findings support that the interdependent nature of the complex components of the coaching intervention—the role of the coach, the QI project, and the context—requires that the coach see both the big picture and small details to overcome barriers and maximize facilitators. Working with the team to set expectations of both the QI project and the coaching process is a key for success. Coaches must understand the change process required to implement QI, as teams need education on knowledge, skills, engagement, support, and resources to successfully implement QI. Adaptability is an essential characteristic of coaching because the coach will need to modify the approach and/or QI project to fit the context and needs of the team. The coach's ability to work with and obtain data needed for technical support of the team, generating reports, creating workarounds, and providing education related to the data was also identified as a significant facilitator.

The findings from our review are generalizable broadly to coach-led support for team-based QI activities. Identifying effective strategies that accelerate the speed of improvement efforts and boost their impact will play an important role in the VA's ongoing goal of providing high-quality, patient-centered care. As we describe in this report, transformational coaches can play a critical role in facilitating access to and use of data and technical resources for QI activities. To date, transformational coaches have contributed to the uptake of evidence-based practices and QI initiative from the facility level to the national level, including PACT and Transitioning Levels of Care Collaboratives. Most recently, transformational coaches have supported VA efforts to become a high-reliability organization through working with teams seeking to improve local patient-safety practices. Our findings could contribute to organizational decisions about which QI projects and which clinical teams could most benefit from transformational coaching support. Finally, our mapping of outcomes used to measure effectiveness of coaching-like interventions

can inform ongoing conversations about how best to select valid and relevant measures of QI and coaching success.

Limitations of the existing literature include loss of significant data when an entire practice (or cluster) dropped out of a study; inadequate description of both the team members and patients; lack of statistical consideration of clustering; and lack of clearly identified primary outcomes. In addition, there was notable heterogeneity across study intervention core components, outcome measures, and the practice setting in which these studies took place. Limitations of our approach to this review include potentially introducing heterogeneity by including literature from multiple fields of study because transformational coaching is not a term defined in the peer-reviewed literature; loss of relevant information due to exclusion of studies with co-interventions, which prevented isolating of the coaching effect; and the potential impact of framework choice on identification of barriers and facilitators to uptake of transformational coaching.

APPLICABILITY

There was 1 solely VA study; all others were conducted in primary care settings that were generally similar enough to be applicable to primary care QI activities within the VA.

RESEARCH GAPS/FUTURE RESEARCH

We identified multiple gaps in the literature. First, few coaching interventions employed the strategies we identified as being most helpful in combination (*eg*, stakeholder/leadership engagement and technical support). Second, most coaching interventions focused on predetermined QI projects rather than the capacity for QI more generally. Third, all but 1 of the included interventions were conducted in primary care settings, so the effect of coaching in other clinical settings (*eg*, inpatient, subspecialty clinics) is unknown. In addition, there were gaps in the qualitative literature, including primary data collection from all individuals involved with coaching (*eg*, team members, coaches, and peripheral leadership), information on how coaches make strategic decisions, and barrier and facilitators in the context of coaching for general QI capacity development.

CONCLUSIONS

Transformational coaching is a complex intervention that has the potential to support access to and use of data and technical resources for QI activities at the team and practice level. Transformational coaching, and other interventions with similar characteristics (*ie*, facilitation, outreach visitors), may have an effect on certain process of care activities including composite process of care outcomes, ordering of labs and vital signs, and possibly on changes in organizational process of care and delivery of appropriate counseling. Differences among studies in the description and dosing of implementation strategies employed by coaches, as well as outcome measurement, precluded a more definitive estimate of effects. Specific strategies like adapting coaching techniques to team needs and preferences appears to be better received than other strategies. Future research that standardizes and provides more detail about how coaching interventions are used will better support future comparisons and implementation efforts.

ABBREVIATIONS TABLE

ACE-i	Angiotensin converting enzyme inhibitor
AF	Atrial fibrillation
AHRQ	Agency for Healthcare Research and Quality
ARB	Angiotensin receptor blocker
BP	Blood pressure
BMI	Body mass index
CAD	Coronary artery disease
CASP	Critical Appraisal Skills Programme
CDS	Clinical decision support
CERQual	Confidence in the Evidence from Reviews of Qualitative Research
CFIR	Consolidated Framework for Implementation Research
CHD	Coronary heart disease
CHF	Congestive heart failure
CI	Confidence interval
CKD	Chronic kidney disease
COPD	Chronic obstructive pulmonary disease
CPRS	Computerized Patient Record System
CQI	Continuous quality improvement
CRT	Cluster-randomized trial
CVD	Cardiovascular disease
DM	Diabetes mellitus
eGFR	Estimated glomerular filtration rate;
EHR	Electronic health record
EPOC	Effective Practice and Organisation of Care
ERIC	Expert Recommendations for Implementing Change
ESP	Evidence-based Synthesis Program
EUC	Enhanced usual care
GRADE	Grading of Recommendations Assessment, Development and Evaluation
GTO	Get to Outcomes
HbA1c	Glycosylated hemoglobin
HDL	High-density lipoprotein
HL	Hyperlipidemia
HRO	High-reliability organization
HSR&D	Health Services Research & Development
HTN	Hypertension
HUD-VASH	Department of Housing and Urban Development–Veterans Affairs Supportive Housing
ICPC	International classification of primary care
IQR	Interquartile range
IT	Information technology

KQ	Key question
LDL	Low-density lipoprotein
MD	Mean difference
MeSH	Medical Subject Heading
NSAID	Nonsteroidal anti-inflammatory drug
NTCC	National Transformational Coach Captain
OECD	Organization for Economic Co-operation and Development
OR	Odds ratio
PACT	Patient Aligned Care Team
PHT	Primary healthcare team
PICOTS	Population, intervention, comparator, outcome, timing, and setting
QI	Quality improvement
QUERI	Quality Enhancement Research Initiative
RAP	Reflective adaptive process
RCT	Randomized controlled trial
ROB	Risk of bias
SBP	Systolic blood pressure
SE	Standard error
SMD	Standardized mean difference
SPIDER	Sample, phenomenon of interest, design, evaluation, research type
VA	Veterans Affairs
VHA	Veterans Health Administration