

# Evidence-based Practice Center Systematic Review Protocol

Project Title: *Strategies for Integrating Behavioral Health and Primary Care*

## I. Background and Objectives for the Systematic Review

### Background

Behavioral health is an umbrella term that includes mental health and substance use, life stressors and crises, stress-related physical symptoms, and health behaviors. Efforts to integrate behavioral health and primary care are rooted in growing recognition that perpetuating separate systems is no longer tenable. The division in healthcare delivery and payment between medical care for physical health and behavioral healthcare is increasingly viewed as detrimental to the well-being of individuals, families, and communities. Striving to provide ‘whole-person care’ and ‘patient-centered care’ recognizes behavioral health affects physical health and physical health affects behavioral health. This is supported by the fact that individuals diagnosed with behavioral health disorders have significantly higher prevalence of chronic diseases, higher healthcare costs, reduced quality of life, and shorter life expectancies compared with those without behavioral health disorders.<sup>1</sup> In an ideal system, primary and behavioral healthcare would be provided without artificial distinctions, and in an inclusive context.

In the absence of an ideal system, integration approaches present promising, though incremental ways to close the large gap between the need for behavioral healthcare services and their availability in the United States. In 2020, approximately one in five adults in the United States experienced a mental illness and 17 million had a substance use disorder (SUD).<sup>2</sup> Prevalence of behavioral health disorders among children and young people is estimated to be between 10% to 20%, but more precise estimates are difficult as few receive care for these illnesses (e.g., only about 20% receive mental health services, and even fewer receive services from a pediatric psychiatrist).<sup>3,4</sup> Early evidence suggests the COVID-19 pandemic has fueled an increase in several behavioral health disorders, including anxiety and substance use, in all age groups, with a notable increase among adolescents.<sup>5-8</sup> Yet despite the high prevalence of behavioral health disorders in the United States, and their devastating impact, less than half of the 59 million Americans experiencing mental illness in 2020 received any treatment.<sup>2</sup> While integration could, and perhaps should occur across all healthcare settings, primary care is where people receive most of their healthcare most of the time.<sup>9</sup> Integration of behavioral health and primary care may have the greatest potential to increase access to behavioral healthcare and improve both physical and mental health outcomes for large numbers of people.

An increasing number of studies have demonstrated that integrating behavioral health into primary care can result in better access, improvements in health outcomes for patients, and less stress for providers.<sup>10-13</sup> Based on this evidence, studies and practice change efforts have sought to implement and evaluate comprehensive models such as the Collaborative Care Model and the Primary Care Behavioral Health Model or to apply specific strategies, such as co-locating providers, sharing medical records, or jointly developing and monitoring care plans. However, the spread of integrated behavioral health and primary care outside of research and demonstration projects has been limited and sustaining successful programs has been challenging. This has led to increased interest in better understanding more about integration

strategies and their implementation, and underlies the need for this review. The interest is in understanding which strategies for integration are most effective for which population and in which settings, as well as best practices for implementation. Specifically, this systematic review is designed to identify what integration strategies are being employed; assess how effective these strategies are; increase understanding of implementation and sustainment; identify measures that can track process in practices; and provide information on the roles and training needed for successful, sustainable integration. These needs are reflected in detailed questions in the next section of this protocol.

Increased interest in how to achieve integration is also reflected in the creation of two recent, integration frameworks.<sup>14,15</sup> Frameworks provide an overarching conceptual model and/or categories of domains, constructs, or expectations. We will consider how recent frameworks might be used to help standardize the description of integration strategies identified for this review. We will also consider if selected frameworks may be used to present the review results in a way that can more efficiently guide organizations toward strategies that fit with their resources and environments and help stakeholders identify policy changes that can support successful implementation and sustainment.

### **Purpose of the Review**

The purpose of this review is to characterize existing integration approaches, compare their effectiveness (where studies are available), document identified barriers to and facilitators of implementation and maintenance, identify appropriate metrics, and compare care team roles across currently used approaches to integration. The goal is to provide healthcare systems and clinical practices seeking to implement behavioral health and primary care integration with a foundation for practical guidance on selection, implementation, sustainability, and ongoing assessment of approaches to integrate behavioral health in primary care.

## **II. Review Questions (Scan, Key, and Contextual)**

The systematic review questions are based on those provided in the scope of work that accompanied the Request for Task Order. There are five questions; one designed to characterize the different behavioral health integration approaches that have been or are being used (Scan Question); one which will assess the evidence for the effectiveness of the approaches in improving relevant outcomes (Key Question); and three (Contextual Questions) that address barriers and facilitators to implementation and maintenance, measuring integration, and the make-up and training of clinical teams.

The questions were reviewed, reorganized, and refined by the systematic review project team and further revised after input from the AHRQ Task Order Officer (TOO), partners, Key Informants (KIs) and a Technical Expert Panel (TEP).

### **Questions for the Systematic Review**

Question 1 (Scan). What approaches have been used to integrate behavioral health and primary care?

- a. How do these approaches vary by:
  - (i) patient characteristics (e.g., clinical focus/conditions/patient subgroups)
  - (ii) core components of the approach
  - (iii) practice/care delivery setting characteristics such as the policy environment, and geographic location.

- (iv) resources and infrastructure required, such as staffing, payment models, financing, and technology
- (v) mechanisms of care integration

Question 2 (Key). How effective are approaches to integrating behavioral health and primary care?

- a. Does effectiveness vary by:
  - (i) patient characteristics (e.g., clinical focus/conditions/patient subgroups)
  - (ii) core components of the approach
  - (iii) practice/care delivery setting characteristics, such as the policy environment, and geographic location.
  - (iv) resources and infrastructure required, such as staffing, financing, payment models, and technology
  - (v) mechanisms of care integration
- b. How do interactions among the components of integration approaches impact effectiveness and maintenance of the integration of behavioral health and primary care?

Question 3 (Contextual). What are the barriers to and facilitators of implementing and sustaining different approaches to integrating behavioral health and primary care?

- a. How do the barriers, facilitators, and other factors involved in the implementation of behavioral health and primary care interact to affect implementation and sustainability?

Question 4 (Contextual). What reliable, valid, clinically meaningful, and/or patient-centered measures and metrics are available to monitor and evaluate integration approaches?

- a. How is measurement integrated into clinical care and the ongoing monitoring and evaluation of integration?
- b. Are the measures or metrics specific to characteristics; level of complexity; or the structure, process, or outcomes of care integration?
- c. Are there models or standards for how frequently the effectiveness of approaches to integration should be reassessed?
- d. What are the gaps in measurement and what are the implications for our current ability to measure and assess integration?

Question 5 (Contextual). How are care team member roles and their work flows defined in different approaches to integrating behavioral health and primary care?

- a. What training interventions (e.g., mode and content, trainee credentials, dose and timing of training) are effective in facilitating integrated care team functioning?

## **PICOS**

The populations, interventions, comparators, outcomes, and settings (PICOS) are described in Table 1.

**Table 1. PICOS**

PICOS	Inclusion	Exclusion
<b>Population</b>	<p>Children (aged 0-20 years) and adults (aged <math>\geq 21</math> years) with behavioral health needs</p> <p><i>Clinical focus/conditions including but not limited to patients with</i></p> <ul style="list-style-type: none"> <li>• Mental illness or mental health conditions.</li> <li>• Substance use disorders</li> <li>• Stress-linked physical symptoms (e.g., insomnia, fatigue)</li> <li>• Complex overlapping medical conditions and psychosocial risk factors</li> <li>• Experiences of trauma, adverse experiences, or stressful life events</li> <li>• Pregnant patients.</li> <li>• Geriatric patients.</li> </ul>	<ul style="list-style-type: none"> <li>• No exclusions for age or condition.</li> </ul>
<b>Intervention</b>	<p>Different approaches to integrating behavioral health and primary care services, including program/model components and strategies to integrate care.</p> <p>Examples of eligible programs/models for care integration include but are not limited to:</p> <ul style="list-style-type: none"> <li>• Collaborative Care Model</li> <li>• Primary Care Behavioral Health Model</li> <li>• Co-location models</li> <li>• Models that use telehealth for integration</li> </ul> <p>The baseline requirement is that the practice design of the approach facilitates interaction among primary care and behavioral health providers in the provision of care. Ongoing collaboration and coordination of care are required; activities may include screening and diagnosis, acute and long-term interventions, and followup and maintenance.</p>	<ul style="list-style-type: none"> <li>• Co-location without collaboration.</li> <li>• Referral only (cold handoff)</li> <li>• Warm handoff without plan for continued communication and coordination of care.</li> <li>• Population level health promotion or prevention programs that are not individualized, integrated care (e.g. Silver Sneakers).</li> <li>• Interventions for chronic medical conditions that do not include a significant, explicit behavioral health component.</li> </ul>
<b>Comparator</b>	<ul style="list-style-type: none"> <li>• Care as usual (e.g., non-integrated behavioral health and primary care services) in a different group or time period</li> <li>• Alternative care integration strategy or strategies</li> <li>• No care.</li> </ul>	<ul style="list-style-type: none"> <li>• No comparator for KQ 2 (descriptive studies; such as case studies)</li> <li>• Comparators not applicable to other questions.</li> </ul>

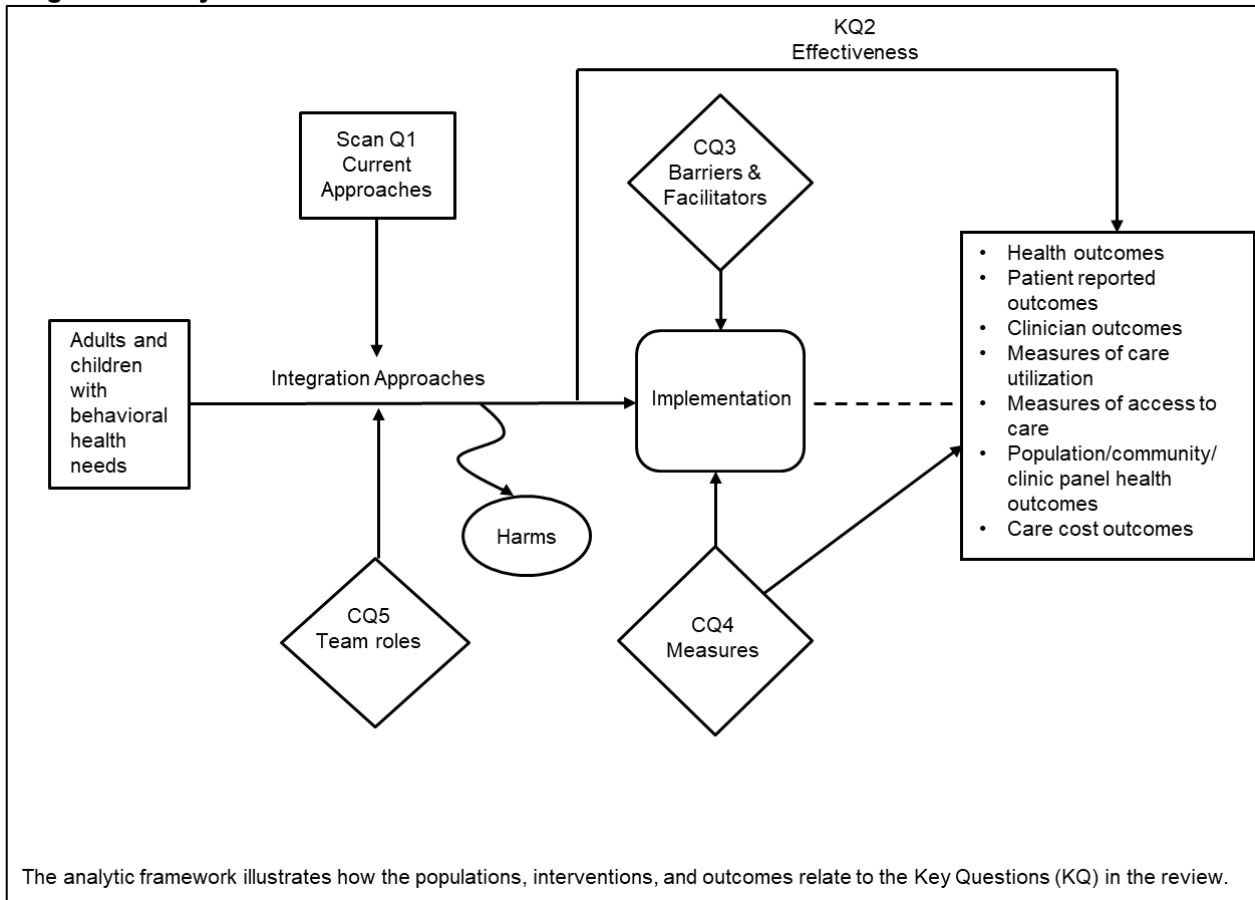
PICOS	Inclusion	Exclusion
<b>Outcomes</b>	<p>Outcomes of interest include but not limited to:</p> <p><b>PATIENT LEVEL</b></p> <p><i>Health outcomes:</i></p> <ul style="list-style-type: none"> <li>• Morbidity</li> <li>• Mortality</li> <li>• Improved symptoms</li> <li>• Guideline concordant screening and diagnosis</li> <li>• Remission/recovery</li> <li>• Adherence to treatment</li> </ul> <p><i>Patient Reported Outcomes:</i></p> <ul style="list-style-type: none"> <li>• Health related quality of life</li> <li>• Functional status (including social and adaptive functioning)</li> <li>• Satisfaction with care</li> </ul> <p><i>Measures of care utilization:</i></p> <ul style="list-style-type: none"> <li>• Avoidable emergency care or inpatient care for behavioral health crises</li> <li>• Total health care utilization</li> </ul> <p><i>Measures of access to care:</i></p> <ul style="list-style-type: none"> <li>• Patients receive routine care as soon as wanted</li> <li>• Patients receive acute care when needed</li> <li>• Average wait time for BH</li> <li>• Patients experiencing difficulties or delays in obtaining BH care</li> <li>• Patients with mental health condition received treatment</li> <li>• Patients with SUDs received treatment</li> </ul> <p><b>CLINICIAN AND PRACTICE LEVEL</b></p> <p><i>Clinician Outcomes</i></p> <ul style="list-style-type: none"> <li>• Clinician retention/turnover rates</li> <li>• Burnout</li> <li>• Professional satisfaction</li> <li>• Efficiency of clinician time use</li> </ul> <p><i>Population/community/clinic panel health outcomes:</i></p> <ul style="list-style-type: none"> <li>• BH-related preventive care measures</li> <li>• BH screening services</li> </ul> <p><i>Cost outcomes:</i></p> <ul style="list-style-type: none"> <li>• Cost per patient per year</li> <li>• Cost per service</li> <li>• Costs associated with care delays, fragmentation, poor coordination, redundancy, requested but not completed patient referrals</li> </ul> <p><i>Implementation Outcomes</i></p> <ul style="list-style-type: none"> <li>• Adoption of intervention approaches</li> <li>• Fidelity</li> <li>• Systemic Change/Sustainment</li> </ul> <p><b>HARMS</b></p> <ul style="list-style-type: none"> <li>• Missed diagnoses</li> <li>• Delays in care</li> <li>• Overutilization of resources</li> <li>• Redundant or inappropriate care</li> </ul>	<p>Simulated results or responses to hypothetical scenarios or questions</p>
<b>Setting</b>	<ul style="list-style-type: none"> <li>• Health systems/hospitals and community-based primary care practices in the United States (physical or virtual) or in countries with similar healthcare systems</li> <li>• Non-healthcare settings providing outpatient BH/PC (school-based clinics, community centers, churches, shelters)</li> <li>• Nursing homes, group homes and other long-term residential settings.</li> </ul>	<ul style="list-style-type: none"> <li>• Hospitals</li> <li>• Prehospital/EMS/crisis care</li> <li>• Prisons</li> <li>• Countries with healthcare systems that do not provide information relevant to the U.S.</li> </ul>

PICOS	Inclusion	Exclusion
<b>Study Designs</b>	<ul style="list-style-type: none"> <li>Experimental and observational studies that describe and evaluate integration approach</li> <li>For Scan Question 1 and Contextual Questions 3 and 5: Survey and Qualitative Studies</li> <li>For Contextual Question 4: Psychometric Studies</li> <li>Systematic reviews that directly address one of the review questions.</li> </ul>	<ul style="list-style-type: none"> <li>Articles that do not include any data.</li> <li>Proposals for approaches that have not been implemented</li> <li>Descriptions of approaches that have not been evaluated (for KQ2)</li> <li>Articles reporting simulation or speculation.</li> </ul>

Abbreviations: BH=behavioral health; EMS=emergency medical services; KQ=key question; PC=primary care

### III. Analytic Framework

Figure 1. Analytic Framework



### IV. Methods

Behavioral health and primary care integration includes several possible strategies and models<sup>16,17</sup> (referred to here as approaches) designed for different settings,<sup>18-23</sup> patients,<sup>24-29</sup> and clinical conditions.<sup>30-33</sup> We worked with the TOO, partners, KIs, and TEP to develop a definition of the minimum criteria required for an intervention to be considered an ‘integration approach’ for this review. The following definition was adopted. *The baseline requirement is that the*

*practice design of the approach is one that facilitates interaction among primary care and behavioral health providers in the provision of care including referral, followup, and continued coordination of care (see Table 1).*

### **Inclusion/Exclusion Criteria**

The inclusion and exclusion criteria for the overall review are specified in Table 1. However, because the purpose of the questions falls into three distinct categories (Scan, Key, and Contextual), the specific criteria for each are further defined below.

*Scan Question (1).* We will include descriptive reports of integration programs that exist or existed, but will exclude proposed, hypothetical, and simulated approaches.

*Key Question (2) and Sub-question 5a.* For Questions 2 (effectiveness of integration approaches) and 5a (effectiveness of training methods), we will include studies that compare groups or time periods. From our preliminary review of the literature, the majority of the available evidence is unlikely to be large randomized controlled trials (RCTs) with patient-level randomization that assess effectiveness. Rather, most will be observational studies and these designs are likely to have limitations that must be considered in terms of the rigorous application of their results.<sup>34</sup> Similar to other system-level interventions we have studied, the evidence on behavioral health and primary care integration strategies is more likely to consist of cluster and step wedge trials<sup>35-37</sup> and different types of observational studies,<sup>19,29,30,38-42</sup> including studies that report outcomes for different groups of patients before and after implementation.

*Contextual Questions.* For Question 3, descriptive and hypothetical studies will not be included. For Question 4, our working definition for our search for “valid and reliable” studies will limit inclusion to measures that have been used and evaluated. The studies for Question 5 will focus on care team member roles, integration, and training.

*Non-English-Language Studies:* We will restrict to English language articles but will review English language abstracts of non-English language articles to identify studies that would otherwise meet inclusion criteria, in order to assess for the likelihood of language bias.

### **Literature Search Strategies to Identify Relevant Studies to Answer the Questions**

*Literature Databases:* Ovid MEDLINE®, PsycINFO®, CINAHL®, SocINDEX™, and Cochrane CENTRAL will be searched to capture both published and gray literature.

*Search Strategy.* During topic refinement, Key Informants assisted with generating a list of integration modes and approaches that we will translate into our initial search strategy. Examples of studies of interest will be used to validate our search strategy. The search strategies were developed by a research librarian with expertise in conducting searches for systematic reviews and reviewed by the TEP. Searches will be peer reviewed by a second librarian.

*Publication Date Range.* Searches will be run from 2008, with initial searches being conducted through August 2022. These searches will be updated during the public comment period for the draft report to identify any new publications. Literature identified during the updated search will be assessed following the same process of dual review as all other studies considered for

inclusion. If any pertinent new literature is identified, it will be incorporated before the final submission of the report.

Supplemental Evidence and Data for Systematic review (SEADS). AHRQ will publish an announcement in the Federal Register to notify stakeholders about the opportunity to submit information via the SEADS portal on the Effective Health Care Website.

Specific Criteria for Scan Question 1. The search for this question will require an augmented strategy. The KIs and TEP suggested sources (organizations and websites) for gray literature we will review for possible inclusion. We will consider sources obtained from the AHRQ SEADS request for information, and we will aim to identify recently-funded research or demonstration projects by searching the National Institutes of Health Reporter and Clinicaltrials.gov for approaches that are currently being developed and evaluated.

Specific Criteria for Contextual Question 3. We will conduct a separate search for implementation research, and studies about barriers to and facilitators of implementation of integration approaches. We will also search the Complex Adaptive Systems literature for studies about health systems implementation and maintenance of behavioral health and primary care integration.

Gray Literature. Sources for gray (unpublished) literature will include reports produced by federal and state agencies, healthcare provider organizations, or others. We will search for clearinghouses that aggregate, or reports that summarize experiences across different organizations. We will follow up on the suggestions made by KIs and TEP members and will track publications and organizations cited in included studies and reports.

Hand Searching. Reference lists of included articles, selected excluded articles (e.g., narrative reviews), and systematic reviews will be reviewed for additional includable literature.

Contacting Author. In the event that information regarding methods or results appears to be omitted from the published results of a study we will attempt to contact the authors to obtain additional information.

Process for Selecting Studies. Pre-established criteria as presented in Table 1 will be used to determine eligibility for inclusion and exclusion of abstracts in accordance with the AHRQ *Methods Guide for Effectiveness and Comparative Effectiveness Reviews*.<sup>43</sup> To ensure accuracy, all excluded abstracts will be dual reviewed. Full text for all abstracts deemed appropriate for consideration by at least one of the reviewers will be retrieved. Each full-text article will be independently reviewed for eligibility by two team members, including any articles suggested by peer reviewers or that arise from the public posting process. Any disagreements will be resolved by consensus among investigators. A record of studies excluded at the full-text level with reasons for exclusion will be maintained and made available as an appendix to the final report. We will review existing systematic reviews and include their results if appropriate. At a minimum, we will use systematic reviews to identify studies.



## **Data Abstraction and Data Management**

After studies are deemed to meet inclusion criteria, data will be abstracted, including elements such as: study design, year, setting, country, sample size, patient and provider types and characteristics (e.g., age, sex, race, diagnosis/condition, provider training/background/scope of practice), integration approach characteristics, and results relevant to each Question as outlined in the previous PICOS section. Data abstraction forms will be developed after full text review and the data to be included in evidence tables will be discussed with the AHRQ TOO, the TEP, and the partners. All study data will be abstracted by one team member then verified for accuracy and completeness by a second team member.

## **Assessment of Methodological Risk of Bias of Individual Studies**

Risk of bias (also referred to as internal validity) is only assessed for controlled trials and comparative observational studies. As such, we will assess risk of bias for Questions 2 and 5a. However, we will assess and consider the quality of studies identified for the remaining questions.

*Questions 2 and 5a.* Predefined criteria will be used to assess the risk of bias for each individual included study, using criteria appropriate for the study designs for KQ2 and CQ5a. Controlled trials and observational studies will be assessed using a priori established criteria consistent with the approach recommended in the chapter, *Assessing the Risk of Bias of Individual Studies*, described in the *Methods Guide for Effectiveness and Comparative Effectiveness Reviews*.<sup>43</sup> Studies will be rated as “low risk of bias,” “medium risk of bias,” or “high risk of bias.” Each study evaluated will be independently reviewed for risk of bias by two team members. Any disagreements will be resolved by consensus. Team members who were involved in the conduct of a study will not be involved in data abstraction or risk of bias assessment for that study.

*Questions 1, 3, 4, and 5.* Our approach to describing the quality of the included studies will be driven by the volume of studies identified and the study designs. If a small number of studies are identified, we will describe their strengths and limitations. If more studies are identified, we will select a limited number of criteria specific to the study designs (e.g., surveys, qualitative studies, descriptive studies). If the included studies for these questions include a variety of designs we may consider using a tool that includes criteria for several designs such as the Mixed Methods Appraisal Tool (MMAT).<sup>44</sup>

## **Data Synthesis**

Data synthesis will differ across the three categories of questions (Scan, Key, and Contextual).

*Scan Question.* For Question 1, recent frameworks, including those referenced in the Background above, will be used to develop functional and/or conceptual categories to describe the strategies we identify and provide the basis for qualitative synthesis.

*Key Question (2) and Question 5a.* We will construct evidence tables identifying the study characteristics (as discussed above), results of interest, and risk of bias/quality ratings for all included studies, and summary tables to highlight the main findings. We will review and highlight studies by using a hierarchy-of-evidence approach, where the best evidence is the focus of our synthesis for each question.

Qualitative data about the body of evidence will be summarized in summary tables and ranges and descriptive analysis and interpretation of the results will be provided. If sufficient data are available, meta-analyses will be conducted to summarize data and obtain more precise estimates of outcomes across any subgroups of studies homogeneous enough to provide a meaningful combined estimate. The feasibility of a quantitative synthesis will depend on the number and completeness of reported outcomes and a lack of major heterogeneity. To determine whether meta-analysis could be meaningfully performed, we will consider the risk of bias for each of the studies and the heterogeneity among studies in design, patient population, interventions, and outcomes, and may conduct sensitivity analyses. If meta-analysis is performed, randomized controlled trials will be analyzed separately from observational studies. Meta-regression may be conducted to explore statistical heterogeneity using additional variables for methodological or other characteristics (e.g., risk of bias, randomization or blinding, outcome definition, and ascertainment) given enough number of studies.

Contextual Questions. We will organize each contextual question according to the sub-questions, and qualitatively synthesize the data. In our synthesis, we will prioritize U.S. national or regional studies over local reports or data from other countries, if we determine they are more relevant. We will summarize the strengths and limitations of the included reports for these questions, with a focus on elements such as the extent the sample represents the population of interest and the completeness and reliability of the data and prioritize the studies that are more rigorous and complete. The specifics of how we synthesize the data will be driven by the types and quantity of data available. Once inclusion decisions have been made and key information abstracted, we will identify existing frameworks, models or theories that can be used to organize and categorize the finding for these questions. For example, an implementation framework may provide a way to classify barriers and facilitators (Question 3), a measurement model could match metrics to goals (Question 4), and or a theory of professional development used to characterize different approaches to training. (Question 5). To the extent possible, we will use tables and graphics to represent our syntheses.

### **Grading the Strength of Evidence (SOE) for Major Comparisons and Outcomes**

Grading the strength of evidence (SOE) only applies to questions of effectiveness and therefore will only be conducted for Questions 2 and 5a. Similar to assessment of risk of bias for individual studies, the strength of evidence (SOE) for each Question will be initially assessed by one researcher for selected outcomes (see PICOS). We will involve the TEP, Partners and TOO in the selection of the outcome for SOE after the included studies are identified.

Key Question 2 and Question 5a. For the effectiveness questions, we will use the approach described in the *Methods Guide for Effectiveness and Comparative Effectiveness Reviews*.<sup>46</sup> To ensure reliability and validity of the evaluation, the body of evidence will be assessed for the following criteria as they are defined in the Methods Guide:

- Study limitations (low, medium, or high level of study limitations)
- Consistency (consistent, inconsistent, or unknown/not applicable)
- Directness (direct or indirect)
- Precision (precise or imprecise)

The strength of evidence will be assigned an overall grade of high, moderate, low, or insufficient according to a four-level scale by evaluating and weighing the combined results of the included domains. The four levels are:

- High—Very confident that the estimate of effect lies close to the true effect for this outcome. The body of evidence has few or no deficiencies. The findings are stable (i.e., another study would not change the conclusions).
- Moderate—Confident that the estimate of effect lies close to the true effect for this outcome. The body of evidence has some deficiencies. The findings are likely to be stable, but some doubt remains.
- Low—Limited confidence that the estimate of effect lies close to the true effect for this outcome. The body of evidence has major or numerous deficiencies (or both). Additional evidence is needed before concluding either that the findings are stable or that the estimate of effect is close to the true effect.
- Insufficient—No evidence. Investigators are unable to estimate an effect or have no confidence in the estimate of effect for this outcome. No evidence is available or the body of evidence has unacceptable deficiencies, precluding a conclusion.

### **Applicability of Evidence**

We will use the PICOS framework to consider the applicability of the evidence base for each question, for example, examining the characteristics of the patient populations (e.g., clinical condition) and study setting. These characteristics of the studies may limit the ability to generalize the results to other populations and settings.

## V. References

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## VI. Definition of Terms

Abbreviation	Definition
ADHD	Attention deficit-hyperactivity disorder
AHRQ	Agency for Health Research and Quality
BH	Behavioral health
COVID-19	Novel Coronavirus Disease 2019
EMS	Emergency medical services
EPC	Evidence-based Practice Center
KI	Key Informant
KQ	Key question
PC	Primary care
PICOS	Populations, interventions, comparators, outcomes, and setting
RCT	Randomized controlled trial
SEADS	Supplemental Evidence and Data for Systematic review
SOE	Strength of evidence
SUD	Substance use disorder
TEP	Technical Expert Panel
TOO	Task Order Officer

## VII. Review of Key Questions

The Agency for Healthcare Research and Quality (AHRQ) posted the Key Questions on the AHRQ Effective Health Care Website for public comment. The Evidence-based Practice Center (EPC) refined and finalized them after reviewing of the public comments and seeking input from Key Informants and the Technical Expert Panel (TEP). This input is intended to ensure that the Key Questions are specific and relevant.

## VIII. Key Informants

Key Informants are the end-users of research; they can include patients and caregivers, practicing clinicians, relevant professional and consumer organizations, purchasers of health care, and others with experience in making health care decisions. Within the EPC program, the Key Informant role is to provide input into the decisional dilemmas and help keep the focus on Key Questions that will inform health care decisions. The EPC solicits input from Key

Informants when developing questions for the systematic review or when identifying high-priority research gaps and needed new research. Key Informants are not involved in analyzing the evidence or writing the report. They do not review the report, except as given the opportunity to do so through the peer or public review mechanism.

Key Informants must disclose any financial conflicts of interest greater than \$5,000 and any other relevant business or professional conflicts of interest. Because of their role as end-users, individuals are invited to serve as Key Informants and those who present with potential conflicts may be retained. The AHRQ Task Order Officer (TOO) and the EPC work to balance, manage, or mitigate any potential conflicts of interest identified.

## **IX. Technical Experts**

Technical Experts constitute a multi-disciplinary group of clinical, content, and methodological experts who provide input in defining populations, interventions, comparisons, or outcomes and identify particular studies or databases to search. The Technical Expert Panel is selected to provide broad expertise and perspectives specific to the topic under development. Divergent and conflicting opinions are common and perceived as healthy scientific discourse that fosters a thoughtful, relevant systematic review. Therefore, study questions, design, and methodological approaches do not necessarily represent the views of individual technical and content experts. Technical Experts provide information to the EPC to identify literature search strategies and suggest approaches to specific issues as requested by the EPC. Technical Experts do not do analysis of any kind; neither do they contribute to the writing of the report. They do not review the report, except as given the opportunity to do so through the peer or public review mechanism.

Members of the TEP must disclose any financial conflicts of interest greater than \$5,000 and any other relevant business or professional conflicts of interest. Because of their unique clinical or content expertise, individuals are invited to serve as Technical Experts and those who present with potential conflicts may be retained. The AHRQ TOO and the EPC work to balance, manage, or mitigate any potential conflicts of interest identified.

## **X. Peer Reviewers**

Peer reviewers are invited to provide written comments on the draft report based on their clinical, content, or methodological expertise. The EPC considers all peer review comments on the draft report in preparing the final report. Peer reviewers do not participate in writing or editing of the final report or other products. The final report does not necessarily represent the views of individual reviewers.

The EPC will complete a disposition of all peer review comments. The disposition of comments for systematic reviews and technical briefs will be published 3 months after publication of the evidence report.

Potential peer reviewers must disclose any financial conflicts of interest greater than \$5,000 and any other relevant business or professional conflicts of interest. Invited peer reviewers with any financial conflict of interest greater than \$5,000 will be disqualified from peer review. Peer

reviewers who disclose potential business or professional conflicts of interest can submit comments on draft reports through the public comment mechanism.

## **XI. EPC Team Disclosures**

EPC core team members must disclose any financial conflicts of interest greater than \$1,000 and any other relevant business or professional conflicts of interest. Direct financial conflicts of interest that cumulatively total more than \$1,000 will usually disqualify an EPC core team investigator.

## **XII. Role of the Funder**

This project was funded under Contract No. 75Q80120D00006 from the Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services. The AHRQ Task Order Officer reviewed the EPC response to contract deliverables for adherence to contract requirements and quality. The authors of this report are responsible for its content. Statements in the report should not be construed as endorsement by either the Agency for Healthcare Research and Quality or the U.S. Department of Health and Human Services.

## **XIII. Registration**

This protocol will be registered in the international prospective register of systematic reviews (PROSPERO).



## Appendix A. MEDLINE Search Strategies

- 1 (behavio?ral\* adj2 (health\* or care or cares or caring or cared) adj5 integrat\*).mp. [mp=title, book title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
- 2 exp Primary Health Care/
- 3 exp General Practice/
- 4 exp general practitioners/ or exp physicians, family/ or exp physicians, primary care/
- 5 exp pediatrics/ or exp pediatricians/
- 6 exp obstetrics/
- 7 exp maternal health services/
- 8 exp geriatrics/
- 9 exp health services for the aged/
- 10 exp residential facilities/
- 11 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10
- 12 exp behavioral medicine/ or exp Behavior therapy/
- 13 11 and 12
- 14 exp health behavior/ or exp attitude to health/
- 15 exp health status/ or exp health education/
- 16 14 and 15
- 17 11 and 16
- 18 (BHI or IBH or ((behav\* adj3 (health\* or care or cares or caring or cared) adj5 (integrat\* or collaborat\* or comprehensiv\* or coordinat\* or implement\* or initiat\* or launch\* or establish\* or introduc\* or strateg\* or philosoph\* or approach\*)) or (integrat\* adj5 (team\* adj2 (base or based or focus\* or align\*) adj2 (health\* or care or cares or caring or cared))) or (integrat\* adj (healthcare\* or (health\* adj (care or cares or caring or cared)))) or (whole person\* adj2 (care or cares or caring or cared))) or (patient\* adj2 (centered or focused or aligned) adj7 ((care or cares or caring or cared or healthcar\*) adj3 (team\* or provider\* or approach\* or philosoph\*))))).mp. [mp=title, book title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
- 19 11 and 18
- 20 17 and 18
- 21 (((behav\* adj3 (health\* or care or cares or caring or cared) adj5 (integrat\* or collaborat\* or comprehensiv\* or coordinat\* or implement\* or initiat\* or launch\* or establish\* or introduc\* or strateg\* or philosoph\* or approach\*)) or (BHI or IBH) or (integrat\* adj5 (team\* adj2 (base or based or focus\* or align\*) adj2 (health\* or care or cares or caring or cared))) or (whole person\* adj2 (care or cares or caring or cared))) adj10 ((nurs\* adj (home\* or facility or facilities)) or (assist\* adj living) or p?pediatrics or p?pediatrician\* or (p?pediatric\* adj3 (care or caring or cares or cared or practice\*)) or obstetrics or obstetrician\* or ((obstetric\* or maternal\* or prenatal\* or antenatal\*) adj3 (care or caring or cares or cared or practice\*)) or geriatrics or geriatrician\* or gerontologist or ((geriatric or gerontolog\* or elder\*) adj3 (care or caring or cares or cared or practice\*)) or (integrat\* adj (healthcare\* or (health\* adj (care or cares or caring or cared)))) or ((primar\* adj2 (practi\* or care\*)) or (family adj2 (medic\* or practi\* or physician\*)) or (general

adj2 practi\*))).mp. [mp=title, book title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

22 (integrat\* adj (healthcare\* or (health\* adj (care or cares or caring or cared))) adj10 (behav\* adj3 (health\* or care or cares or caring or cared))).mp. [mp=title, book title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

23 19 or 20 or 21 or 22

24 ((integrat\* or collaborat\* or comprehensiv\* or coordinat\* or cooperat\* or alter\* or chang\* or differ\* or address\* or recogni\* or better or health\*) adj5 (behavi\* or habit\* or pattern\* or routin\* or attitud\*)).mp. [mp=title, book title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

25 13 and 24

26 1 or 23 or 25

27 limit 26 to English language

28 limit 26 to abstracts

29 27 or 28