U.S. Department of Health and Human Services
Office of the Assistant Secretary for Planning and Evaluation
Office of Behavioral Health, Disability, and Aging Policy

WORKFORCE IMPLICATIONS OF BEHAVIORAL HEALTH CARE MODELS:

FINAL REPORT

March 2021

Office of the Assistant Secretary for Planning and Evaluation

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ABSTRACT

Mental health and substance use disorders (SUD) are among the leading causes of disability in the United States. Despite their prevalence, many people who require behavioral health services do not receive care, potentially due in part to behavioral health workforce shortages. Workforce shortages are projected to continue in coming years; therefore, it is critical to identify ways to more effectively use the workforce to increase access to care and better meet the needs of those with mental health disorders and SUD. Through a targeted environmental scan, interviews with subject matter experts, and virtual case studies, this project investigated promising behavioral health models to expand the delivery of services by, in part, reorganizing or transforming the behavioral health workforce, and the barriers and facilitators to their widespread adoption. The project focused on three promising models: (1) psychiatric mental health nurse practitioners; (2) behavioral health mobile applications; and (3) crisis services. Findings suggest that each of these models offer some potential for increased workforce efficiencies and--with changes to funding and other policies--could increase provider supply and access to more appropriate levels of care.

ACKNOWLEDGMENTS

ACRONYMS

The following acronyms are mentioned in this report.

APA	American Psychiatric Association
ASO	Administrative Service Organization
ASPE	Office of the Assistant Secretary for Planning and Evaluation
BH	Behavioral Health
BHCC	Behavioral Health Crisis Center
CCBHC	Certified Community Behavioral Health Clinic
COVID-19	Novel Coronavirus
CSU	Crisis Stabilization Unit
DATA 2000	Drug Addiction Treatment Act of 2000
ED	Emergency Department
FDA	Food and Drug Administration
GCAL	Georgia Crisis and Access Line
GSA	Geographic Service Area
HCPCS	Healthcare Common Procedure Coding System
LGBTQ	Lesbian, Gay, Bisexual, Transgender, and Queer (or Questionining)
MAT	Medication-Assisted Treatment
MD	Medical Doctor
NP	Nurse Practitioner
PA	Physician Assistant
PCP	Primary Care Provider
PMHNP	Psychiatric Mental Health Nurse Practitioner
RBHA	Regional Behavioral Health Authority
SAMHSA	Substance Abuse and Mental Health Services Administration
SME	Subject Matter Expert
SUD	Substance Use Disorder

EXECUTIVE SUMMARY

Mental health and substance use disorders (SUD) are among the leading causes of disability in the United States.[1] Despite their prevalence, many people who require behavioral health services do not receive care, potentially due in part to behavioral health workforce shortages.[2,3] Workforce shortages are projected to continue in coming years; therefore, it is critical to identify ways to more effectively use the available workforce to increase access to care and better meet the needs of those with mental health disorders and SUD. To this end, the Office of the Assistant Secretary for Planning and Evaluation (ASPE) contracted with Mathematica to investigate: (1) promising behavioral health models to expand the delivery of services by, in part, reorganizing or transforming the behavioral health workforce; (2) barriers and opportunities for further adoption of promising models of care; and (3) how states and local entities are implementing promising models of care. This report synthesizes findings from a targeted environmental scan of published literature, interviews with behavioral health subject matter experts (SMEs), and virtual case studies.

We conducted the study in two stages, first identifying promising models of care and then exploring information on implementation and barriers that inhibit more widespread adoption of the identified models. After identifying promising models through a high-level scan of the literature and interviews with SMEs, we collaborated with ASPE to prioritize three to investigate further: (1) behavioral health mobile applications (mobile apps), (2) crisis services, and (3) psychiatric mental health nurse practitioners (PMHNPs). Based on input from SMEs and in consultation with ASPE, we selected one of the prioritized models, crisis services, to investigate in greater depth through four virtual case studies. The SMEs identified crisis services as a promising model due to its potential to decrease burden on professionals in high-cost settings by providing alternatives to emergency departments and inpatient facilities, and its reliance on a mixed team of professionals and paraprofessionals to deliver services. We gathered detailed information from state agencies, crisis service organizations, and partners on how crisis models expand delivery of treatment to people with behavioral health conditions, as well as barriers and opportunities for further adoption of these models.

A. Findings

In this study, we identified and examined, at a high level, nine promising behavioral health models that may expand the delivery of services by, in part, reorganizing or transforming the behavioral health workforce. These models include:

- Behavioral health integration models.
- Behavioral health mobile applications.
- The Certified Community Behavioral Health Clinic (CCBHC) Model.
- Crisis services.

- Hub-and-spoke models.
- Peer support.
- PMHNPs.
- Same-day access.
- Telebehavioral health models.

With the exception of peer support and PMHNPs, the majority of the literature we reviewed and the SMEs we consulted regard these models as behavioral health *service delivery* models that include workforce elements or innovations, rather than *workforce* models per se. Experts and the literature acknowledge several potential workforce efficiencies common across these behavioral health service delivery models, including: (1) using staff with lower levels of training and credentials to augment service provision; (2) permitting staff to perform all functions within their scope of practice; (3) directing consumers to the appropriate staff or level of care; (4) using technology to extend provider reach; and (5) increasing capacity for nonmental health and SUD providers to treat people with mental health and SUD conditions. Table ES.1 below identifies the models we reviewed and summarizes potential workforce efficiencies we identified through the scan or in discussions with SMEs.

TABLE ES.1. Potential Workforce Efficiencies of Promising BH Service Model	
Model	**Potential Workforce Efficiencies**
BH integration models	• Shifts some BH care to PCPs, which may increase capacity of BH providers
BH mobile applications*	• Provides clinical information, which may lead to more efficient treatment and therefore increased capacity to treat clients
CCBHCs	• Increases BH staff salaries, which may allow hiring new and different types of staff, and reduce staff turnover • Redistributes some responsibilities from more costly and highly-trained professionals to less costly staff such as peer specialists and family support workers
Crisis services*	• Aligns service delivery with staff qualifications • Helps ensure receipt of appropriate level of care, in least restrictive environment
Hub-and-spoke models for MAT	• Shifts care to lowest level of care needed, which may increase availability of specialists • Expands treatment capacity of community-based providers through mentorship and trainings delivered by specialists
Peer support models	• Redistributes some responsibilities from more costly and trained professionals to more available, less costly peer support
Telebehavioral health models	• Uses technology to increase access to BH providers in communities with BH workforce shortages and address provider maldistribution
PMHNPs*	• Increases treatment capacity through use of professionals trained to provide many of the same services as psychiatrists
Same-day access	• Restructures provider schedules to increase access to services when clients need them, decrease time spent scheduling appointments and conducting outreach, and reduce no-shows
* We reviewed models marked with an asterisk in-depth. Other models were reviewed at a high-level. We did not conduct a systematic review of any models, but rather relied on targeted searches of the literature and SME input to identify efficiencies.	

Below, we present key findings on the three prioritized models we examined in greater depth.

1. Psychiatric Mental Health Nurse Practitioners

Utilizing PMHNPs to perform the full range of functions permitted within their scope of practice may increase access to behavioral health care. PMHNPs receive in-depth training in behavioral health. They are trained to provide many of the same services as psychiatrists, including screening, assessment, diagnosis, and treatment of behavioral health conditions (including psychotherapy), and prescribing medications (in states where the scope of practice includes prescribing privileges), but are less costly to employ.[4] Scope of practice laws, which vary by state, present a barrier to fully utilizing PMHNPs--as well as nurse practitioners (NPs) and physician assistants (PAs) more broadly--as some states restrict these professionals from practicing to the fullest extent their training otherwise would allow.[5] Changes to such scope of practice laws could increase access to mental health and SUD services and potentially improve population mental health.

2. Behavioral Health Mobile Applications

Using behavioral health mobile apps to augment clinical treatment may increase the efficiency of behavioral health care, potentially enabling clinicians to see more clients over time and increase access to care.[6] Behavioral health apps on smartphones offer a variety of features and functions to support behavioral health, including consumer self-management tools (for example, medication reminders), skills training, interactions with peer specialists and health care providers, symptom tracking, and passive data collection.[7] Mobile apps can be used independently by consumers or integrated with treatment provided by behavioral health clinicians. The number of behavioral health apps is constantly changing, but estimates are quite high. One article published in 2017, noted that over 10,000 mental health-related applications were available at that time.[8] However, despite consumer and clinician interest in mental health mobile apps,[9,10] adoption remains relatively low.

Integrating apps into clinical practice may have the potential to translate to more efficient care, which may enable clinicians to see more people over time if treatment durations are shorter as a result. Further, opportunities may exist to leverage less expensive staff, such as peers and bachelor's-level staff--who are in greater supply in the behavioral health workforce--to support app use in clinical practice and save clinicians' time for direct care. Mobile apps may also increase access to behavioral health care in several ways, by: (1) addressing barriers to care for existing clients who may have difficulty attending weekly sessions due to cost, distance, lack of childcare, or work schedules;[11] (2) extending clinicians' geographic reach by allowing them to remain connected with clients from a distance; and (3) helping those who are not ready to seek professional help, or are on a waitlist to receive care.

Although mobile apps show promise for increasing efficiency of and access to care, barriers to more widespread adoption of mobile apps include a lack of regulatory oversight and of mechanisms to pay for integration of mobile apps into clinical practice, as well as concerns about consumer data security. Guidance on navigating this uncertain but promising field is critical for widespread adoption to occur.

3. *Crisis Services*

Crisis services strive to quickly stabilize individuals in less intensive settings using a mix of staff with strong engagement and support skills; they may reduce the demand for higher-cost professionals who would otherwise be needed in greater numbers if conditions were to escalate without this strong and timely recovery-oriented focus. Crisis models may have staff perform the full range of functions permitted within their scope of practice, freeing up higher-cost behavioral health professional staff with additional credentials to work up to their full scope of practice and potentially reducing the demand for these staff, who are in shorter supply.

Additionally, crisis service systems enable individuals with behavioral health crises to be treated in less-intensive, lower-cost community settings. Ideally, the systems comprise multiple components available 24/7, such as regional or statewide crisis lines, centrally dispatched mobile crisis teams, and crisis receiving and stabilization facilities.[12] Although states implement services in various ways, state crisis services often share a common goal of ensuring people receive the most appropriate level of care. Case study respondents suggested that crisis services accomplish this by diverting individuals from emergency departments and unnecessary hospitalizations and by reducing law enforcement time and psychiatric boarding in emergency departments. State officials, crisis service organization representatives, and partner organizations posited a variety of negative outcomes if crisis services did not exist, including an increase in mental illness and substance use, homelessness, involuntary commitments, incarceration, and care provided in institutional settings.

Crisis services may rely on a mix of behavioral health professionals and staff with lower levels of training to provide service components. In addition, models may make efficient use of their workforce by using staff with less training to perform the full range of functions permitted within their scope of practice, freeing up staff with additional credentials to perform in their full scope of practice. For example, three case study states primarily use staff with less training and credentials to operate their crisis lines, reducing the demand for more costly professionals. Similarly, states use a variety of staff for mobile crisis teams; in addition, their teams may be structured so that licensed clinicians can supervise in an on-call fashion rather than being on scene. Crisis centers also often use a mix of staff, which may help them ensure a recovery-oriented focus, reduce length of stays, and decrease the demand for higher-cost behavioral health professionals. Regardless of staff composition, training and supervision are essential to ensure that team members deliver safe, high quality client care.

Case studies and the environmental scan revealed a number of barriers and facilitators for more widespread adoption of crisis services. First and foremost, funding mechanisms present both opportunities and challenges for widespread adoption. State funding approaches are often described as "cobbled together," with inconsistent funding streams; thus, funding structures are necessary to ensure that crisis service systems can continue to provide comprehensive, robust services and remain financially sustainable.[12,13] States primarily use Medicaid, state and county funds, and federal block grants to pay for crisis services. Case study states highlighted Medicaid as a particularly helpful tool for reducing reliance on state funds, given challenges with obtaining reimbursement from commercial insurers. For example, in Wisconsin, counties bill commercial insurers, but according to a state respondent, commercial insurers often deny crisis claims as not medically necessary and counties do not have the resources to challenge denials.

Finally, partnerships are critical for ensuring diversion from less appropriate settings, raising community awareness of crisis services, and operating as part of a continuum of services for people with behavioral health conditions.[12] Partnerships can help to gain buy-in, may increase referrals, and can also lead to more recovery-focused interactions, even outside the direct crisis service system.

B.   Summary

This report offers a preliminary examination of how behavioral health care models may help to address the behavioral health workforce shortage and increase access to care. Our findings suggest that all of the models we examined offer some potential for increased workforce efficiencies and--with changes to funding and other policies--could increase provider supply and access to more appropriate levels of care. For example, crisis services rely on a mix of highly-trained behavioral health professionals and staff with lower levels of training to provide each of their crisis service components in less intensive settings. Behavioral health mobile apps offer tools to extend what clinicians can address with each client; app data may also inform clinicians' treatment plans. PMHNPs have the potential to expand the number of prescribers through scope of practice policy changes. Although this study begins to build a framework for understanding how such models can extend the workforce and improve access to behavioral health services, additional research is needed to confirm and build upon these findings and identify policy solutions to encourage more widespread adoption of promising models.

I. STUDY OVERVIEW

A. Introduction

Mental health and substance use disorders (SUD) are among the leading causes of disability in the United States.[1] In 2018, an estimated 19 percent of all adults had a mental illness and 20.3 million people age 12 or older had an SUD.[2] Despite their prevalence, nearly one-quarter of adults with any mental illness reported an unmet need for mental health services in 2018 and only 11.1 percent of people needing treatment for an SUD received treatment at a specialty facility in the same year.[2] Unmet behavioral health needs are often attributed, in part, to behavioral health workforce shortages.[3] The Health Resources and Services Administration has projected that these shortages will continue for various key behavioral health staff, including psychiatrists and counselors, in coming years.[14] Given projected workforce shortages, it is critical to identify ways to more effectively use the workforce to increase access to care and better meet the needs of those with mental illnesses and SUD. The Office of the Assistant Secretary for Planning and Evaluation (ASPE) contracted with Mathematica to investigate promising behavioral health care models that may expand the delivery of services to people with behavioral health disorders, by, in part, transforming or reorganizing the behavioral health workforce. Through a targeted environmental scan, interviews with subject matter experts (SMEs), and virtual case studies, we sought to answer the following research questions:

1. **What promising behavioral health models expand the delivery of services by, in part, reorganizing or transforming the behavioral health workforce?**

2. **What are the barriers and opportunities for further adoption of promising models of care?**

3. **How are states/local entities implementing promising models of care?**

B. Methods

This report synthesizes findings from: (1) a targeted environmental scan of published literature, supplemented by interviews with behavioral health SMEs; and (2) virtual case studies to explore state and organizational approaches to implementing promising models of care.

1. Environmental Scan

We conducted a targeted environmental scan to identify promising models of care in the literature, as well as information on payment, regulatory, and other barriers that inhibit more widespread adoption of the identified models. We primarily focused on reviewing

domestic literature from the last ten years, and conducted the scan in two stages. In the first stage, we identified promising models through high-level literature searches and a heavy reliance on the expertise of SMEs. In the second stage, we investigated the most promising models in more detail.

Stage 1: Develop an understanding of the landscape of behavioral health workforce models, relying heavily on the expertise of SMEs.

We conducted initial searches of the peer-reviewed and gray literature to identify SMEs and a preliminary list of promising models. We also interviewed ten internal and external SMEs with broad knowledge of behavioral health models and the behavioral health workforce. In these conversations, we discussed the high-level characteristics of various models and sought SMEs' expert opinion on which models had the greatest potential for expanding treatment by using the existing workforce in new ways. We also discussed key barriers and facilitators of widespread adoption of models.

Stage 2: Investigate the most promising models in greater depth.

As a first step in this second phase, we collaborated with ASPE to prioritize the list of workforce-related models identified in Stage 1 for further study, selecting models that: (1) SMEs perceived as showing promise for transforming or reorganizing the behavioral health workforce; and (2) have been less commonly studied through a workforce lens, so as to avoid duplicating other research efforts and add the most value to the field. Ultimately, we selected three models to pursue: crisis services, mobile apps, and psychiatric mental health nurse practitioners (PMHNPs). After prioritizing models for further investigation, we conducted targeted searches of the literature for each of the three models. We also reviewed additional reference materials suggested by SMEs. We conducted an interview with two additional SMEs during this stage as well.

2. Case Studies

In consultation with ASPE, we selected one of the prioritized models, crisis services, to investigate in greater depth through four virtual case studies. Crisis services were identified and supported by SMEs as a potential way to decrease burden on professionals in high-cost settings by providing alternatives to emergency departments and inpatient facilities and relying on a mixed team of professionals and paraprofessionals to deliver services. The limited literature regarding impacts of crisis services on the behavioral health workforce suggested that case studies that explore these models through a workforce lens could offer important contributions to the existing evidence base. We conducted four virtual site visits to gather detailed information on how crisis models expand delivery of treatment to people with behavioral health conditions, as well as barriers to and opportunities for further adoption of crisis services.

To select case study sites, we first identified eight state crisis service systems from the environmental scan that represented a variety of characteristics, geographical settings, and policy landscapes. Given a limited study time frame, and limitations in the

availability of potential respondents due to the COVID-19 public health emergency, we conducted case studies with the first four states to respond to outreach. We conducted up to four semi-structured interviews per state, for a total of ten interviews, with respondents including representatives from state agencies responsible for the crisis service system in all four states, leaders of crisis service organizations, as well as crisis service system partners from emergency departments and law enforcement. Interview topics included crisis service system characteristics, respondent perspectives on the effects of crisis services on demand for behavioral health services across the system, policy and funding barriers and facilitators for crisis services, and the implications of crisis services on workforce capacity and composition across the behavioral health system.

3. Analysis and Synthesis of Findings from Environmental Scan and Case Studies

We used separate detailed templates to organize our environmental scan and case study findings and to facilitate thematic analysis. We synthesize findings from the environmental scan, SMEs, and virtual case studies in Chapter II.

4. Limitations

Given the targeted scope of this project, this report represents a preliminary examination of how these models may help to address the behavioral health workforce shortage and increase access to care. The findings presented reflect the views of a small number of SMEs and case study respondents and findings from a targeted sample of literature. For example, we identified a few key thought leaders through the environmental scan and heavily prioritized reviewing their work, given that their research aligned with the project's objectives. Thus, there may be additional important perspectives and evidence not presented. Although this study begins to build a framework for understanding how such models can extend the workforce and improve access to behavioral health services, additional research is needed to confirm and build upon these findings and identify policy solutions to encourage more widespread adoption of promising models.

C. Overview of Promising Models Considered

In this section, we describe the nine models we identified and examined, at a high level, in the first stage of the scan to address the following research question: what promising behavioral health models expand the delivery of services by, in part, reorganizing or transforming the behavioral health workforce? With the exception of peer services and PMHNPs, most of the literature we reviewed and the SMEs we spoke with regard models as behavioral health *service delivery* models that include workforce elements or innovations, rather than *workforce* models per se. However, experts and the literature acknowledge several potential workforce efficiencies common across the service models we identified, including: (1) using staff with lower levels of training and

credentials to augment service provision; (2) permitting staff to perform all functions within their scope of practice; (3) directing consumers to the appropriate staff or level of care; (4) using technology to extend provider reach; and (5) increasing capacity for nonmental health and SUD providers to treat people with mental health and SUD conditions. Table I.1 below identifies the models we reviewed and summarizes potential workforce efficiencies we identified through the scan or in discussions with SMEs.

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Hub-and-spoke models for MAT	• Shifts care to lowest level of care needed, which may increase availability of specialists • Expands treatment capacity of community-based providers through mentorship and trainings delivered by specialists
Peer support models	• Redistributes some responsibilities from more costly and trained professionals to more available, less costly peer support
Telebehavioral health models	• Uses technology to increase access to BH providers in communities with BH workforce shortages and address provider maldistribution
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Same-day access	• Restructures provider schedules to increase access to services when clients need them, decrease time spent scheduling appointments and conducting outreach, and reduce no-shows
* We reviewed models marked with an asterisk in-depth. Other models were reviewed at a high-level. We did not conduct a systematic review of any models, but rather relied on targeted searches of the literature and SME input to identify efficiencies.	

Below, we describe our high-level findings for each promising model.

1. Behavioral Health Integration Models, including the Collaborative Care Model

Behavioral health integration models promote coordination and collaboration of primary care and behavioral health providers, often by co-locating or integrating care in the same setting. Behavioral health integration models are implemented in a variety of settings and configurations, but usually include a team-based care approach. For example, the Substance Abuse and Mental Health Services Administration's (SAMHSA) Primary and Behavioral Health Care Integration program offered grants and technical assistance to help more than 200 community mental health centers co-locate and integrate medical services and wellness programming within their organizations.[15]

Collaborative care models offer another configuration of behavioral health integration. In these models, a multi-disciplinary group of providers, often led by a primary care provider (PCP), with support from a care manager and consultation from a psychiatrist and other behavioral health providers, offer coordinated care in primary care settings.[16] Research has shown that integrated approaches are cost-effective and associated with positive outcomes for consumers with behavioral health conditions, and may increase access to behavioral health care.[17,18] In addition, with appropriate support for providers and specialist consultation, the behavioral health needs of some consumers could be met in other health care settings. Shifting the location of care away from specialty behavioral health settings may reduce burden on the behavioral health system more broadly. For example, one SME suggested that while the overall number of health care providers required to address consumer needs may be the same, models that that serve people with behavioral health needs in primary care settings may shift the resource burden to the physical health sector where workforce shortages might not be as pervasive.

2. Behavioral Health Mobile Applications

Behavioral health-focused mobile apps on smartphones offer consumers with behavioral health conditions self-management tools (such as medication reminders), skills training, interactions with peer specialists and health care providers, symptom tracking, and also may include passive data collection.[6,7] Behavioral health mobile apps can be used by consumers on their own or in conjunction with clinical services. SMEs viewed mobile apps as promising for expanding access to behavioral health care given the low cost of incorporating apps into treatment, the potential appeal to younger consumers, and the increasing importance of remote technologies due to the COVID-19 public health emergency. Integrating mobile apps into clinical practice may translate to more efficient care, which may in turn enable clinicians to see more people over time if mobile app use results in shorter treatment durations. Further, opportunities may exist to leverage less expensive staff who are in greater supply in the behavioral health workforce--to support app use in clinical practice and save clinicians' time for direct care. Mobile apps may also increase access to behavioral health care through addressing barriers to care, such as helping consumers who may have difficulty attending appointments regularly. See Chapter II.B for additional details on mobile applications.

3. Certified Community Behavioral Health Clinic Model

The CCBHC model is designed to test new strategies for delivering and reimbursing a comprehensive array of ambulatory mental health and SUD services in community mental health centers and other outpatient behavioral health settings.[19,20] The model aims to improve the availability, quality, and outcomes of behavioral health services by establishing a standard definition and criteria for the organization and provision of person/family-centered, trauma-informed, and recovery-oriented care. CCBHC criteria include general standards for the types of staff clinics should employ in order to offer the full range of CCBHC services and adequately address the needs of the population

served. As of spring 2020, there were more than 100 CCBHCs operating across 21 states.[21,22]

One SME thought the CCBHC model could help to stabilize the workforce by increasing salaries, which could translate to a reduction in staff turnover. Likewise, an evaluation of the CCBHC demonstration program has shown that CCBHCs have hired a range of new staff types, such as peer specialists/recovery coaches and family support workers and reported the ability to offer competitive salaries to address workforce shortages.[19] CCBHCs and demonstration states reported that the model's reimbursement mechanism has allowed clinics to offer more competitive salaries and hire different types or greater numbers of staff than they previously had the capacity to employ. Clinics also rely on telehealth to fill gaps in service availability, and extend the reach of the existing workforce.[23]

4. Crisis Services

Crisis services offer individuals experiencing behavioral health crises the opportunity to stabilize in settings that are less intensive than traditional acute care. Ideally, crisis service systems include, at minimum, a crisis hotline, mobile response teams, and crisis receiving and stabilization centers.[12] Several SMEs viewed this model as holding the most promise for expanding care, due to its potential to divert individuals away from higher-cost settings and towards the most appropriate level and setting of treatment, and its more effective use of the workforce. For example, both SMEs and the literature suggest that behavioral health staff with less training and credentials, such as peer specialists, are in readier supply in the workforce than more highly-trained staff. As a result, behavioral health staff with less training and credentials can help reduce the demand on higher-level professionals by providing services appropriate to their scope of practice, such as engagement and care coordination, under supervision of professional staff.[12] Crisis services may also reduce burden on law enforcement and other first responders.

5. Hub-and-Spoke Models for Medication-Assisted Treatment

Medication-assisted treatment (MAT) is the use of Food and Drug Administration (FDA)-approved medications, in combination with counseling and behavioral therapies, to treat opioid and alcohol use disorders. The hub-and-spoke model expands access to MAT by connecting a network of providers around a central "hub" with expertise in the provision of MAT. Hub-and-spoke models often involve a network consisting of an entity that offers a full array of treatment services (the hub), where consumers who need more intensive services receive treatment on an ongoing basis, complemented by "spokes," which offer less-specialized service arrays to consumers with less intensive needs.[24,25] In addition, these models often provide training and support to local providers to extend the reach of MAT into local communities. For example, Project ECHO uses technology to connect community-based providers with specialists. The specialists provide mentorship and training to increase the capacity of the local workforce to provide needed services.[26,27] The goal is to prepare generalist providers to treat consumers

with complex or unfamiliar conditions within the bounds of the providers' scope of practice.[28] A number of states participating in the federal Opioid State Targeted Response grant program are implementing hub-and-spoke models, including Project ECHO, to expand treatment for opioid use disorders by training a broader workforce to provide MAT and other specialty behavioral health and medical care.[29,30,31]

6. Peer Support Models

Peer support occurs when an individual in recovery from a mental illness and/or SUD uses his or her lived experience to support another individual currently experiencing similar conditions, to promote engagement with services, social inclusion, and recovery. Peer specialists work in a variety of inpatient and ambulatory settings and perform various functions depending on the structure of the model in which they work. For example, peers may help coordinate care, facilitate support groups, provide mentoring, address crises, and work with individuals to develop skills and set goals.[32] As of 2018, at least 32 states covered peer support services for some beneficiaries through their Medicaid programs; and many states offered certification programs for peers that included training and experiential learning to prepare peers to join the workforce.[33,34]

All of the SMEs we spoke with viewed this model as very promising and one SME even considered it to be the most innovative behavioral health workforce advancement to date. The literature on peers aligns with SMEs' perceptions of the promise of the model for transforming the workforce.[35] SMEs noted that the model can expand delivery of behavioral health treatment by incorporating a new type of staff that are available in greater numbers than other members of the behavioral health workforce. For example, peers can provide a variety of supportive services to augment the work of other members of the workforce. Peers may take on tasks that would otherwise be provided by higher-cost professionals who may be in shorter supply. For example, peers may help connect consumers with social services, provide transportation, and lead support groups.[36] Experts spoke about the widespread adoption of peer supports, and noted that peer support models can be implemented quickly given that best practices for the model have been identified and refined through widespread use. However, experts and the literature stress the importance of ensuring that peers are adequately trained, supported in their work, and paid a living wage, and are not being used to supplant more highly-trained providers when needed.

7. Telebehavioral Health Models

Telehealth is the provision of health care services remotely by means of information technology such as computers and smartphones. Telehealth encompasses a wide variety of modalities, including synchronous interactions, such as real-time video and phone calls, asynchronous interactions that are not reviewed in real-time, and remote patient monitoring that allows direct transmission of a patient's clinical measurements from a distance.[37] Telehealth may include consumer-provider interaction via mobile applications.[38] The need to provide behavioral health services remotely has grown significantly as a result of the COVID-19 public health emergency; however, most states

provided some reimbursement for telehealth for Medicaid beneficiaries and had laws in place to support telehealth in the commercial insurance market prior to the pandemic.[39] Through telehealth, behavioral health providers can offer a range of mental health and SUD services such as therapy, medication management, and--as a result of federal authorizations in response to the COVID-19 public health emergency--some types of MAT services for opioid use disorder.

SMEs viewed this model as increasingly important and promising given the shifts in practice initiated by the COVID-19 public health emergency, and the need to provide care safely and remotely. Telehealth modalities may also be used to address the behavioral health workforce shortages that are more pervasive in certain geographic areas; telehealth may be used to link consumers with providers in other locations and lessen the impact of the maldistribution of providers.[40] One SME also acknowledged the importance of telehealth models for the provision of behavioral health services in rural and frontier areas in particular as technology helps to extend behavioral health care to these underserved areas. Additionally, emergency policy options activated in response to the COVID-19 pandemic have accelerated widespread adoption of telehealth for behavioral health service provision, such as allowing states to use an 1135 Waiver to enable psychiatrists to see Medicare-insured individuals via telehealth even if the psychiatrist is not licensed to practice in the individual's state.[41]

8. Same-Day Access

Same-day access (also known as open access scheduling) restructures provider schedules so that consumers can receive an appointment on the day they request one. In medical practices, this often results in cost savings and increased workforce efficiency, as the number of "no-shows" decreases since consumers are not waiting as long to be seen.[42] Further, less staff time is dedicated to scheduling the backlog of patients and reaching out to no-shows.[42] Same-day access has been implemented broadly in community behavioral health settings. For example, the State of Virginia recently announced that all community behavioral health providers in the state have made same-day access available, and the model has also been used by many CCBHCs to improve access to care.[21,43]

9. Utilizing Nurse Practitioners and Physician Assistants at the Top of Their Licenses to Increase Access to Behavioral Health Care

One SME noted that the current behavioral health workforce suffers from an undersupply of prescribers. The SME suggested that a potential workforce strategy could be to recruit more nonphysician prescribers to the workforce, such as nurse practitioners (NPs) and physician assistants (PAs). Other SMEs echoed the importance of these providers for ensuring access to behavioral health care, noting that NPs and PAs play key roles in providing care in primary care settings in areas that have few behavioral health specialists, such as rural communities. SMEs also called our attention to the in-depth behavioral health training PMHNPs receive and their value to the field. Experts and the literature noted that a major barrier to fully utilizing PMHNPs (and NPs

and PAs more broadly) to their fullest capacity is state-by-state variation in scope of practice laws, including prescribing privileges.

D. Prioritization of Models for Further Investigation Through a Workforce Lens

Based on the literature and SMEs' recommendations, we prioritized three promising models for further study through a workforce lens: (1) PMHNPs; (2) behavioral health mobile apps; and (3) crisis services. As noted, experts and the literature suggest that a major barrier to fully utilizing PMHNPs to their fullest capacity is state-by-state variation in scope of practice laws, including prescribing privileges, which we explore in greater detail in Chapter II.A. We selected behavioral health mobile apps because the model represents an emerging field with increasing relevance. Further, although SMEs found the model intriguing, it is also less well understood, signaling that further research would be helpful for the field, especially in relation to workforce implications (see Chapter II.B for additional detail). Finally, we selected crisis services for further study given the potential workforce implications of the model suggested by the literature, and SMEs' strong recommendation (see Chapter II.C for findings).

Although each of the nine models we reviewed showed some evidence for workforce efficiencies, we elected not to investigate the six remaining models given an abundance of ongoing research regarding some of the models. We also took into account the strength of SMEs' recommendations regarding the value of exploring the workforce implications of PMHNPs, mobile apps, and crisis services. For example, although SMEs considered integrated models promising from a workforce perspective, we did not pursue them further given the robust body of evidence that already exists. Similarly, due to a considerable body of ongoing research on peer support models, and evaluation efforts and other research underway regarding the CCBHC model, we decided not to prioritize them to avoid duplicating work. While SMEs agree that the hub-and-spoke model is growing in use and clearly increases the capacity of the existing workforce and expands the delivery of services accordingly, it is well-studied, so we chose not to investigate it further. SMEs did not focus on same-day access as much as others in conversations; one SME viewed the model more as a service modification to increase access, rather than a workforce reorganization per se. Finally, telebehavioral health clearly is an essential and increasingly relevant model; however, some SMEs viewed it as overlapping with mobile apps, and the literature regarding telebehavioral health is growing rapidly. We therefore prioritized mobile apps for further investigation instead. We discuss the potential workforce implications of the three prioritized models in next chapter.

II. FINDINGS ON PRIORITIZED MODELS

In this chapter, we synthesize findings from the environmental scan and SME interviews for the three prioritized models: (1) PMHNPs; (2) behavioral health mobile apps; and (3) crisis services. For crisis services, we also incorporate findings from the virtual case studies.

A. Psychiatric Mental Health Nurse Practitioners

PMHNPs receive in-depth training in behavioral health, and in states where the scope of practice includes prescribing privileges, this capability can help address the undersupply of prescribers in behavioral health care. Both NPs and PAs, with and without behavioral health specialization, have the potential to increase access to behavioral health care and pharmacotherapy, to the extent that their scope of practice within a state allows.[44]

1. Overview of Psychiatric Mental Health Nurse Practitioners

PMHNPs, master's-level or doctoral-level practitioners, are trained to provide many of the same services as psychiatrists, such as screening, assessment, diagnosis and treatment of behavioral health conditions (including psychotherapy), and prescribing medications, and are less costly to employ.[4] NPs may help extend behavioral health care access to underserved populations; one study found that NPs are more likely to practice in rural areas and treat patients with Medicaid than physicians.[45] PMHNPs also provide services in a variety of settings. According to a recent survey, psychiatric mental health advanced practice registered nurses (including PMHNPs) serve in diverse settings, such as hospitals, community clinics, schools, criminal justice facilities, and U.S. Department of Veterans Affairs facilities.[46,47] As noted in Chapter II.C, Arizona and Georgia also include PMHNPs in their crisis center staffing models. As of December 2019, there were approximately 18,000 PMHNPs in the United States.[48] For context, there were around 38,000 psychiatrists in 2017; however, the profession is aging. Over 60 percent of active psychiatrists were age 55 or older in 2017.[48] This reinforces the need for multiple strategies to offset the growing psychiatrist shortage, including using PMHNPs to their fullest extent.[49]

2. Scope of Practice Restrictions Present a Key Barrier to Fully Utilizing Psychiatric Mental Health Nurse Practitioners

Scope of practice laws, which vary state-by-state, present a barrier to fully utilizing PMHNPs (and NPs and PAs more broadly) given restrictions in some states that prevent them from practicing to the fullest extent their training otherwise would allow.[5] These laws may, in part, have been developed in response to concerns raised by various trade groups and associations. For example, physician groups such as the American Medical Association, in collaboration with state medical societies, oppose

expansion of practice, citing patient safety concerns and stating that while "nurses are critical to the health care team, …there is no substitute for [the greater] education and training [of physicians]."[50,51] However, some evidence suggests that NPs provide care of similar quality to other advanced professionals, such as medical doctors (MDs). For example, one systematic review examining health care quality and safety found that "outcomes for NPs compared to MDs (or teams without NPs) [were] comparable or better for all 11 outcomes reviewed".[52]

Currently, 22 states plus the District of Columbia grant NPs full-practice authority, which permits NPs to diagnose, order tests, treat individuals, and prescribe without physician oversight.[53] Sixteen states have laws that limit at least one element of NP practice or require regulated collaborative agreements.[54] The rest of the states require NPs to have "career-long" supervision by physicians.

One study found that mandated physician oversight was associated with increased costs and "administrative burden."[55] Another potential barrier with mandated oversight is that behavioral health care for consumers can be disrupted when the MD-PMHNP collaborative agreement is broken for a variety of reasons, including a psychiatrist's retirement--an event that will become increasingly common due to the aging workforce.[55,56] Further, practice limitations set by health care facilities can often be stricter than state regulations.[56] For example, one study found that facilities may require psychiatrists to review all PMH-nurse notes, which reduces psychiatrists' time to see clients.[56] Thus, intensive oversight practices may reduce the capacity of existing providers. Similarly, an article that presents strategies for optimal collaboration between psychiatrists and PMHNPs concludes with a reflection that an autonomous PMHNP can increase efficiency in behavioral health care settings, whereas lack of PMHNP autonomy can disrupt workflows in outpatient settings and lead to longer lengths of stay in inpatient settings.[57] Finally, oversight requirements may not be clear to providers. For example, a study of one state that restricts NP scope of practice, California, found that clinical staff and leaders often were confused about scope of practice and supervision requirements.[58]

**Closer Look at New Hampshire's Efforts
to Increase PMHNPs' Scope of Practice**

The State of New Hampshire made a series of incremental changes to statute and rules over 15 years to expand PMHNPs' scope of practice. PMHNPs now:
- Can treat consumers in outpatient settings without supervision and are serving in more leadership roles at the state psychiatric hospital.
- Have the authority to make decisions related to admission, discharge, and involuntary treatment processes. Previously, only physicians or psychiatrists could make these authorizations.

New Hampshire's legislative changes have helped to expand the number of prescribers who can treat people with behavioral health conditions in their state.*

* See "Expanding the Role of Psychiatric Mental Health Nurse Practitioners in a State Psychiatric System: The New Hampshire Experience" for more information. doi:10.1176/appi.ps.201500486.

Full scope of practice may increase mental health care access and improve population mental health. One study examining independent prescriptive authority of NPs found that increased scope of practice was associated with increased self-reported mental health and reduced mental health-related mortality.[59] The effects were largest in areas underserved by physicians, which suggests, according to the authors, that NPs can help to address workforce shortages and increase access to care. Another study found that compared to physicians, NPs in full-practice states (that is, states that allow NPs to treat independently) provide proportionally more mental health-related visits in community health centers than in states with more restrictive requirements.[60]

Full scope of practice may also increase access to MAT and help address the opioid epidemic. The SUPPORT Act allows NPs and PAs to obtain a Drug Addiction Treatment Act of 2000 (DATA 2000) waiver to prescribe buprenorphine (an FDA-approved partial opioid agonist medication to treat opioid use disorder) in an office-based setting.[61,62] Clinical nurse specialists, along with other provider types, also can prescribe if they obtain a waiver.[61] Scope of practice laws, however, hold, so that only providers in states that have unrestricted scope of practice laws can independently prescribe and manage MAT with buprenorphine.[63] In the 28 states where scope of practice is more restricted, NPs must be supervised by a physician who has a DATA 2000 waiver.[63] This poses a barrier to access, as the number of waivered physicians is limited, especially in rural regions.[64]

B. Behavioral Health Mobile Applications

1. *Overview of Model*

Behavioral health apps on smartphones offer a variety of features and functions to support behavioral health, including consumer self-management tools (such as medication reminders), skills training, interactions with peer specialists and health care providers, symptom tracking, and passive data collection.[7] Clinicians can integrate mobile apps into clinical practice in a variety of ways, including:

- Assigning tools as "homework" to practice new skills and maintain engagement.[65]

- Using tools to address co-occurring conditions, such as insomnia for a client with depression.[66]

- Tracking mood and symptoms. Such tracking often has two purposes: (1) promote improvements in client functioning through increased self-awareness of symptoms; and (2) allow providers to monitor progress, either between or during sessions with clients, depending on the app. Some apps create visuals such as graphs that help providers and clients assess whether interventions are working or should be modified. These data may also be aggregated clinic-wide for population health management.[65,66]

The number of behavioral health apps is constantly changing, but estimates are quite high. One article published in 2017, for example, noted that over 10,000 mental health-related apps were available at that time.[8] SMEs, clinicians, and consumers generally agree that behavioral health mobile apps hold promise as a behavioral health treatment tool given their convenience, accessibility, immediacy, low (or no) cost, and sense of anonymity.[7,10] Additionally, apps are broadly applicable, targeting a variety of diagnoses (such as depression, anxiety, bipolar disorder, obsessive compulsive disorder, schizophrenia, post-traumatic stress disorder, SUDs, eating disorders) and populations (such as youth, adolescents, adults, military personnel, and LGBTQ).[67,68,69]

2. *Extent of Model Adoption*

Despite consumer and clinician interest in mental health mobile apps,[91,92] adoption remains relatively low. There are two common pathways to using mental health mobile apps: (1) people with behavioral health treatment needs seek out apps on their own; or (2) clinicians integrate mobile apps into ongoing behavioral health treatment. The first pathway is associated with more risks for consumers given the varying quality of mental health apps on the market.[8] Further, although the number of mental health mobile app downloads is high, individuals' sustained engagement is low without clinical oversight. For example, a recent study found that approximately 96 percent of individuals who downloaded mental health mobile apps stopped using them after two weeks.[70] In their own clinical practice, a SME recounted how individuals did not appreciate the clinic's digital application tool on their own at first, but after the tool was paired with clinician follow-up, all individuals remained highly engaged a month later. This early finding aligns with general sentiments from clinicians and other stakeholders that although app use may offer some value for individuals who might not otherwise connect to treatment due to stigma or cost, apps are more effectively and safely used in conjunction with clinical treatment by the behavioral health workforce.[71]

Clinicians' adoption of mobile apps is low, as well, likely due to wariness of the evidence base, lack of regulatory oversight, and a need for more guidance. SMEs explained that the decision to integrate apps usually rests solely on individual clinicians (and their clients), as entities such as health care systems often avoid issuing recommendations or guidance on app use, due, in part, to liability issues and the dynamic nature of the app marketplace. SMEs noted observing a slight uptick in clinician adoption of mobile apps as a result of the COVID-19 public health emergency, but not to the same extent as the adoption of telehealth. SMEs perceived that clinicians are understandably confused by the nascent evidence base for mental health apps, which has heavy industry involvement and various limitations, such as strong biases. Further, there is little federal regulatory oversight of mental health mobile apps. Accordingly, SMEs believe that one reason for clinicians' hesitation to adopt apps stems from a desire for more guidance on their use.

Anecdotal evidence and research are beginning to shed light on characteristics of app users, but it is inconclusive to date. SMEs noted that in their clinical practice,

younger clinicians seem to be more interested in integrating mobile apps into treatment, perhaps because they have grown up with and are more comfortable using technology. However, as end-users, a national study found that older generations have higher app engagement,[72] a finding that has also held true in SMEs' clinical practice. They suspect this may be because younger people make greater use of and are inundated with notifications from their smartphones and are less engaged with their mental health mobile apps as a result. According to SMEs, it is too early to determine whether mobile apps are more effective or appealing to certain clinical populations, but early findings suggest promise even in populations that one might not expect. For example, they noted that some may assume that people with psychotic disorders would be unlikely to use mobile apps due to symptoms of paranoia, when in fact evidence suggests that individuals with psychotic disorders are as interested and engaged with mental health apps as those with mood and anxiety disorders.[73]

One SME shared the following example to illustrate integration of mobile app functionalities:

Mobile app data may indicate that a client's anxiety peaks in the evening. Through discussions with the client, a clinician could learn that the individual is alone in the evenings with her children because her partner is at work. During the clinical session, they could discuss coping strategies that might help manage anxiety and set up reminders in the app to reinforce these strategies in the evening.

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3. Using Apps in Clinical Practice and Associated Workforce Implications

SMEs noted that apps ideally have both "input" and "output" functions that can be used in an integrated way to inform clinical practice. In terms of "inputs," clinicians and clients can learn new information about an individual's mental state and how it changes across environments and time by monitoring various items such as sleep and step count using smartphone sensors, and mood and anxiety through client questionnaires; this comprehensive picture can inform treatment plans. Further, the real-time assessment may help to reduce issues related to client recall.[74] In terms of "outputs," ideally, apps have aspects that help to directly improve mental health symptoms, such as reinforcing therapy skills and offering medication reminders. SMEs noted that input and output functions often are not used in an integrated fashion, but they have found the greatest clinical benefit when they are combined.

Integrating apps into clinical practice may have the potential to translate to more efficient care, which may enable clinicians to see more people over time if treatment durations are shorter as a result. For example, guidance on mobile apps established by the American Psychological Association (APA) recommends assigning clients to use app tools between appointments to allow more time for active treatment when clients and clinicians are together.[65] One SME agreed, explaining that prior to using mobile apps in her practice, she would use the first 15-20 minutes of clinical sessions to hear clients' description of their symptoms, experiences, and successes and challenges between appointments to determine how best to structure the rest of the session. Now, she can reference data she receives on clients from apps to focus the discussion and reduce the first part of the session to only a few minutes. She might

mention that it looks like her client's depressive or anxious symptoms are improving, and her client might volunteer in response that they got a new job. Or, the reverse--she might get to the root of a client's recent decline in symptoms faster by using the data to prompt discussion. Reflecting on their own clinical practice, SMEs feel that their clients are getting better faster as a result of using mobile apps, because clinicians are spending less time upfront figuring out the most appropriate treatment course, and are making more informed decisions and earlier course-corrections based on the data. Although they are not aware of any evidence yet documenting gains in workforce efficiency (that is, saved time), they posit that using apps in this way may translate to shorter treatment durations. Presumably, this would enable them to see a greater number of individuals over time. It is possible that other functions noted earlier in this section--for example, clients practicing skills through apps and increased self-awareness through monitoring of their own symptoms--likely also translate to shortened treatment durations, but research is needed to verify this as well.

Opportunities may exist to leverage less expensive staff who are in greater supply in the behavioral health workforce, such as peers and bachelor's-level staff, to support app use in clinical practice and save clinicians' time for direct care. Instead of having busy licensed clinicians take on additional responsibilities associated with app use, staff who are less expensive and in greater supply, such as peers and unlicensed staff, can be trained to support clinicians' uptake and integration of apps into practice by helping to evaluate and select appropriate apps, troubleshoot technical issues with clients, and review and quality-check digital data.[75] For example, the Division of Digital Psychiatry at Beth Israel Deaconess Medical Center has developed a training to prepare staff to perform these support functions and serve as "digital navigators" (their name for these support staff).[75] Clinicians interested in technology are also welcome to take the training and become "super users." The SMEs view this technology support role as a good way to expand and sustain the behavioral health workforce, as it may help people early in their careers decide whether they would like to join the mental health field and pursue higher education by exposing them to "pseudo clinical and direct care work."

4. *Increased Access to Behavioral Health Treatment*

Mobile apps may also increase access to behavioral health care in a number of ways:

- **Addressing barriers to care for existing clients who may have difficulty attending weekly sessions due to cost, distance, lack of childcare, or work schedules**. Mobile apps can supplement in-person therapy by reinforcing skills and sustaining engagement between appointments.[11]

- **Extending clinicians' geographic reach**. One university has developed a digital behavioral health care model that will eventually add a cognitive behavioral therapy virtual reality mobile app, which is under development, to

complement existing telepsychiatry and telementoring.[76] Its vision is to use the integrated digital model to provide needed coverage to large, rural areas.

- **Helping those who are not ready to seek professional help or are on a waitlist to receive behavioral health care**. One SME shared that they researched and recommended a few apps to a family friend as a stopgap measure while their adolescent was waiting for behavioral health treatment. In contrast, other SMEs did not have firsthand knowledge of others recommending mobile apps as waitlist tools. One SME reflected that he does not personally recommend apps for those on waitlists because he assumes individuals have probably already tried self-help approaches before seeking professional care, so the apps are unlikely to be much help on their own. SMEs also noted that the clinical impact of using apps independently is likely close to zero without clinical support and guidance, although it may help a few people.[77] Further, as mentioned earlier, few individual users demonstrate sustained engagement with apps without clinical support.[70] Based on our targeted review of the literature and conversations with SMEs, it seems that most researchers and clinicians agree that mobile apps may be best used under the direction of a provider and in conjunction with clinical care.[71]

5. *Barriers and Limitations to Widespread Adoption*

Although research is growing on the effectiveness of behavioral health apps, it is still a nascent field that is often plagued by various limitations, including inappropriate or no comparison samples, heavy industry involvement in app research leading to "allegiance bias," small sample sizes, short study durations, and high attrition rates.[78,79,80] One SME explained that developers are often involved in the research, making bold claims, even though their research is often very biased. Further, reproducibility is the "cornerstone" of quality research and it is difficult to replicate or validate studies when the apps are developers' proprietary technology. The SME found in their own research and the research of others that as the rigor of the study increases, the effect sizes usually decrease and the findings are not as strong.[78,81] Reflecting on the state of the research, SMEs do not believe there is any one app that has the best evidence or works well for everyone. Instead, they recommend that clinicians consider taking a toolkit approach to using apps, assigning exercises and modules from different apps depending on which skills would be helpful for a client to practice. Similarly, literature suggests that clients' unique needs should be considered and which app to use should ultimately be a shared decision-making process with the client.[82]

Data security also is problematic for many behavioral health mobile apps. The majority of mobile health apps fall outside the scope of the Health Insurance Portability and Accountability Act, the federal law governing the protection and privacy of health information, so mobile app developers are not obligated to protect consumer data.[83] One article notes that the "price of a free application…[equates to]…the right to market and sell your data" and that this disclosure is buried within a dense privacy policy.[8]

Further, not all apps have privacy policies, and if they do, they may not disclose all details. For example, a recent study found that less than half of depression and smoking cessation apps disclosed that they were sharing data specifically with Google and Facebook.[84] One SME summed up the current data security challenges by saying that mental health mobile apps will never reach their full potential until there is a foundation of transparency and trust; apps need to be transparent about how consumer data are being used and shared. One innovative strategy in the field may offer a solution to this issue. A team developed an open source mental health app that offers core features that can be customized to meet the unique clinical and data needs for each clinician-client duo.[85] The app was designed, in part, in recognition of the "extreme duplication" of mental health apps in the marketplace. One advantage of using a single flexible and customizable app, the authors argue, is that it is much easier to keep track of privacy concerns and other risks when there is only one app involved, rather than thousands.

Lack of regulatory oversight is another barrier to widespread adoption as it decreases provider confidence in the apps. Researchers have described the FDA's approach towards mental health apps as mostly "hands off."[8] Most mental health apps are exempt from regulatory review.[79] The FDA only regulates apps "that are medical devices and whose functionality could pose a risk to a patient's safety if the device were to not function as intended."[86] The FDA's recent guidance includes a comprehensive list of software functions (including apps) that may meet the definition of a medical device, but are not subject to regulation due to their lower perceived risk.[86] It lists examples such as apps that help consumers with diagnosed psychiatric conditions maintain coping skills; apps that provide education, motivation, and reminders for consumers recovering from addiction; and apps that promote medication adherence, among others. One SME reflected that although they recognize that the FDA is not equipped to assess every app and acknowledge it is not appropriate for the agency to do so, there is a void that needs to be addressed.

Given gaps in regulatory oversight and data privacy concerns, a number of entities have developed tools and frameworks to help clinicians select mobile apps for their clients. We have highlighted a few of these interrelated strategies below:

- **APA Evaluation Model**. The APA developed an app evaluation framework to help clinicians select appropriate apps by considering key aspects such as safety, evidence, usability, and interoperability.[82] The APA developed this framework rather than rating individual apps as other websites do because apps are continuously changing, and what works for one client may not work for another.[87] The APA Evaluation Model is designed to be a flexible information-gathering tool that will allow clinicians and clients to identify mobile apps with the features most appropriate for their needs and priorities.

- **Database of mobile apps assessed using APA Evaluation Model**. One SME recommended Beth Israel Deaconess Medical Center's apps.digitalpsych.org. It offers a database of apps that have been assessed using the APA Evaluation

Model framework. The database allows clinicians and clients to search for and filter mobile apps that include specific features and meet certain criteria. The database therefore offers information clinicians need to make informed decisions in collaboration with their clients regarding which mobile app or apps to incorporate into their care.[69]

- **SME-proposed self-certification checklist**. The foregoing evaluation strategies require mobile app data to be accurate, accessible, and current; as noted, this is rarely the case which, in turn, makes efforts to identify and assess mobile apps burdensome for clinicians.[88] To address these challenges, mobile app SMEs propose developing a self-certification checklist that is based on the APA Evaluation Model framework and adapted according to stakeholder input.[88] Ideally, the self-certification would be a prerequisite for inclusion in smartphone application marketplaces such as Google Play or the Apple App Store. The checklist would require developers to supply information regarding topics such as privacy standards and level of evidence underlying the app. Consumers and providers could review and comment upon this information based on their own experience with the app. The SMEs envision that self-certification could require periodic renewal and would be reliant on developer buy-in. The SMEs view this self-certification process as a way to increase the transparency and currency of data, while also providing a range of options rather than identifying "best apps." The approach would be intended to complement rather than compete with existing FDA regulatory approaches noted above. However, more information and research are needed to understand the barriers to the development and effective use of such a checklist.

In sum, guidance on how to navigate this uncertain but promising field and more transparency from mobile app developers is critical for widespread adoption, according to SMEs.

Finally, reimbursement presents another challenge to widespread adoption of apps in clinical practice. The availability of reimbursement mechanisms for mobile apps generally depends on how mobile apps are incorporated into treatment. Currently, end-users typically pay out-of-pocket to purchase and use mobile apps used by consumers independently outside of a provider setting.[89] In addition, health plans typically do not include use of mobile apps in clinical practice as a covered benefit, although some reimbursement may be available for provider time if apps are used in conjunction with a covered service, such as an office visit.[89] Mobile apps also are occasionally reimbursed by payers in the same way as durable medical equipment and electronic medication compliance management devices. However, researchers generally acknowledge that current reimbursement mechanisms do not naturally lend themselves to routine incorporation of mobile app use in clinical practice, and that app-specific reimbursement pathways are needed. For example, one article discusses how the Current Procedural Terminology codes and Healthcare Common Procedure Coding System (HCPCS) codes do not currently include codes that easily align with mobile app integration.[89] The authors conclude that a standardized set of HCPCS codes,

analogous to those used for devices, drugs, and laboratory tests, could be used to reimburse app developers and clinicians for app-related procedures. In addition, one SME noted that their mobile app use in practice and research is primarily grant-funded, and suggested that payers could instead link payment to quality, as evidenced by data collected via apps. For example, the SME explained they know that their clients are doing very well based on the data they collect; payment could be tied to whether clients are improving based on these metrics. Another SME acknowledged that pay-for-quality approaches would need to be carefully planned to preclude fraud. Finally, ongoing funding mechanisms to support the digital navigator role described earlier also need to be established for support roles to be tenable.

C. Crisis Services

Crisis service systems enable individuals with behavioral health crises to be treated in less intensive, lower-cost community settings. They aim to divert people from less appropriate settings such as emergency departments, hospitals, and the criminal justice system whenever possible. Each part of the crisis system focuses on providing a timely response to a person in crisis and helps to de-escalate crises and promote recovery. Most states offer some basic crisis services, although states' systems vary in how services are delivered, who can receive which services, how model components are staffed, and how the services are funded.[90]

SAMHSA published a toolkit in 2020 to consolidate research and best practices to guide crisis system improvements, with the goal of ensuring a high standard of care for all communities.[12] The toolkit emphasizes that crisis services are for "anyone, anywhere, anytime." It recommends that crisis systems include the following components:

- **24/7 regional or statewide crisis lines** for risk assessment, engagement, and real-time coordination of care that mirror air traffic control systems. This is comparable to 911 in the medical emergency system.

- **Centrally dispatched 24/7 mobile crisis teams** to address crises in community settings. This is comparable to the first responder role (for example, fire/ambulance).

- **24/7 crisis receiving and stabilization facilities** that allow for short-term observation and stabilization (<24-hour stay) in a "home-like, nonhospital environment." This component is comparable to the emergency department for medical emergencies. The toolkit recommends using chairs, rather than beds, for greatest capacity and flexibility in a space. It also advises striving for a "no rejection" policy regarding referrals, so that the system truly diverts individual from emergency departments and the criminal justice system. The toolkit suggests that ideally the agency would also either have beds within its program

or partner with another provider with beds for individuals needing a higher level of care.

The toolkit also emphasizes that crisis systems should adhere to the following principles: be recovery-focused, use peers with lived experience (best practice guidelines suggest one-third of positions should be filled by peers), provide "trauma-informed care" and "suicide safer" care (that is, have a strong focus on suicide prevention and reduction), ensure safety of staff and individuals in crisis, and collaborate with law enforcement and emergency medical services. These components and principles align with other crisis service literature.[13,90,91,92] When executed successfully, they have the potential to translate to lower-cost, higher quality, more efficient, and more appropriate care.

In the following sections, we describe our findings on crisis services from a targeted review of the literature, SME interviews, and case studies of four states: Arizona, Colorado, Georgia, and Wisconsin.

Each of the states' crisis systems that we selected for case studies incorporates some of the components and principles described above, and they all reported continuously striving to improve their systems. Arizona's work largely informed the SAMHSA toolkit. The Georgia Crisis and Action Line (GCAL) is commonly featured as an exemplary air traffic control-like model with its live referral board and bed-tracking system. Wisconsin serves as another example of a longstanding crisis service model. Of the four states, Colorado is newest to the scene, having established an expanded crisis service system in 2014 in response to the Aurora tragedy (a mass shooting in a movie theater); it continues to tweak its program structure based on early lessons learned. See call-out boxes throughout this section for more information on these states' crisis service systems. We have highlighted key information shared during qualitative interviews regarding these states; however, there may be additional services, funding sources, and other nuances not captured.

1. *Crisis Services May Help Ensure People Receive the Most Appropriate Level of Care*

Case study respondents agreed that crisis service systems help to ensure the most appropriate level of care, often mentioning diverting individuals from emergency departments, unnecessary hospitalizations, and the criminal justice system as a common goal. Using estimates from the literature on alternative settings as reference points, researchers estimated that compared to a community without crisis services, Arizona's central region's crisis services[93] did the following:

- Better matched people's crises and service needs with the appropriate level of care.

- Reduced spending on unnecessary hospitalizations and emergency department visits.

- Reduced psychiatric boarding in emergency departments (that is, people waiting in emergency department to receive appropriate behavioral health care).

- Saved law enforcement time.

State Spotlight: Arizona

Background: The state consolidated and formalized expectations for its crisis service system in 2013/2014 but has had crisis services for at least 10 years. Three RBHAs (behavioral health carve-out plans) are responsible for crisis systems in their GSAs.

Population served: All ages regardless of insurance status or geography. Should be no barrier to receiving services. System serves people with mental health and substance use crises.

Services:
- 24/7 crisis hotlines.
- 24/7 peer-staffed warmline (available for people who may just need to talk; people with serious mental illnesses primarily use warmline, but it is open to everyone).
- Mobile teams.
- Crisis receiving and stabilization centers; they do not refuse any referrals and offer 24/7 care statewide. Emphasis on peer and family supports.

Funding: Medicaid (largest funder), state, county funds, and block grants. The state leverages Medicaid whenever possible. Arizona is a Medicaid expansion state. RBHAs use braided funds to pay providers.

A state respondent in Arizona shared that other regions of the state have similar data and noted that one of the state's overall goals is for crisis lines and mobile teams to stabilize at least 70 percent of individuals in the community so they do not need a higher level of care. A respondent from a crisis services organization in Arizona said that law enforcement readily brings individuals to their crisis facility because they know the handoff will be quick (~2 minutes on average). In fact, law enforcement is the top referral source for their facility; this is also partly due to it being located outside of a downtown area so there are fewer walk-ins.

One respondent in Georgia shared their crisis service organization's philosophy, which is illustrative of the broader principles underlying crisis service systems. Their approach is to take the least intensive and least intrusive path to ensure a person's crisis is safely managed. For example, if an individual requires only an outpatient level of care, they will connect him or her with an outpatient provider. They will aim to divert people from emergency departments and inpatient settings unless it would be negligent to do so. They reduce the likelihood of needing law enforcement by focusing on de-escalation and stabilization.

Partners also agree that the crisis systems provide timely and more appropriate levels of care. For example, an Arizona law enforcement partner shared the impression that individuals in crisis were not as "familiar a face" to the police force as they would otherwise be, due to supportive crisis teams and wraparound services. The

respondent appreciated that mobile teams can work with individuals in their own environment for hours to stabilize them and help develop a plan to address future crises. The crisis team's follow-up and coordination with outpatient care may also help to keep individuals stable for longer, reducing the number of repeat calls to law enforcement. Similarly, an emergency department partner in Georgia shared perceptions of the benefits of a crisis system, recalling that individuals could wait for 2-3 days in the emergency department prior to implementation of the crisis system. They largely credited the shortened wait time to forging a strong relationship with the leader of a local behavioral health crisis center (BHCC). The respondent also viewed the local crisis center as offering a higher level of specialized care that was more appropriate for individuals showing up at the emergency departments "just wanting to talk" or experiencing nonmedical issues such as housing or food insecurity. The respondent felt that the crisis center better addresses these social needs, which they think likely reduces the number of people returning to the emergency department.

Care coordination is a critical piece of the crisis service system. Respondents reported that care coordination helps to keep individuals stable after engaging with the crisis system and reduces the number of people returning either to the crisis system or to higher-cost settings. For example, one respondent from an Arizona crisis organization referenced a statistic in which a high percentage of people who seek care in an inpatient setting "cycle back" within 90 days; the respondent feels that the crisis system's care coordination efforts help to "break the cycle of cycling through high-cost services." Similarly, a Wisconsin state respondent pointed to the rate of emergency detentions not increasing over time as a sign that the crisis system and broader behavioral health system are doing a good job of stabilizing individuals and providing supports.

Respondents described their various care coordination processes, which typically involve reconnecting individuals to existing care or creating new linkages for those without outpatient providers. One Arizona respondent explained that their crisis line stabilizes 80-85 percent of callers so they do not require a higher level of care. If the caller in crisis has an existing behavioral health outpatient provider, they will either connect the individual directly with their provider while the individual is on the phone, or coordinate care with that provider. Although the crisis organization allows individuals to remain anonymous if they prefer, the organization obtains enough information to help coordinate care for 70 percent of cases. A respondent from another crisis organization in Arizona noted that peers at their crisis center help to coordinate care for individuals and are available to help with extended transitions when needed, particularly for those connecting to outpatient care for the first time. They see an average of 150 Medicaid enrollees a month who do not have an existing behavioral health provider. Similarly, a state respondent in Georgia explained that half of individuals engaging with the crisis system have an existing outpatient provider and just need to be stabilized and reconnected to their provider for additional support. Staff create "pathways to access" for the other half of individuals in crisis, working with them to co-create a treatment plan. Peers speak with individuals about the benefits of services from their own experience

and seek to understand individuals' preferences and needs to ensure services are a good fit.

Respondents hypothesized they would see a variety of negative outcomes if crisis services did not exist, including an increase in issues related to untreated mental illness and substance use, homelessness, involuntary commitments, incarceration, care provided in institutional settings, and psychiatric boarding in emergency departments. Of course, alternative scenarios and perceived outcomes vary somewhat based on local community resources and policies. One emergency department partner in Georgia explained that in the absence of crisis services, individuals would go to a state psychiatric hospital or jail because the respondent's hospital does not have a psychiatric unit. A respondent from a Georgia crisis organization reinforced this, explaining that prior to a Department of Justice settlement agreement requiring deinstitutionalization, the uninsured would be sent to a state hospital often outside of their community for a couple hours to a day and would often be released without connection to outpatient services, so recidivism was high (that is, individuals would frequently return with new crises). A respondent from a crisis organization in Arizona similarly noted that few Arizona hospitals have any behavioral health staff. If they did not have the crisis system, they would need to work with the limited supply of institutions for mental diseases, which would result in a backlog and psychiatric boarding in emergency departments.

State Spotlight: Colorado

Background: Aurora tragedy prompted creation of crisis services in 2014. The state contracts with administrative service organizations (ASOs) to oversee crisis services.

Population served: All ages regardless of insurance status or geography (although variation in service availability in some communities). System serves people with mental health and substance use crises.

Services:
- Statewide crisis line.
- Warmline.
- Text and chat option.
- Mobile teams with geographic variation in approach. Child-focused program available.
- Crisis stabilization units (CSUs) in some communities. State determined not efficient to have in every community; has prioritized mobile response instead.

Funding: $21 million of state funding annually after Aurora tragedy + additional resources from the state's Senate Bill 207 focused on diverting people with emergency mental health holds from the criminal justice system if they had not also been charged with a crime = $35 million in state funding annually. The state's funding role is to build capacity. ASOs leverage Medicaid and commercial insurance when possible to pay for services. Colorado is a Medicaid expansion state.

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2. Behavioral Health Workforce Implications of Crisis Services

Case study respondents described relying on a mix of behavioral health professionals and staff with lower levels of training to provide each of their crisis service components. They commonly found ways to use staff to perform the full range of functions permitted within their scope of practice in order to most efficiently use the workforce, freeing up staff with additional credentials to perform up to their full scope of practice in turn. For example, peers and unlicensed clinicians often serve on the frontline, taking the lead on engaging people in crisis and coordinating care, with more highly-trained behavioral health professionals conducting assessments, providing direct care, and serving in supervisory capacities.[12] Although in ready supply, peers and unlicensed staff are not a substitute for trained clinical providers, but rather serve in support roles.[12]

Training and supervision are essential for ensuring that team members deliver safe, high quality client care. In order to receive Medicaid reimbursement for peer support services, for example, peers must be supervised by a competent mental health professional; the state determines the scope of supervision, which may vary by the experience level of the peer specialist and services provided.[94] Peers also must undergo training, certification, and continuing education as defined by the state; the training must cover basic competencies for the peer support role and peers must demonstrate they are able to support people's recovery from behavioral health disorders.[94] The SAMHSA toolkit emphasizes that using a mix of staff, including unlicensed staff, comes with the responsibility of ensuring that unlicensed staff work within the scope of their practice and receive adequate training and supervision to ensure they are implementing best care practices.[12] Further, it suggests that staff of all levels should be trained in crisis service principles and competencies; for example, new employee trainings and ongoing refreshers should cover trauma-informed care; suicide risk screening, assessment, and planning; and other evidence-based and role-specific staff trainings.

Below, we describe staffing models of case study states for different components of the crisis service system along with respondents' reflections on workforce efficiencies gained.

***Crisis call line staffing models*. Three case study states primarily use staff with less training and credentials than licensed professionals to operate their crisis lines, reducing the demand for more costly professionals, who are in shorter supply due to behavioral health workforce shortages**. In Colorado, peers and bachelor's-level crisis counselors staff warmlines to address situations that may lead to acute crises, while crisis counselors and licensed clinicians staff hotlines to address acute crises that require more intensive or specialized intervention. Similarly, in Georgia, unlicensed bachelor's-level and master's-level clinicians, known as care consultants, handle most of the duties for the GCAL, including dispatching mobile teams, filling out forms for the referral board, and coordinating care; they conduct warm introductions to licensed clinicians when there are acute crises. GCAL is also staffed

24/7 with peer specialists who help to de-escalate crises. Peers also reach out to "familiar callers" to check in and encourage them to access resources in their community; a respondent from the organization noted that the peers' proactive check-in calls help to reduce the number of calls directed to clinicians, allowing clinicians to serve more people.

One organization in Arizona has tried various staffing models for their crisis line and has found their current model to be the most successful. They began by hiring only licensed master's-level clinicians but found that these clinicians wanted to provide extended therapy rather than the quick assessments and coordination expected from a crisis line. The organization's leadership noted a high burnout rate among master's-level licensed clinicians and challenges in hiring these staff; given that licensed clinicians are in high demand due to national behavioral health workforce shortages, it is difficult to recruit them to work less favorable overnight shifts required of the crisis line. The respondent also noted that staff fresh out of school do not have the experience necessary to address the nuances of assisting with the diversity of circumstances individuals in crisis experience. They have found that staffing the crisis line with bachelor's-level and master's-level staff (unlicensed) with 3-4 years of experience, usually with some case management perspective or community knowledge/"street smarts," works best. The respondent also noted that some states (such as Georgia and Colorado) use paraprofessionals to conduct initial screenings and then transfer people in crisis to licensed professionals if needs are acute. The Arizona organization has not tried this approach, as leadership feels it may cause a disconnect in the therapeutic relationship to have callers tell their story twice. Instead, licensed professionals provide training and supervision through instant messaging and a "whisper" function on the phone in which the supervisor can listen in and provide live coaching that only the staff member can hear. In rare cases, the supervisor may take over a call. This model has allowed them to have a 1:12 staffing ratio of supervisors to staff.

***Mobile crisis team staffing models*. Case study states use a variety of staff for mobile crisis teams; licensed clinicians may not need to be on scene but can supervise in an on-call fashion**. For example, in Colorado, a peer and a bachelor's-level staff member might be onsite together, with a licensed professional accessible via telehealth. Likewise, Arizona allows a variety of permutations of behavioral health professionals, peers, behavioral health techs, and paraprofessionals; if a licensed clinician is not onsite, the clinician would be on-call. Urban teams generally have two staff members, whereas rural teams may have only one responder. Georgia's mobile crisis teams comprise a licensed clinician and a paraprofessional. Peers may occasionally be part of teams; they are more heavily utilized for follow-up calls to field satisfaction surveys and confirm individuals' needs are met and that individuals have been successfully linked to services that they will be able to use.

***Crisis center staffing models*. Crisis centers also often use a mix of staff, which may help them ensure a recovery-oriented focus, reduce length of stays, and decrease the demand for higher-cost behavioral health professionals**. For example, one Georgia crisis organization respondent noted that the same types of high-

level behavioral health professionals (psychiatrists and PMHNPs) are needed in their crisis center as in inpatient settings, but their crisis center has a more robust group of mid-level and lower-level staff, such as clinicians and peer specialists, who are better at getting people back to the community more quickly, due to the stabilization and recovery focus of their services. Multiple Georgia respondents made sure to emphasize the importance of utilizing high-level professionals when warranted, but acknowledged that staff with less training play key roles in augmenting the work of professional staff by stabilizing, engaging, and educating individuals in crisis and coordinating their care.

Closer Look at Workforce Efficiencies

An Arizona crisis organization representative shared statistics to illustrate potential workforce efficiencies:

- The average length of stay in their subacute unit is 2 days, so each bed serves 170-180 people a year; a typical inpatient bed serves 52 people per year with an average length of stay of 1 week.
- Their crisis center often stabilizes people in less than 24 hours, so they do not need to stay in the subacute unit, further reducing the need for bed use.
- Using the Crisis Resource Need Calculator* to estimate community resource needs, the respondent suggested that without crisis care the state would need 2,850 beds; with crisis care the state only needs 820 acute beds, 292 crisis beds, and 343 crisis chairs.
- With their crisis service model, the state needs about half of the bed resources to serve consumers in crisis, necessitating fewer professional-level staff to treat individuals in crisis.
- These efficiencies translate into expanding the reach of behavioral health professionals' limited time to address client needs and the ability to serve more people.

Peer specialists play a critical role in engaging and stabilizing individuals in crisis in this organization. The respondent speculated that licensed clinical social workers--a higher-level provider in greater demand given workforce shortages--would be performing this role in a hospital, whereas peers are in ready supply. Peers, in turn, can work and do "the things that matter to them and [use] their own unique gifts to help others."

* See https://crisisnow.com/.

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3. Barriers and Facilitators to Widespread Adoption of Crisis Services

Funding Structures, Strategies, and Challenges

Crisis service literature describes current state funding approaches as often "cobbled together," with inconsistent funding streams, and highlights the need to reform funding structures to ensure that crisis service systems can continue to provide comprehensive, robust services and remain financially sustainable.[12,13] In a survey of states, the National Association of State Mental Health Program Directors found a variety of funding approaches for crisis service systems. Most states reported relying heavily on state funding for their crisis system and using Medicaid to a lesser extent. Medicaid was usually the only health insurance program contributing to the crisis system. Additional funding sources for some states included block grants and local/county funds.[13] For

example, Wisconsin state law requires that counties provide crisis services (or contract with providers to provide these services); counties primarily fund these services. As the demand for crisis services grows, the state has increased funding in a few different ways by taking on more of the nonfederal Medicaid share for crisis services and channeling more funding from their state's mental health block grant into crisis services. In Arizona, regional behavioral health authorities (RBHAs) operate as single payers in the state; one respondent explained that this structure is very helpful as it prevents providers from having to negotiate with multiple managed care organizations.

State Spotlight: Georgia

Background: Hurricane Katrina prompted the development of the statewide GCAL. A 2010 Department of Justice Settlement Agreement shifted care away from institutional settings, leading to the closure of most state psychiatric hospitals and the launch of new crisis stabilization programs, statewide mobile crisis, and a variety of other crisis service system components, such as crisis apartments.

Population served: All ages and insurance statuses are served by the crisis hotline and mobile teams; BHCCs primarily serve the uninsured. System serves people with mental health and substance use crises.

Services:
- 24/7 crisis hotline (GCAL): Includes air-traffic control-like features, such as a live referral board and bed registry. EDs can make referrals via the board, for example, which CSUs can accept.
- Text and chat option (smartphone application): Targeted towards youth and adolescents.
- Mobile teams.
- BHCCs: State has built 1-2 new centers/year in hot spots and is trying to phase in new, more robust centers to replace standalone CSUs, which have more limited staffing and services. Phased approach has resulted in some geographic variability in service availability.

Funding: Primarily state-funded (Georgia is not a Medicaid expansion state); state bills Medicaid for GCAL and mobile services when it is able to retroactively match Medicaid enrollees.

Case study states often struggle to obtain reimbursement from commercial insurers. Respondents felt that it was only fair that commercial insurers be "at the table" rather than shifting the burden for crisis services to taxpayers, as insurers benefit from members being diverted from higher-cost settings. Respondents often described the difficulty of getting commercial payers to contribute and the consequences of not being able to rely on this funding source. For example, in Wisconsin, counties bill commercial insurers, but according to a state respondent, commercial insurers often deny crisis claims as not medically necessary and counties do not have the resources to challenge denials.

One SME noted national policy is needed to emphasize the importance of crisis services for state crisis systems to be sustainable. The SAMHSA crisis toolkit proposes some strategies to ensure standardized and equitable funding approaches when multiple payers are involved, including commercial payers. It recommends that states or

counties set the same rate for all payers, so that states/counties do not need to cover the shortfall when payers reimburse at lower and inadequate rates. It also proposes standardizing reimbursement mechanisms by using a common set of HCPCS codes appropriate for crisis services.[12]

Respondents noted the importance of leveraging Medicaid whenever possible. All case study states reported using Medicaid to reimburse crisis services to various degrees, as it helps to offset the funding needed from other sources. For example, Arizona draws on Medicaid funding for all three of its key crisis service components. One Arizona crisis organization respondent explained that the organization's crisis line is approximately 60 percent Medicaid-funded, which relieves the organization from relying on block grants or donations. Similarly, a Colorado state respondent reflected on Medicaid's place within the context of the state's recent investment to develop a crisis service system. The respondent viewed the recent infusion of state funding as helping to establish the crisis service system infrastructure and capacity, and viewed other funding sources, such as Medicaid, as important to allow state funds to be redirected elsewhere in the crisis service system.

It can be challenging for crisis providers to obtain information to verify Medicaid status, however, resulting in Medicaid not being optimally leveraged. The SAMHSA toolkit offers one strategy to overcome this challenge for crisis lines: crisis systems could consider using lists of Medicaid-enrolled or commercially insured individuals' phone numbers in combination with Caller ID technology to aid reimbursement efforts.[12] Desire to protect anonymity can also affect funding; one Arizona respondent from a crisis organization explained that they are able to obtain more Medicaid reimbursement for the crisis line than the warm line because callers to the latter more often choose to remain anonymous. A state respondent in Georgia noted that the crisis line team and mobile response teams do not ask for insurance information, but take enough information to identify Medicaid beneficiaries retroactively. In contrast, a Colorado state respondent notes that crisis providers are required to gather insurance information.

The amount of funding that Medicaid funding contributes to the state's total funding pool depends on the proportion of the population covered by Medicaid. A state respondent in Georgia, for example, explained that Medicaid funding is limited given that the state has not expanded Medicaid. More of the system's beneficiaries are uninsured as a result; thus, the state is the predominant payer of crisis services. This has translated to the state and its crisis organizations needing to operate in a more "frugal" way to best use their finite state funds; for example, a respondent noted that Georgia's staffing models for crisis services are less robust than in some other states, such as Arizona.

Although Arizona has been able to successfully bill Medicaid for most crisis services when applicable, a few respondents wished for a Medicaid billing code for a text and chat option, to better engage a younger population. Given the state's finite funding streams and priorities, Arizona's crisis system would be unable to offer this service without Medicaid reimbursement.

Other Considerations for Widespread Adoption

Strategies to provide equitable geographic coverage with limited resources are needed. For example, Wisconsin's smaller counties struggle with more limited resources to provide crisis services; however, flexibility in state requirements for crisis services and economies of scale help to facilitate counties' provision of crisis services. Stabilization services can occur in a variety of settings, rather than being restricted to a crisis center, relieving counties from needing to invest in building infrastructure for separate facilities. Smaller counties may pool their funding and jointly provide some services. For example, counties may use regional call centers and choose how much or little to use these centers; some may use their own staff during business hours, whereas others may use the regional call center 24/7. Although larger counties participate in the National Suicide Prevention Lifeline,[95] smaller counties do not have the resources to field these calls. The state has decided to invest block grant funding to find a vendor to provide this coverage for Wisconsin as a result of feedback from counties in the state's workgroup.

State Spotlight: Wisconsin

Background: Wisconsin's administrative rule requires counties to provide crisis services. State respondent thought this rule had been in place since 1970s/80s.

Population served: All ages. System serves people with mental health and substance use crises.

Services:
- 24/7 crisis hotlines in each county.
- Mobile teams: Most are 24/7; can vary depending on county's capacity. Some counties have co-responder teams with law enforcement.
- Stabilization: Setting can vary: homes, crisis centers, residential facilities, etc.

Funding: Counties (main source), Medicaid, state funding, block grants (Wisconsin is not a Medicaid expansion state.)

Providing crisis services to rural areas can be challenging due to low volume, according to SMEs, but there are numerous strategies to overcome this barrier. The literature suggests using telehealth, setting rural reimbursement rates, and establishing crisis service response times that recognize geography while ensuring access.[12] At least one case study state employed each of these strategies. Telehealth enables workforce efficiencies when used in rural and frontier settings and at times of day when there is lower volume; it saves travel time and allows more staff time to be dedicated to direct care and/or supervision.[12] Additionally, a well-functioning crisis system efficiently coordinates resources, such as mobile teams, allowing limited resources to be optimally used and reducing workforce demand.[12]

Partnerships are critical for ensuring diversion from less appropriate settings, raising community awareness of crisis services, and operating as part of a continuum of services for people with behavioral health conditions. Most respondents emphasized the importance of strong partnerships between the crisis

system, law enforcement, and emergency departments to facilitate more widespread adoption; some also mentioned the value of strong relationships with first responders, jails, the broader behavioral health system, health plans, schools, and judges. When reflecting on partnerships, case study respondents suggested the following:

- **Speaking with partners about crisis system principles not only can help to gain buy-in and increase referrals and successful diversion from less appropriate settings, but also can lead to more recovery-focused interactions, even outside the direct crisis service system**. For example, state respondents in Arizona noted that RBHAs have worked with police departments in their geographic service areas (GSAs) to provide training, so that police respond to individuals in crisis in a clinically appropriate manner, sending a "recovery" rather than a "punitive" message.

- **One of the first steps in raising community awareness of crisis services is to raise awareness among partners to serve as referral sources and crisis service ambassadors**. For example, in Georgia, cards with GCAL's information are distributed to law enforcement, schools, and emergency departments. Mobile teams distribute cards at community agency meetings.

- **Successful partnerships are bidirectional**. For example, law enforcement can offer supports to crisis systems, such as serving as referral sources and helping to make sure mobile crisis teams are safe when a situation is especially dangerous. In return, crisis organizations can help ensure that law enforcement's interactions with the crisis system are easy and quick.

- **Partnerships enable crisis services to operate as part of an integrated continuum of behavioral health care**. Not only should crisis services liaise with hospitals and emergency departments, they also should be tightly connected with outpatient services to serve as part of an integrated continuum of care.[12] Through care coordination and follow-up calls, crisis services facilitate recovery, in part, by linking individuals in crisis with ongoing supports.

- **Laws in some states that require first responders such as emergency medical technicians and law enforcement to only bring individuals in crisis to hospitals should be changed, so that successful diversion from emergency departments and inpatient settings to crisis services can occur**.

- **It is important to align expectations between partners to facilitate efficient referral relationships and use of crisis services**. For example, state respondents in Colorado reflected on lessons learned regarding the need to more clearly communicate expectations to community mental health centers and emergency departments due to a perceived misunderstanding of the mobile team concept. Since then, the state has worked to educate mobile teams and their referral partners regarding mobile teams' purpose and place within the emergency service continuum.

- **Workgroups, collaboratives, and "listening tours" can be helpful for strengthening partnerships, seeking community input, and/or improving the crisis system**. For example, Arizona has a collaborative with state providers and plans to talk about how to work smarter within their budget. The state also consults with plans, providers, consumers, and other stakeholders to assess community needs for crisis services before contracting with managed care plans. Similarly, Georgia seeks community input before it launches new services. The state encourages providers to talk with prospective partners including sheriffs, law enforcement, emergency departments, and nonprofits to gain buy-in and address community needs. They also make sure a peer reviews the plans to ensure they make sense from a lived experience perspective.

Bidirectional Partnerships in Action

- A law enforcement partner in Arizona appreciated that their county crisis system prioritizes law enforcement calls and sends the next available mobile team when calls come in. They also recounted how a local crisis facility added a staff member to field police calls when law enforcement relayed that they were having difficulty reaching center staff to ask quick questions about individuals with behavioral health conditions.
- An ED partner in Georgia noted that they now send the referral information directly to the local crisis center in addition to supplying GCAL with this information. This facilitates a swift and successful referral. They have collaborated with the crisis center to refine referral processes and transfers when an individual requires medical care.

III. SUMMARY, LIMITATIONS, AND OPPORTUNITIES FOR FUTURE RESEARCH

This report examined the workforce implications and barriers and facilitators to more widespread adoption of several behavioral health care models with the potential to help address behavioral health workforce shortages and increase access to behavioral health care by, in part, transforming or reorganizing the workforce. This project focused on one of many strategies to address the workforce shortage: models that reorganize the workforce to extend the reach of existing providers and better meet behavioral health service needs. Based on a targeted environmental scan, conversations with SMEs, and virtual case studies, we found the following:

Each promising model we examined offers some potential for increased workforce efficiencies. The majority of models leverage staff with lower levels of training and credentials to provide functions that do not require specialized training, which may, in turn, free up staff with higher levels of training to serve those who require more specialized care. For example, crisis services rely on a mix of behavioral health professionals and staff with lower levels of training to provide service components. Some may heavily utilize peers and unlicensed staff to provide a variety of frontline services, including engaging and helping to stabilize individuals in crisis and coordinating ongoing care and support, whereas professional staff, such as psychiatrists and other staff with higher levels of training, may serve in supervisory roles or handle more complex cases. The recovery-oriented and timely nature of crisis services, achieved by using a robust, mixed team of staff with strong engagement skills, may allow for faster stabilization, thereby reducing the number of higher-level behavioral health professionals that would otherwise be needed if an individual's symptoms were to escalate and thereby require more intensive services.[12] Similarly, less expensive staff who are in greater supply in the behavioral health workforce may be leveraged to support mobile app use, thus saving clinicians' time for direct care.

Crisis services, and other models, such as peer services, and PMHNPs, may also increase efficiency by permitting staff to engage in the full range of functions permitted by their scope of practice. PMHNPs, in particular, could increase the number of prescribers through scope of practice policy changes. This type of policy change would not only increase PMHNPs' capacity to serve clients, but also would reduce mandated supervisory responsibilities of psychiatrists and MDs, who are in short supply in the behavioral health workforce, thereby increasing their time for direct client care.

Promising models may also direct consumers to the appropriate staff or level of care, thereby making more efficient use of behavioral health resources. For example, crisis services often aim to divert consumers from higher-cost, more resource-intensive, and less appropriate settings such as emergency departments, inpatient hospitals, and the criminal justice system. Other models, such as hub-and-spoke and behavioral health integration models, help consumers who can be served appropriately in less intensive

settings, such as primary care offices, access care locally, and direct consumers who require a higher level of care to more specialized providers. Similarly, some promising models, such as behavioral health integration models, and hub-and-spoke models may increase capacity for nonspecialty mental health/SUD providers to treat people with mental health/SUD conditions. This may free up resources in the behavioral health system and increase access to behavioral health treatment in a variety of settings.

Finally, a number of models, such as telehealth, hub-and-spoke models, mobile apps, and CCBHCs use technology to address the maldistribution of providers, and extend provider reach. For example, mobile apps offer tools that allow providers to interact with clients from a distance and in new ways; providers may also use app data to inform treatment plans. Mobile apps may increase access to behavioral health care by: (1) addressing barriers to care for existing clients who may have difficulty attending weekly appointments due to cost, location, lack of childcare, or work schedules; (2) extending clinicians' geographic reach by allowing them to remain connected with clients from a distance; and (3) helping those who are not ready to seek professional help or are on a waitlist to receive behavioral health care.

Funding is a primary barrier and opportunity for more widespread adoption of promising models. Crisis service systems operate using a patchwork of funding, including, state, county, and federal block grant dollars and Medicaid funds; commercial investment in crisis services is limited. Similarly, few funding mechanisms currently exist for development and reimbursement of mobile apps beyond limited grant funding and industry investment. SMEs and case study respondents suggested development and standardized use of reimbursement codes could encourage reimbursement of models and, in turn, more widespread model adoption. For example, development and use of HCPCS codes for reimbursement could encourage broader uptake of mobile apps by clinicians and facilitate a crisis text and chat option. Although we identified a handful of such recommendations, additional work is needed to further disentangle federal, state, and local policy challenges and identify responsive solutions that would encourage adoption of promising models across a range of payers and communities.

This study begins to build a framework for understanding how behavioral health service models can extend the behavioral health workforce. Now, further information is needed to understand the scope of the models' impact on the workforce and access to care and the mechanisms that may lead to such impacts. For example, additional investigation is needed to answer questions such as "What is the impact of different staffing configurations on access, efficiency, and quality of care? What guidance is needed in order to best integrate different tools, such as mobile apps, and staff types, such as PMHNPs into clinical practice?" In addition, a variety of complementary strategies are likely needed to robustly address behavioral health workforce shortages and should be explored in greater depth. For example, which recruitment, retention, and training strategies are most effective for building and sustaining a strong behavioral health workforce? How can peers and other workforce types stationed across the service system work together to provide a more cohesive system of care? Workforce demands could also be considered from a systems and life

course perspective, to strategically map out how to best position behavioral health staff in various settings and at various points in a client's life to ensure early intervention and prevention and effective assessment, management, and treatment of behavioral health conditions.

A. Limitations

The workforce implications highlighted in this report, though promising, are based on expert opinion and a limited evidence base; more rigorous research is needed to confirm these findings. The literature we identified on behavioral health apps and crisis services from a workforce perspective was very limited, indicating a need for more research in this area. Finally, we chose to focus this report on a few lesser-studied models that could have workforce implications, but other models warrant further research from a workforce perspective as well. Others on our preliminary list, such as those for peer support and telehealth, intersect with the models examined and contribute to the preliminary workforce implications identified.

Ultimately, findings from this study suggest that behavioral health service models offer some potential for increased workforce efficiencies and--with changes to funding and other policies--could increase provider supply and access to more appropriate levels of care. Clearly, there are a variety of behavioral health service models that can contribute to workforce efficiencies and should be explored in greater depth.

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5. The National Conference of State Legislatures and the Association of State and Territorial Health Officials define scope of practice as "refer[ing] to what a health professional can and cannot do to or for a patient, and is defined by state professional regulatory boards--typically with the guidance or instruction of the state's legislature." (Definition from http://scopeofpracticepolicy.org/).

6. Mobile apps overlap somewhat with telehealth models; however, mobile apps may offer functions, such as consumer self-monitoring, that extend beyond the scope of telehealth. Similarly, telehealth encompasses functions that extend beyond mobile applications. See https://news.careinnovations.com/blog/what-is-mhealth-how-is-it-different-from-telehealth for additional information.

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