

Telehealth Resource Guide



September 2017

Executive Summary

There are many opportunities to leverage telehealth and telemedicine to increase access to preventive and specialty care, address health disparities affecting vulnerable populations, and save costs. For rural and underserved areas in particular, telehealth can reduce transportation barriers and address workforce shortages due to shared health professional staffing. In addition to enhancing clinical care, telehealth can be used to deliver public health services and enhance population health. State and territorial public health agencies can be leaders and partners in initiatives that promote telehealth and telemedicine.

This guide is a resource for state and territorial health officials to enhance their telehealth efforts and includes background information on telehealth and its different modalities, telehealth legislation and regulation at the federal and state level, and considerations for developing a telehealth pilot. It also includes links to external resources for more detailed information on telehealth and concise case studies on how ten states are using telehealth to improve health outcomes in their jurisdictions.

Table of Contents

Executive Summary.....	1
Introduction	2
What Are Telehealth and Telemedicine?	4
Telehealth Applications	4
Project ECHO (Extension for Community Healthcare Outcomes)	5
Demonstrating the Benefits of Telehealth	5
Glossary.....	6
Telehealth Use in States.....	6
How State Health Departments Are Working with Telehealth.....	6
Statewide Strategic Plans for Telehealth	7
Telehealth Coverage and Reimbursement	8
Telehealth Workforce: Licensure and Training.....	9
Telehealth Applications for Public Health.....	10
Developing Telehealth Pilot Programs for Public Health.....	11
Privacy Considerations.....	12
Technology Considerations.....	12
Securing Funding for Pilot Programs	12
State Examples and Mini-Case Studies	13
Alabama	13

Alaska	15
California	17
Georgia	19
Hawaii	21
Massachusetts	22
North Carolina	24
South Carolina	26
Virginia	28
Washington	29
Resources for State and Territorial Health Officials	30
General Information	30
National and Regional Telehealth Resource Centers.....	31
Conclusion.....	32
Acknowledgements.....	32
References	33

Introduction

For the past several decades, advances in technology have enabled innovative programs to use telehealth and telemedicine to deliver care to underserved and rural areas. With the rapid diffusion of health information technology and broadband, wider expansion of these programs is possible. There are now many opportunities to leverage telehealth and telemedicine to increase access to preventive and specialty care, address health disparities affecting vulnerable populations, and save costs. For rural and underserved areas, telehealth can reduce transportation costs and increase efficiency due to shared health professional staffing.

State and territorial public health agencies (S/THAs) can be leaders and partners in initiatives that promote telehealth and telemedicine. S/THAs and other public health organizations serve the public in many different ways, as described in the traditional graphic of the ten essential public health services in Figure 1. For each of these ten services, telehealth can help perform the service or can be the target of policy development and research activities, as described in Table 1.

Figure 1: Ten Essential Public Health Services¹

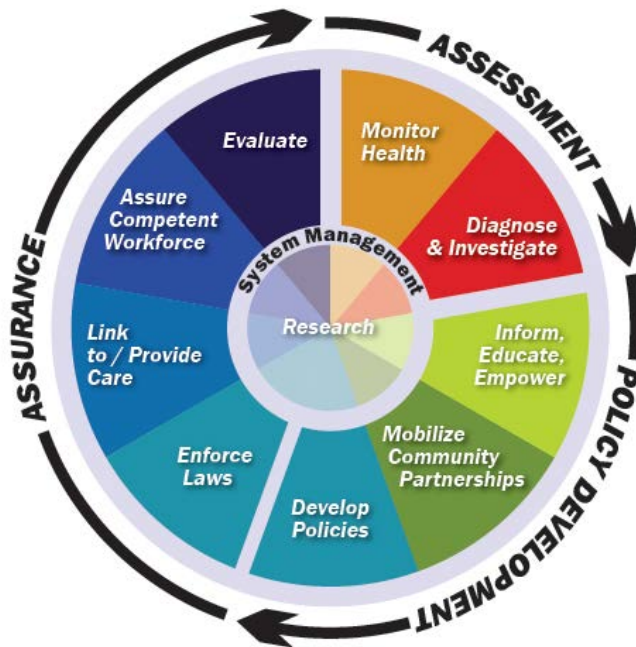


Table 1: Ten Essential Public Health Services and Relevant Telehealth Examples

10 Essential Public Health Services	Example with Telehealth
Monitor health status to identify and solve community health problems.	Use remote patient monitoring on specific group to understand health outcomes and gaps.
Diagnose and investigate health problems and health hazards in the community.	Diagnose and investigate potential Ebola cases using live video or other mechanism.
Inform, educate, and empower people about health issues.	Host virtual learning sessions with providers or public on health topics.
Mobilize community partnerships and action to identify and solve health problems.	Participate in or lead telehealth coalitions.
Develop policies and plans that support individual and community health efforts.	Contribute to or lead telehealth strategic planning or policy development (e.g., reimbursement).
Enforce laws and regulations that protect health and ensure safety.	Work with Medicaid agency and other sister agencies to enforce telehealth laws and regulations.
Link people to needed personal health services and assure the provision of health care when otherwise unavailable.	Establish hub and spoke model to link community with clinical or community services at local health departments or other sites.

¹ Source: Centers for Disease Control and Prevention. “10 Essential Public Health Services.” Available from: <https://www.cdc.gov/nphsp/essentialservices.html>. Accessed 8-21-17.

Assure competent public and personal health care workforce.	Collaborate with provider licensure boards to create policies that ensure safety and quality of services provided via telehealth and increase adoption.
Evaluate effectiveness, accessibility, and quality of personal and population-based health services.	Evaluate gaps in access to care that telehealth could be used to address identified needs.
Research for new insights and innovative solutions to health problems.	Fund research or support other pilots to explore innovative applications of telehealth to solve public health problems.

This guide is a resource for state and territorial health officials to enhance their telehealth efforts. It includes information gathered through an environmental scan of the published literature and web, as well as individual calls with states about their promising telehealth initiatives to gather lessons learned and emerging best practices.

What Are Telehealth and Telemedicine?

The terms ‘telehealth’ and ‘telemedicine’ are often used interchangeably, but they technically have different definitions. HRSA defines telehealth as the use of technology to deliver healthcare, health information, or health education at a distance.^{ii, 1} In contrast, telemedicine is the “use of medical information exchanged from one site to another via electronic communications to improve a patient’s clinical health status.”² Thus, telemedicine refers to traditional clinical diagnosis and monitoring that is delivered with technological assistance, while telehealth encompasses a broader array of services and uses, including health education.^{3,4} Until the late 1990s, most medical applications of telecommunication were referred to as “telemedicine.” However, for the purposes of this guide, ASTHO will use the term ‘telehealth’ because it encompasses a broader array of services and is now more commonly used.

The usage of the terms telehealth and telemedicine is important because the difference in definitions can impact related initiatives. In particular, limited definitions in state legislation can limit the scope of services offered and reimbursed in a state. For example, some states have limited telehealth reimbursement to live video, excluding other applications. For more information on reimbursement, see the section on [Telehealth Costs, Funding, and Reimbursement](#).

Telehealth Applications

Telehealth can be used in several different applications and contexts.⁵ Common telehealth applications include:

- Behavioral health and substance misuse counseling.
- Physical and occupational therapy.
- Home health.

ⁱⁱ The complete HRSA definition of telehealth is “the use of electronic information and telecommunications technologies to support and promote long-distance clinical health care, patient, and professional health-related education, public health and health administration. Technologies include videoconferencing, the internet, store-and-forward imaging, streaming media, and terrestrial and wireless communications.”

- Chronic disease monitoring and management.
- Disaster management.
- Consumer and professional continuing education.⁶

Telehealth can be located in many different settings where individuals live, learn, work, and play, including:

- Medical centers (e.g., hospitals, outpatient settings, community health centers).
- Homes.
- Schools.
- Workplaces.
- Community centers and organizations that provide social services.

There are four types of telehealth applications: live videoconferencing, remote patient monitoring (RPM), store-and-forward, and mobile health (mHealth).

- Live video (conferencing, synchronous) is a live, two-way interaction between an individual and provider using a videoconference, telephone, or a home health monitoring device.
- Store-and-forward (asynchronous) is the transmission of data, images, sound, or video (i.e., recorded health history) from one care site to another for evaluation, typically by a specialist, who then reviews or performs a service. This service provides access to data after it has been collected rather than a real-time live video.
- RPM is the collection of personal health and medical data that is transferred to a remote provider for monitoring. This service enables a provider to continue to track a patient's status once they are released home or to another care setting.
- mHealth uses mobile communication devices, such as cell phones and tablets, to deliver healthcare and public health practice, as well as education. mHealth applications vary from targeted text messages (e.g., [Text4Baby](#)) to smartphone applications to wider alerts about outbreaks or recent events.⁷

Project ECHO (Extension for Community Healthcare Outcomes)

Created in 2003, the [ECHO model](#) provides specialized medical knowledge to local clinicians by connecting them with specialist teams at academic medical centers via weekly virtual clinics, known as [teleECHO clinics](#). The model began with a focus on hepatitis C treatment and now has expanded to multiple diseases and specialties. Project ECHO does not provide direct clinical care, but serves as a resource and training tool for clinicians. As such, Project ECHO is an example of telehealth applications for professional education.

Demonstrating the Benefits of Telehealth

Studies of telemedicine and telehealth have demonstrated that they can save costs, improve quality of care, and increase patient acceptance of telemedicine. A systematic review found that telehealth has demonstrated effectiveness for specific uses with some types of patients, such as:

- Remote patient monitoring for patients with chronic conditions.
- Communication and counseling for patients with chronic conditions.
- Psychotherapy as part of behavioral health.⁸

The literature is vast and varied with many different studies; however, additional research is needed for specific topics such as maternal and child health and other innovations. The following are resources that summarize the evidence base:

- The Center for Connected Health Policy (CCHP): [Cost Effectiveness Research Catalogue](#)
- The Agency for Healthcare Research and Quality: [Telehealth: Mapping the Evidence for Patient Outcomes from Systematic Reviews](#)
- The Institute of Medicine Board on Health Care Services: [The Role of Telehealth in an Evolving Health Care Environment](#)

Glossary

Major telehealth terms were defined in the previous section. Glossaries for telehealth terms include the South Central Telehealth Resource Center’s [Interactive Telehealth Glossary](#) and another hosted by the [American Telemedicine Association](#). A select few additional terms from the Interactive Telehealth Glossary have been included below.

- **Broadband:** A high-speed, continuous service connection allowing large amounts of information to be conveyed quickly, such as data, graphic files, or video.
- **Electronic Data Interchange:** The sending and receiving of data directly between trading partners without paper or human intervention.
- **Encryption:** A system of encoding data on a webpage or e-mail such that the information can only be retrieved and decoded by the person or computer system authorized to access it.
- **Health Information Technology:** The comprehensive management of health information and its secure exchange among consumers, providers, government and quality entities, and insurers.
- **HIPAA:** An acronym for the Health Insurance Portability and Accountability Act of 1996. Under this legislation, the Office for Civil Rights enforces the HIPAA Privacy Rule, which protects the privacy of individually identifiable health information; the HIPAA Security Rule, which sets national standards for the security of electronic protected health information; and the confidentiality provisions of the Patient Safety Rule, which protect identifiable information being used to analyze patient safety events and improve patient safety.
- **Hub and Spoke:** A network design in which larger “hub” sites facilitate the movement of data via broadband to smaller “spoke” sites. The “hub” may also be referred to as the “originating site,” with the “spokes” as “distant sites.”ⁱⁱⁱ

Telehealth Use in States

How State Health Departments Are Working with Telehealth

Most S/THAs are working on telehealth initiatives; however, the type and level of engagement varies. Some lead telehealth efforts broadly for the state or work closely on a select number of programs. In other states, the state Medicaid agency or state office of rural health manages the telehealth initiatives. The remaining states are working with their professional boards or external coalitions to provide input and support on telehealth activities. Furthermore, S/THAs often work in collaboration with academic

ⁱⁱⁱ Current Medicare terminology as of August 2017 uses “distant” and “originating” sites, rather than “hub” and “spoke.”

medical centers that may house telehealth programs. S/THAs can inform training programs, provide grants, or serve on advisory councils for programs at academic medical centers or other health systems.

Despite telehealth initiatives often being housed in other departments or agencies beyond public health, S/THAs can have major role in developing telehealth programs or policies. They can convene stakeholders and partners to foster discussions and strategic planning on telehealth. They may also provide input and expertise on how to best reach rural or underserved populations, as well as the best practices for prevention and public health interventions. Additionally, they can look internally to their own programs, such as chronic disease management or screenings, to see if any could benefit from using telehealth.

A state's laws, regulations, and Medicaid program policies on telehealth, telemedicine, and other health-related topics can have significant impact on the feasibility of telehealth programs. As noted earlier, how states define telehealth or telemedicine in legislation affects the reimbursement and coverage of services and state legislation or rulemaking can impact Medicaid or private payer coverage. Further, state licensure policies that are determined by state licensing boards and/or S/THAs can impact physicians and other healthcare providers determining who is allowed to provide services using telehealth.

Statewide Strategic Plans for Telehealth

S/THAs can play a major role in developing statewide strategic plans for telehealth. S/THA representatives can serve on telehealth advisory councils or task forces, or alternatively lead strategic planning efforts within their agency, or in partnership with sister agencies like Medicaid. Strategic planning often varies across states with unique goals, approaches, funding, and strategies employed. For example, three states recently undertook strategic planning and had different goals, described below:

- California – To change current statutory policies related to telehealth.⁹
- Delaware – Employed a broader approach that not only looked at state laws, regulations and policies, but also federal policy and use of telehealth in the state.¹⁰
- South Carolina – Legislatively directed to create a more cohesive effort to disseminate telehealth services throughout the state (not necessarily the driver of state legislative policy).¹¹

As such, strategic planning can result in legislation or broader actions that address telehealth adoption. Further, legislation can often be the impetus for strategic planning as it may set aside or create state offices for telehealth or necessitate collaboration and coordination among multiple stakeholders. Strategic planning takes resources and dedication to convene stakeholders in both virtual and in-person formats. Often, working groups on different sub-topics related to telehealth are formed. In addition, many states work with other external partners to provide subject matter expertise and independent facilitation. Several examples of strategic plans developed by state health agencies or statewide telehealth bodies can be found on ASTHO's [Medicaid and Public Health Library](#).

Robust governance for statewide telehealth strategic planning is crucial to help ensure broad representation and alignment with the shared mission. Examples of statewide telehealth governance bodies include:

- [Alaska Telehealth Advisory Council](#)^{iv}
- [Florida Telehealth Advisory Council](#)
- [Idaho Telehealth Council](#)
- [Louisiana Task Force on Telehealth Access](#)
- [Maryland Telemedicine Task Force](#)
- [New Mexico Telehealth Commission](#)
- [South Carolina Telehealth Alliance](#)
- [Texas E-Health Advisory Committee](#)

Telehealth Coverage and Reimbursement

As a field, telehealth is growing and policies dedicated to coverage and reimbursement are evolving. More than a dozen state bills on telehealth have been introduced or considered in the 2017 legislative session.¹² Further, some states put specific restrictions within the definitions of telehealth, often limiting locations where telehealth can be delivered (e.g., limiting the home as a reimbursable site or that the originating site cannot be in the same community as the distant site), or limiting the term to “live” or “interactive.” Both types of limitations pose a barrier to the reimbursement of store-and-forward and RPM programs.¹³ With telehealth parity laws and Medicaid coverage, telehealth services can be reimbursed in a variety of ways, including fee-for-service and value-based payments. However, telehealth services can also include other fees, such as originating site facility fees. These fees vary across states.

Based on current information, the following is a snapshot of telehealth legislation and policies across states.

- **Telehealth/Telemedicine Parity Laws:** These laws require private payers in a state to reimburse for telehealth services the same way they would for an in-person service. As of July 2017, only 15 states do not have telemedicine parity laws for private insurance.¹⁴
- **Medicare Coverage:** Medicare restricts telehealth services to rural or underserved areas, and the types of covered services in these instances. Medicare does not have telehealth parity.¹⁵ For information on telehealth policy related to Medicare, see CMS’ [telehealth web page](#) and [report from the Medicare Learning Network](#) and [HRSA’s Medicare Telehealth Payment Eligibility Analyzer](#).
- **Medicaid Coverage:** As of March 2017, 48 states and the District of Columbia have some type of coverage for telemedicine.¹⁶
 - Forty-eight states and the District of Columbia offer some type of live video reimbursement in their Medicaid program as of March 2017.¹⁷ Reimbursement policies can range from limited case management services for specific conditions to live video in a wide variety of medical specialties.¹⁸
 - Thirteen state Medicaid programs reimburse for store-and-forward delivered services.¹⁹
 - An increasing number of states are covering RPM in their Medicaid programs, with 22 states having some form of reimbursement.²⁰

^{iv} Alaska previously formed a council that met from 1999 to 2007 and established core principles for telehealth in the state, with representatives from multiple stakeholders. In 2017, Alaska formed a new working group devoted to telehealth, as described in the mini-case study included in this guide.

- **State Employee Health Plans:** As of February 2017, 26 states have some type of coverage for telehealth under one or more state employee health plans.²¹
- **Federal Employee Health Plans:** As of April 2017, 56 percent of Federal Employee Health Benefit Plans offered telehealth services.²²

Several organizations track and monitor national and state telehealth-related legislation and provide resources summarizing current policies. For more information on state legislation, visit:

- CCHP: As the National Telehealth Policy Resource Center, CCHP tracks both state and national legislation related to state laws and reimbursement policies, Medicare and Medicaid policies, and privacy regulations. Resources include:
 - [Online interactive map](#) of state telehealth-related legislation.
 - [State Telehealth Laws and Medicaid Program Policies: A Comprehensive Scan of 50 States and District of Columbia](#), released in April 2017.
 - In 2017, CCHP and the Milbank Memorial Fund released a [report](#) on telehealth private payer laws, assessing the impact of telehealth private payer laws on utilization, and identifying remaining barriers to greater adoption.
- American Telemedicine Association (ATA): ATA's State Policy Resource Center produces reports that identify and compare state policies via report cards, assigning each state grades based on telemedicine reimbursement:
 - [State Telemedicine Gaps Analysis: Coverage and Reimbursement](#), released in January 2017.
- The National Conference of State Legislatures (NCSL): Hosts an online library that tracks state bills and develops resources for state legislators and staff about different policy topics. Resources include:
 - [State coverage for telehealth services web page](#).
 - [Telehealth Policy Trends and Considerations report](#), released in December 2015.
- Health Affairs, with support from the Robert Wood Johnson Foundation, published a [health policy brief](#) on telehealth parity laws at the national and state levels, released in August 2016.

Telehealth Workforce: Licensure and Training

Professional licensure portability and practice standards are other types of telehealth-related legislation and policies, and often pose challenges for healthcare providers considering telehealth adoption. In general, state medical boards adopt standards of practice for healthcare delivery within a state. They have the authority to impose new specifications for telemedicine delivery or update current standards with telehealth language. Another consideration for state medical boards is whether they require a patient to have an initial examination conducted in-person and physician-patient relationship to be established in-person.²³ Several resources on licensure are below:

- NCSL developed a [brief on telehealth licensing](#), released in July 2016.
- ATA developed several reports on physician practice standards and licensure:
 - [State Telemedicine Gaps Analysis: Physician Practice Standards and Licensure](#), released in January 2017.
 - [State Telemedicine Gaps Analysis: Psychologist Clinical Practice Standards and Licensure](#), released in January 2016.

Licensure portability is defined as “the ability for healthcare providers to practice out-of-state using one license,” which has ramifications for telehealth because patients can connect with providers in other states.²⁴ Several interstate licensure compacts have been developed to provide a voluntary pathway to licensure to providers who wish to practice in multiple states, including via telehealth. Examples include the [Interstate Medical Licensure Compact \(IMLC\)](#) launched in 2014 by the Federation of State Medical Boards; the IMLC is a binding agreement between states and the medical and osteopathic boards in those states that allows licensed physicians to practice medicine across state lines within the IMLC. As of July 2017, there were 22 participating states and 29 medical and osteopathic boards operating in those states.²⁵ Another example is the [Psychology Interjurisdictional Compact \(PSYPACT\)](#). Approved in February 2015 by the Association of State and Provincial Psychology Boards Board of Directors, PSYPACT has been created to facilitate telehealth and temporary in-person, face-to-face practice of psychology across jurisdictional boundaries. There are also [several different compacts](#) for nurses supported by the National Council of State Boards of Nursing. As of July 2017, there were 25 states participating in the original Nurse Licensure Compact.²⁶

Beyond licensure, engaging providers and helping them understand the varied federal and state telehealth policies, integrate telehealth technology into their workflow, and address any misconceptions about telehealth is crucial for expanding adoption within a state. ASTHO hosted a webinar on [Provider and Patient Engagement in Telehealth](#) that addressed these issues. Further, several provider associations have developed resources for their members around the use of telehealth. Resources include:

- American Academy of Ambulatory Care Nursing released the first Telehealth Nursing Practice Administration and Practice Standards in 1997 and has continued to produce [resources](#) for its members.
- American Dental Association released a [guide](#) to understanding and documenting teledentistry events in 2017 and published a [comprehensive policy statement](#) in 2015.
- American Medical Association has a [web page](#) devoted to telemedicine and [adopted new guidance](#) for ethical practice in telemedicine in June 2016.
- American Psychiatric Association developed a number of tools for psychiatrists to learn about telepsychiatry through its [Committee on Telepsychiatry](#), including a [toolkit](#).

Other provider associations may have additional resources. S/THAs should search online to see if a provider association has guidance or tools for telehealth or telemedicine if they are working with those providers in a program or with a licensure board.

Telehealth Applications for Public Health

Applications for telehealth are easily identified for healthcare delivery, whereas it has been slower to grow for public health services. However, multiple models or promising examples exist for the application of telehealth for public health purposes. Examples include:

- Electronic Directly Observed Therapy (eDOT) for Tuberculosis and Other Diseases: Directly observed therapy (DOT) by a medical professional or public health worker has been shown to increase medication adherence and limit disease spread and resistance. However, DOT can be a drain on local health department and S/THA resources, or pose challenges with limited staffing or geographic barriers. eDOT poses a flexible alternative that improves cost efficiencies, while

maintaining medication adherence and patient acceptance. The California Department of Public Health (CDPH), CCHP, and the University of Southern California developed [guidance](#) on using eDOT in California, which was approved in early September 2016. More information is available from CCHP's [final report](#) on the results of this project.

- **Emergency Preparedness:** Telehealth can be used to address the threat of natural disasters ranging from preparedness, response, and recovery. It can be used to encourage prescription refills or issue mobile alerts in anticipation of events, provide virtual support to providers or deliver consultations via live video during a response, or maintain access to care during a recovery period. For more information, Healthcare Ready created an [issue brief](#) on telehealth's applications for emergency preparedness.
- **Aging Seniors:** RPM was used by a local health department in [New Canaan, Connecticut](#) to help seniors age in place by collecting vital signs and physical activity weekly from seniors. Further, it was used to help increase health knowledge and physical activity for the participating seniors.²⁷

Other examples of public health applications of telehealth within S/THAs can be seen in the [State Examples and Mini-Case Studies](#) section of this guide.

Developing Telehealth Pilot Programs for Public Health

Often a S/THA begins its telehealth activities with a pilot project as an initial foray into the telehealth field. This pilot can be helpful to provide a convincing example of how telehealth can be applied to solve public health challenges and demonstrate the potential benefits with improvements in health outcomes or return on investment. When considering a pilot program, there are a number of questions that should be considered in the planning process:

- **Overarching questions:**
 - What is the problem or issue that will be addressed?
 - How can telehealth serve as a tool to address the problem or issue?
 - Who are the players that need to be involved?
 - How will the S/THA pay for it (e.g., reimbursement for services provided, start-up costs, etc.)?
- **Program operations questions:**
 - What telehealth modality will be used? (Examples: live video, store-and-forward, RPM)?
 - How will it be used?
 - What are the implications for reimbursement?
 - What features does the S/THA want in the technology? What are the minimum features needed?
 - What type of connectivity (e.g., broadband, bandwidth, etc.) is available to the S/THA and will it be adequate?
 - What type of training, internal buy-in (at both the executive, program staff, and provider levels), and internal policies will be needed?
- **Federal and state policy considerations:**
 - What federal laws and regulations will impact the pilot or program?
 - What state laws and regulations will impact the pilot or program? Are any changes needed to implement the pilot or program?

- What licensing boards and their policies or guidelines may impact the pilot or program? Are any changes needed to implement the pilot or program?
- What internal policies may impact the program? Are any changes needed to implement the pilot or program?

Privacy Considerations

Telehealth providers and programs need to follow appropriate procedures and processes for maintaining privacy for patients and clients who receive services or care via telehealth. Specifically, telehealth programs must meet the same obligations of covered entities that are subject to HIPAA (previously defined above) on the use and disclosure of individuals' health information as if the service was provided in-person. In comparison to services delivered in-person, telehealth may involve the use of technical personnel who support live video or other telehealth modalities and be exposed to personal health information. These technical personnel must also meet HIPAA requirements; thus telehealth programs may need to enter business associate agreements with technical personnel to obligate them to maintain confidentiality as required under HIPAA.^{28,29} For more information, see the Telehealth Resource Centers' [HIPAA and Telehealth: A Stepwise Guide to Compliance](#) and CCHP's factsheet on [HIPAA and Telehealth](#).

Technology Considerations

There are greater numbers of different telehealth technology products becoming available every day and choosing a product that is effectively meeting the needs of a program while remaining cost effective can be challenging. The questions developed for creating a pilot project will help answer some questions on technology needs; however, doing research, attending demonstrations, and observing the product in action are critical to making an informed choice. Further, considering what types of technology comply with HIPAA is important. For more information, see the following resources:

- [The National Telehealth Technology Assessment Resource Center](#) offers a number of resources dedicated to telehealth technologies including: [toolkits on assessing telehealth technologies](#), user reviews, and their [Innovation Watch webpage](#).
- [The Northeast Telehealth Resource Center](#) created a [factsheet](#) on selecting a telehealth vendor, among other resources.

Securing Funding for Pilot Programs

Telehealth programs require funds to support the technology infrastructure (e.g., storage servers, mobile units or carts with LCD screens and specialty tools such as cameras), bandwidth and internet connections, staffing, and training.³⁰ To support costs, telehealth programs supported through S/THAs typically rely on grant funding, including private and public funders. State budgets may also provide general funding for coordinated telehealth efforts and offices. Several states have leveraged federal workforce grants through HRSA and other opportunities to create specific programs.

The dependence on grant programs to fund specific telehealth programs is a substantial challenge to sustainability because state funds are often limited to support these types of activities. Medicaid and private coverage for services are also crucial to sustainability, though variations in Medicaid expansion can be a challenge for delivering care to underserved and rural populations.

Federal grant funding can also be used to help build infrastructure to support telehealth – such as broadband capability. There are several funding streams that some states have used to fund this work, including the [Rural Health Care Program](#), administered by the [Universal Services Administrative Company](#) and designated by the Federal Communications Commission, and the [Telecommunications Program in the Rural Utilities Services](#) from the United States Department of Agriculture. However, these funds can be limited with some states reaching a cap for the Universal Service Fund.

State Examples and Mini-Case Studies

Several states have shared their telehealth experiences with ASTHO, including challenges and lessons learned. Multiple themes emerged across these mini-case studies. In particular, state telehealth policies regarding reimbursement (e.g., lack of parity legislation) and scope of practice can hinder telehealth and limit the sustainability of initiatives, which are often grant-funded. Several states have found success by forming networks or other collaborations with private and public sector organizations to promote telehealth. These collaborations can help advance telehealth because they engage different stakeholders and convene disparate activities across a state. Further, several states see telehealth as a tool to be applied to address barriers to access and a way to expand established programs. Specific details about each state’s telehealth activities are provided below.

Information shared in the mini-case studies was gathered through interviews and information provided by each of the nine states. Each state reviewed and approved content below, with states who shared their story in the first iteration of this resource guide having the opportunity to add updates since the guide’s initial publication.

ALABAMA	
At a Glance	<ul style="list-style-type: none"> • Types of Telehealth Used: Live video. • Conditions Addressed or Services Provided: HIV/AIDS; mental health counseling; sexually transmitted disease interviews with clients; nephrology monthly appointments for home dialysis clients; nephrology consultations. • State Telehealth Laws Summary.
Program Description	<p>The Alabama Department of Public Health (ADPH) began pursuing telehealth activities in 2014, building on its long-time technical expertise with video production, distance learning, and video conferencing for the public health workforce. In 2015, it started the Public Health Telehealth Network, which now has 21 sites and six telehealth healthcare provider partners.</p> <p>Access to healthcare in Alabama is a major challenge, particularly in rural communities. To increase access to care, ADPH envisions each county health department having a telehealth clinic and serving as program neutral origination site for all healthcare encounters. With in-house video production, videoconferencing, and IT expertise, ADPH decided to purchase telehealth cart components and build custom carts, generating significant savings for the department. The carts are identical and can be used for videoconferencing staff trainings and meetings, as well as telehealth and</p>

	<p>telemedicine encounters. Videoconferences and telehealth encounters are encrypted and HIPAA-compliant. Each telehealth cart includes a computer, HD pan, tilt and zoom video camera, codec, two 24" monitors, 3M Bluetooth stethoscope, and JedMed handheld examination camera with three lenses (general viewing, dermatology and otoscope). Services delivered through the Public Health Telehealth Network led by the S/THA include their sexually transmitted disease program and family program.</p> <p>Current active partners include: The University of Alabama at Birmingham Medical Center (UABMC); University of Southern Alabama; Medical Advocacy and Outreach; AIDS Alabama; the Birmingham Veterans Affairs Medical Center; and the ADPH Sexually Transmitted Diseases Program. In addition, the ADPH is finalizing administrative details and procedures with these new partners: The Alabama Department of Rehabilitation Services; Auburn University and the Department of Genetics at the UABMC; the Tuscaloosa Veterans Affairs Medical Center; and the ADPH Family Planning Program.³¹</p>
<p>Challenges Encountered</p>	<p>Alabama's initial challenges with telehealth activities included inadequate broadband telecommunications with only 23 of the 66 county health departments in 2015 having adequate access, however this has improved to 60 in 2017. Additionally, the lack of reimbursement for telehealth services is a financial barrier. Currently, there is no parity legislation in Alabama. Although Blue Cross and Blue Shield of Alabama recently adopted reimbursement for telehealth, it is limited to six conditions: cardiology, dermatology, infectious diseases, behavioral health, nephrology, and neurologic diseases, including stroke. These reimbursement challenges have resulted in Alabama's telehealth initiatives relying on grant funding, which is often earmarked for infrastructure improvements and equipment, not operational expenses. Further, there is no coordinating body across the state to align telehealth activities; however, ADPH is working with the UABMC and other institutions to engage partnerships with providers and health systems to help build that statewide coordination.</p>
<p>Lessons Learned and Promising Practices</p>	<p>ADPH's expertise in distance learning and related educational technologies was a major facilitator for this initiative. This capacity enabled ADPH to build its own carts, saving several thousands of dollars and allowing it to maximize grant funding to buy more carts. ADPH also aligned its telehealth initiative with community health assessments, which helped it understand the major barriers to accessing care—primarily transportation—that telehealth seeks to address. This alignment also allows the department to help promote telehealth's benefits.</p> <p>The state and county health departments' organization has been another facilitator for the program. Alabama has centralized county public health departments, so all employees working at the local sites are state employees. This structure strengthens working relationships between local employees and those working in the central office on new initiatives.</p>

Emerging Opportunities and Next Steps	<p>The ADPH telehealth program’s mission is to use state-of-the-art technology to aggressively address the social determinants of health barriers that inhibit routine and specialty care. By establishing telehealth clinics at all county health departments, ADPH will be positioned to collaborate with medical and educational institutions, safety net providers, and other healthcare providers to ensure that underserved populations throughout Alabama have the best possible access to care. As such, ADPH is in the process of implementing telehealth into 38 new sites. Further, ADPH has partnered with several of its provider partners to apply for grants to improve rural technology infrastructure, including broadband capacity, as well as expanding types of services provided. ADPH anticipates that the program will grow over the next 12 months from 21 telehealth sites to 55; six active partners to 12; and from five conditions to 10.</p>
--	---

ALASKA	
At a Glance	<ul style="list-style-type: none"> • Types of Telehealth Used: Live video and store-and-forward. • Conditions Addressed or Services Provided: Primary care, behavioral health, dentistry, and specialty services. • State Telehealth Laws Summary.
Program Description	<p>Alaska has been a national leader in telehealth, particularly with increasing access to care for tribal populations. In the late nineties, the Alaska Native Tribal Health Consortium created the Alaska Federal Health Care Network Access Network (AFHCAN). This network included member organizations ranging from tribal entities, the Veterans Administration, Department of Defense, U.S. Coast Guard, and Alaska Division of Public Health (AKDPH). These organizations have more than 200 healthcare sites across the state. This infrastructure allows the program to deliver care to regional primary care sites and a wide variety of specialty services. It also works with Alaska’s robust Community Health Aide program, which certifies Alaska Native people as community health aides and practitioners, dental health aides, and behavioral health aides.</p> <p>AFHCAN uses both live videoconferencing and store-and-forward technologies. It also uses a hub-and-spoke model in which patients are seen at a local clinic, referred via telehealth to a regional center, and referred to the central Anchorage hospital if more complex care is needed. AFHCAN programs now have 1,500 providers engaged with 200 rural health centers and 43,000 yearly telehealth visits.</p> <p>AKDPH helped coordinate the Alaska Telehealth Advisory Council (ATAC) in the late 1990s, during the same time that AFHCAN was developing its infrastructure. In 1999, ATAC established principles for developing telemedicine in the state: (1) Any entity that becomes engaged in statewide telehealth in Alaska should ensure equal access, when financially realistic, to</p>

	<p>all Alaskans who would benefit from this technology; (2) All entities participating in telehealth must assure that their systems meet interconnectivity and interoperability standards and participate in the coordination of other telehealth efforts in the State of Alaska; (3) All telehealth applications should be acceptable to both the patient and the provider and be easy to use; (4) All entities that participate in telehealth must demonstrate their financial viability for the long-term, including the provision of professional capacity and development and training as an ongoing component of operating expenses; and (5) All participants in telehealth in Alaska should engage in a needs assessment and evaluation of services.³² This infrastructure helped promote telehealth and provide a framework for how activities should develop.</p> <p>In addition to the people served in the tribal system, some patients with private insurance or Medicaid use telehealth, though this is less developed than the tribal system. Still, ATA rated Alaska the highest in the nation for Medicaid operations in its yearly state profiles because its program covers telemedicine when providers use interactive audio-video, store-and-forward, RPM, email, fax, or audio conferencing for some services.</p> <p>In terms of payment and reimbursement, Alaska is still fee-for-service based. For telehealth, Alaska pays the origination site and facilitator fee for the behavioral health program.</p>
<p>Challenges Encountered</p>	<p>Sustainable funding for partnerships can be a challenge for these types of initiatives. ATAC concluded its activities in the early 2000s because its funding ran out. Another barrier to telehealth adoption in nontribal health systems is the lack of interoperability between different systems, as well as policy barriers, specifically payment disparities between public and private coverage and lack of licensure reciprocity between Alaska and other states.</p>
<p>Lessons Learned and Promising Practices</p>	<p>Leveraging existing infrastructure and workforce development, in the case of the tribal health system and Community Health Aide program, contributed to the telehealth program’s success. ATAC also provided a solid framework and shared vision for telehealth activities in the state.</p>
<p>Emerging Opportunities and Next Steps</p>	<p>In the spring of 2016, the Alaska governor signed legislation that directs the Alaska Department of Health and Social Services to adopt regulations that reform the telehealth program, including “expanding the use of telehealth for primary care, behavioral health, and urgent care.” The department is also required to “identify the areas of the state where improvements in access to telehealth would be most effective in reducing the costs of medical assistance and improving access to healthcare services for medical assistance recipients” and “make efforts to improve access to telehealth for recipients in those locations.” The bill also allows the department to work with the tribal health system (e.g., ANTHC) to improve access to telehealth services, and instructs it to develop a business registry to assess telehealth activities in the state. To help accomplish these tasks, the Alaska Department of Health and Social Services (the superagency in which AKDPH and the</p>

	<p>Medicaid agency reside) created a telemedicine workgroup to help achieve the goals of the 2016 legislation and is considering creating a state coordinator or dedicated office of telehealth, which AKDPH and the Medicaid agency would share.</p>
--	---

<p>CALIFORNIA</p>	
<p>At a Glance</p>	<ul style="list-style-type: none"> • Types of Telehealth Used: Live video and store-and-forward. • Conditions Addressed or Services Provided: Genetic counseling and dentistry. • State Telehealth Laws Summary.
<p>Program Description</p>	<p>The California Department of Public Health (CDPH) has two strong telehealth initiatives within its Genetic Disease Screening Program and Virtual Dental Home System of Care program.</p> <p>The Genetic Disease Screening Program is 30 years old and added telehealth functionality in 2007. By law, all pregnant women in California must be offered screening for certain birth defects. However, in certain rural areas, there are no licensed genetic counselors nearby.</p> <p>To increase access to genetic counseling services, telegenetic services using videoconferencing allows pregnant women to consult with a genetic counselor in a state-approved prenatal diagnosis center (PDC), mimicking a face-to-face encounter. The pregnant woman can then continue relevant services with a local perinatologist if their fetus has a high risk of having a birth defect. To ensure the quality of care delivery, the program created quality standards for PDCs using telegenetics, and offers this service only in areas where there are geographic shortages of genetic counseling services (e.g., no PDC within 120 miles round trip from another PDC). Further, to evaluate the provision of telegenetic services, the program fielded a patient satisfaction survey to assess the quality of services delivered.</p> <p>CDPH piloted the Virtual Dental Home program in 2010 using funding from a HRSA workforce grant. In partnership with the University of the Pacific, the program is a community-based oral health delivery system through which individuals receive preventive and simple therapeutic dental services in settings where they also receive educational, social, or general health services (e.g., Head Start programs). Allied dental professionals (e.g., registered dental hygienists in alternative practice, registered dental hygienists working in public health programs, and registered dental assistants in extended functions) provide services onsite and use telehealth software to document services and share health records with supervising dentists, who then review each patient record and recommend follow-up care or referrals if needed. Using the telehealth technology, the dentists are able to review patient records in between appointments during the day or</p>

	<p>after office hours. To determine the pilot’s success, the California team distributed an evaluation survey to children, parents, and school administrators. Overall, more than 80 percent of children and parents were very satisfied or satisfied with the care delivered, and 96 percent of the administrators were very satisfied or satisfied with the program.</p>
<p>Challenges Encountered</p>	<p>Two challenges for the Genetic Disease Screening Program were the different facilities’ wireless capabilities and occasional telehealth server outages. With outages, clinic staff had to create workaround processes, such as speaking by phone, to ensure that clients were served and did not have to return at a later date. Another challenge was providing multilingual services, particularly as the number of Spanish-speaking Californians increased.</p> <p>One initial challenge for the Virtual Dental Home program was gaining acceptance from dentists and their professional groups about the scope of work and oversight of the allied dental professionals in the pilot as they were practicing outside of the dental clinic with remote oversight by a dentist. With education and inclusion in reviewing the program sites, the team was able to gather support from the dental association, which became one of the program’s major strengths in the pilot’s later stages. Another challenge was finding physical locations to store and safeguard program materials at the different sites, including schools. The California team worked with school administrators and other site managers to identify proper space for storage in each location.</p>
<p>Lessons Learned and Promising Practices</p>	<p>The California team noted that it is important to establish clear quality standards to ensure a level playing field for all centers and satisfactory care for all mothers who receive services.</p> <p>Training for both allied dental professionals and dentists was essential to the Virtual Dental Home program’s success. This training helped the allied dental professionals and dentists understand workflow and how to address different situations. Engaging with the dental association also increased the dental professionals’ acceptance of the program.</p>
<p>Emerging Opportunities and Next Steps</p>	<p>Over time, the Genetic Disease Screening Program has reevaluated its geographic distance requirement. The minimum distance to the next genetic counseling center is now 90 miles round trip. The program will also continue to evaluate the telegenetics policy annually to ensure that it is removing major geographic barriers to accessing genetic counseling services. Another area that the team is watching closely to both ensure the access to and quality of care is the number of genetic counselors who are licensed in California but are located in other states and providing genetic counseling services to California residents via telehealth.</p> <p>In 2015, the California legislature passed the California Dental Practice Act, which adopts the allied dental professionals’ broader duties and allows the pilot to be expanded to additional locations. The California team is currently considering the best way to roll out the implementation of these programs.</p>

	It is also working on including value-based payment incentives rather than a completely fee-for-service model in this program.
--	--

GEORGIA	
At a Glance	<ul style="list-style-type: none"> • Types of Telehealth Used: Live video. • Conditions Addressed or Services Provided: Developmental and genetics counseling, endocrinology, nephrology, neurosurgery, pulmonology, sickle cell, dermatology, breastfeeding support, and nutrition education. • State Telehealth Laws Summary.
Program Description	<p>The Georgia Department of Public Health's (GADPH) Office of Telehealth and Telemedicine, in partnership with local county health departments, has created a number of telehealth and telemedicine programs to improve health access, address workforce shortages, and reduce health disparities across its large, rural state. Early telemedicine efforts related to public health began 20 years ago in the Southeast Health District. In July 2011, a statewide assessment and planning process identified these telemedicine efforts as a growth opportunity, and they became a strategic priority for GADPH.</p> <p>Leveraging grant funding from state, federal, and private sources, GADPH obtained telemedicine carts, each equipped with a stethoscope, otoscope, and general exam camera, which it deploys in local public health settings to connect clients to public health and healthcare services via videoconference. Currently, all 159 counties in the state have access to telehealth through their local county health departments. The department manages over 400+ endpoints throughout the state.</p> <p>Telemedicine projects include a high-risk obstetrics clinic that allows clients to consult with a remote maternal fetal medicine specialist and participate in a centering pregnancy intervention, their children's medical services program implements several clinics via telemedicine such as developmental and genetics, endocrinology, nephrology, neurology, pulmonology, and sickle cell. The infectious disease program allows mobile presentation of the client from their home, community setting, or local health department, and connects them with a GADPH infectious disease specialist. This network also connects the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) services with breastfeeding support, nutrition education, and staff training and development. Another pilot program focuses on a private/public field teledermatology clinic. GADPH also manages several school-based telemedicine programs, including a school-based dental clinic (teledentistry) and a behavioral health clinic. Further, GADPH uses the carts and technology capacity for emergency response training, public health training, and distance learning. This provides a positive return on investment</p>

	<p>because transportation costs for centralized trainings are very expensive and the state is so large.</p> <p>To maintain these telemedicine programs, GADPH used partnership agreements to build a network of Georgia-licensed providers for different kinds of services. GADPH then connects clients to practitioners in their local communities. These services are not intended to replace the primary care providers who already serve in rural communities. Instead, the program functions as a referral service to connect Georgians with the specialized care they need that may not exist in their community. If there is a gap, or a local provider is unable to continue providing telemedicine services, GADPH reaches out to partners, such as other healthcare systems or the Georgia Partnership for Telehealth.</p> <p>At the state level, GADPH works with planning and steering committees on its telehealth programs, and reports progress to the governor every quarter. Various state agencies participate in the planning meetings, including the Georgia Department of Community Health (Medicaid), Department of Education, and the Department of Behavioral Health and Disabilities.</p>
Challenges Encountered	<p>Funding and sustainability have been major challenges for GADPH’s telehealth and telemedicine programs. Georgia has been very successful in leveraging CDC, HRSA, and WIC grant opportunities to provide start-up funding for the technology’s upfront costs, but sustainability can be a challenge without dedicated and continued funding for maintenance and staffing. Communication between GADPH and the state Medicaid agency is essential to facilitate reimbursement for presentation and appropriate billing codes for public programs.</p>
Lessons Learned and Promising Practices	<p>Georgia noted it is important to build on existing capacity and maximize the utility of the telemedicine carts. GADPH and its partners focused on community needs, and leveraged telehealth and telemedicine as tools to enhance existing programs. Additionally, GADPH stayed on track by focusing resources where it was truly needed and keeping a specific and feasible scope of work and defining programs to ensure the sustainability and quality of programs delivered.</p> <p>It was also helpful that Georgia’s state network hub (e.g., infrastructure) is not located in Atlanta, but in a federally designated rural county. This location allows the state to greatly subsidize the costs of the network circuits using Universal Service Administrative Company funds.</p> <p>GADPH also promoted the utility of telemedicine with policymakers. During the 2016 legislative session, the GADPH Office of Telehealth and Telemedicine received a line item in the state budget for the first time for telehealth infrastructure.</p>
Emerging Opportunities and Next Steps	<p>With many programs and pilots ongoing, GADPH wants to sustain current efforts, as well as identify additional needs and opportunities for partnership</p>

	with other state agencies. GADPH’s vision is that local public health settings can be a hub for all telehealth activities and serve as gateways to connect clients with different health or social services to improve population health.
--	---

HAWAII	
At a Glance	<ul style="list-style-type: none"> • Types of Telehealth Used: Live video and mHealth. • Conditions Addressed or Services Provided: Stroke, genetic counseling, medically fragile home monitoring, and medical-legal services. • State Telehealth Laws Summary.
Program Description	<p>Hawaii has several telehealth initiatives that aim to increase access to care for underserved populations and improve health outcomes. These projects include the Hawaii Stroke Network, Hawaii Emergency Services for Children, genetic counseling, medically fragile home monitoring, Home Outreach Program and E-health (HOPE), and a medical-legal partnership. Hawaii has also been working with Project ECHO on behavioral health and endocrinology to provide connect local Hawaiian clinicians with specialists in these topics via weekly virtual clinics.</p> <p>The Hawaii Stroke Network, funded by a Hawaii State Department of Health (HDOH) grant, saw that emergency departments could use telehealth to access neurologists for help determining whether to provide a clot-busting medication, tissue plasminogen activator (tPA), after the onset of a stroke. Historically, Hawaii had been below average for implementing these best practices.³³ The network created a workflow that integrates telehealth to allow emergency departments to contact the Queen’s Medical Center, where a neurologist examines the patient’s CT scan and decides whether the patient should receive tPA. An EHR note is sent to the local medical record, and the patient either stays at the local hospital or is transferred to Queen’s.</p> <p>HOPE uses telehealth to prevent 30-day readmissions for high-risk dialysis patients through the implementation of home telehealth with nurse oversight. The program is funded by a federal grant and is free to patients. Early outcomes have found that it reduces costs by 50 percent using the telehealth nurse overnight.³⁴</p> <p>In April 2016, the Hawaii State Legislature passed legislation that repeals the accompanying healthcare provider requirement for reimbursement, allows Medicaid reimbursement for telehealth services, permits a doctor-patient relationship to be established via telehealth, and revises the definition of telehealth. This legislation represents a significant opportunity for HDOH and Medicaid to collaborate to create new standards for telehealth and bring stakeholders together to form new telehealth programs. Medicaid published</p>

	<p>telehealth payment parity policies pursuant to this legislation in December 2016 and was approved for Hawaii's state plan amendment in March.</p> <p>In September 2016, the HDOH adopted telehealth as a top three strategic priority for the department. To gain buy-in, HDOH deployed videos to support strategic priorities, including one for telehealth: Using Technology to Improve Access to Care.</p>
Challenges Encountered	<p>Hawaii experienced challenges with barriers to telehealth adoption with older passed legislation in 2014 that required a treating healthcare provider to accompany a patient during the telehealth visit, despite creating parity with face-to-face services. In addition, Medicaid previously imposed restrictions on covered services and type of telehealth and placed frequency limits on some covered telemedicine services. However, these challenges are addressed by the 2016 legislation and updated Medicaid policies. Finally, access to broadband and highly trained staff can be a challenge in Hawaii.</p>
Lessons Learned and Promising Practices	<p>The importance of engaging multiple partners and developing strategic plans to support telehealth initiatives to improve the quality of care and patient and provider satisfaction were lessons identified by the Hawaii team. Engaging partners also allowed the Hawaii's telegenetics program to offset technology and training costs.³⁵</p> <p>Beyond program-specific lessons learned, HDOH found that the state must provide leadership and facilitate state goals via a champion, such as the state health official. The Hawaii team noted that it was insufficient to rely on the private healthcare system to assemble a robust telehealth system for the state because statewide programs incentives to encourage uptake, as well as a regulatory body to enforce parity and other regulations. Another key component of leadership is active enforcement and surveillance to ensure parity for reimbursement and identify barriers to adoption.</p>
Emerging Opportunities and Next Steps	<p>HDOH is looking to build on the 2016 legislation and has secured funding (\$150,000) from the legislature to support a pilot project within the agency and from the Department of Labor and Industrial Relations (\$25,000) to support workforce development. HDOH will work with its newly hired telehealth coordinator to implement this pilot and align stakeholders to introduce legislation for the Interstate Medical Licensure Compact. In October 2017, HDOH will host a Program State Telehealth Summit which will be presided over by the governor who will chair the State Telehealth Committee formed as part of this summit.</p>

MASSACHUSETTS	
At a Glance	<ul style="list-style-type: none"> • Types of Telehealth Used: Live video. • Conditions Addressed or Services Provided: Sexual assault care. • State Telehealth Laws Summary.

<p>Program Description</p>	<p>In 1997, the Massachusetts Department of Public Health (DPH) began to develop a statewide Sexual Assault Nurse Examiners (SANE) Program, which today is the only centralized statewide SANE program for patients of all ages. The SANE program offers a coordinated, compassionate, and comprehensive service delivery model and has provided a trauma informed response to over 21,400 sexual assault patients in the past 20 years.</p> <p>A Massachusetts SANE is a medical professional who is rigorously trained on aspects of a forensic medical exam. SANEs have demonstrated improved quality of physical and emotional care for the patient, as well as increased quality of forensic evidence collection; however, SANE training programs are not always available, particularly in remote or rural regions due to low patient volumes and limited training opportunities. In Massachusetts, there is a centralized statewide program with six regions and 143 SANEs.³⁶</p> <p>In 2012, DPH applied for and received a \$3.3 million grant from the U.S. Department of Justice’s Office for Victims of Crime to establish the 24-hour National TeleNursing Center. The National TeleNursing Center connects SANEs to clinicians in remote or underserved regions through live video. The SANE is then able to guide clinicians through sexual assault examinations, which can improve quality of care and healing for the patient, provide support to the clinician, and enhance the quality of evidence used by the criminal justice system. The six pilot sites in Massachusetts, Arizona, and California include a rural hospital, a tribal hospital, two military hospitals, and two community hospitals.³⁷ For each pilot site, the program executed memorandums of understanding (MOUs), conducted site need assessments, provided training to remote site clinicians, and ensured there were necessary equipment, policies, and procedures in place to support this collaborative work.</p> <p>Several key partners have supported this demonstration project: The Newton-Wellesley Hospital donated office space for the National TeleNursing Center; American Doctors Online provided technical assistance and technology support; the University of Illinois has provided program evaluation for the pilot period; and advocacy organizations and sister state agencies have provided expertise on the needs and perspectives of target populations.³⁸</p>
<p>Challenges Encountered</p>	<p>The SANEs who provide remote guidance must be certified in the state in which the partnering clinician is based (currently Massachusetts, Arizona, and California), which is a lengthy and challenging process. In Arizona, the program obtained an opinion letter from the Board of Nursing that the SANEs could practice under their Massachusetts licenses which allowed for a waiver; meanwhile, in California, all Massachusetts SANES were required to go through the California Board of Registered Nursing licensure process.</p>

	In addition, the clinicians who call into the National TeleNursing Center have a wide range of skills and training levels related to treating victims of sexual assault. This varied experience requires different levels of virtual training and support on the part of the SANE professional. The National TeleNursing Center is working to develop trainings that can be adapted to different settings and clinicians. ³⁹
Lessons Learned and Promising Practices	<p>When implementing the National TeleNursing Center, stakeholders focused on community-level relationship building. Partners found it beneficial to visit communities in person to assess site readiness and conduct joint planning. This process helped partners evaluate the varying levels of experience and varying policies across the pilot sites. The program also provides series of trainings with topics tailored to each site, as well as weekly debriefing calls, which have increased clinician confidence and skills. Further, establishing trust with remote site providers took time, with the SANE team approaching this relationship with a team mentality on providing support, rather than a top-down approach.⁴⁰</p> <p>The program was initially funded for three years in 2012. Due to the length of time needed to establish MOUs and contracts with pilot sites, the program has been extended to six years. The importance of anticipating a realistic timeline for completing these necessary steps was another significant lesson learned.</p>
Emerging Opportunities and Next Steps	Stakeholders are working to sustain the current multi-state efforts beyond the pilot period to continue delivering around-the-clock SANE consultation.

NORTH CAROLINA	
At a Glance	<ul style="list-style-type: none"> • Types of Telehealth Used: Live video. • Conditions Addressed or Services Provided: Psychiatry. • State Telehealth Laws Summary.
Program Description	<p>The North Carolina Department of Health and Human Services' Office of Rural Health, in partnership with the East Carolina University Center for Telepsychiatry and e-Behavioral Health, has implemented the North Carolina Statewide Telepsychiatry Program (NC-STeP) to improve access to behavioral health services and psychiatric consultation in the emergency department (ED) setting.⁴¹ Of the counties that have been reviewed, 42 of North Carolina's 100 counties are designated as population or geographic Mental Health Care Professional Shortage Areas (HPSA).⁴² This provider shortage has been a particular concern for rural hospitals.</p> <p>Research from the Carolina Center for Health Informatics found that nearly one in ten ED visits from 2008-2010 was driven by a mental health disorder. Patients placed under involuntary commitment are taken to EDs for an assessment; however, the lack of behavioral health professionals and adequate training among ED professionals to conduct an assessment of</p>

	<p>behavioral health crises has contributed to an average length of stay (LOS) for involuntarily committed patients of 48 to 72 hours. NC-STeP places two-way, real-time videoconferencing technology in EDs to address acute behavioral health crises, ensuring that patients have access to timely and specialized psychiatric consult regardless of location.⁴³</p> <p>The program was created through state legislation, Session Law 2013-360, which appropriated a recurring \$2 million each year. The Duke Endowment has also provided a one-time grant (\$1.5 million) in philanthropic funding to support implementation of NC-STeP. The legislation and program were developed with input from a stakeholder group with representatives from universities, hospitals and health systems, the North Carolina Hospital Association, the North Carolina Psychiatric Association, and others. The program also drew from experiences from the South Carolina Department of Mental Health, which developed a statewide psychiatry program using a hub and spoke model (see “South Carolina” for more information). Funding through the North Carolina Office of Rural Health supports the North Carolina operation center that is based in the East Carolina University Center for Telepsychiatry and e-Behavioral Health.⁴⁴</p> <p>As of 2017, NC-STeP has 42 live telepsychiatry sites with an additional 15 sites in the process of going live. There are seven provider hubs that connect with the telepsychiatry sites to provide assessments. Since inception, NC-STeP has supported over 25,000 assessments, resulting in a decreased average patient LOS and increased overturn of involuntary commitments. The program has generated an estimated cost savings for state psychiatric facilities of over \$13.2 million; further, additional return on investment is anticipated through improved economic outcomes, such as fewer missed work days, reduced healthcare costs and burden on ED staff, and lower premature morbidity and mortality.^{45,46}</p>
<p>Challenges Encountered</p>	<p>Early challenges to telepsychiatry have included patients having concerns or expressing discomfort using the technology. Sustainability of funding has also presented a challenge to continuing expansion. Other challenges have included limited broadband availability, workforce recruitment and turnover, and low reimbursement. Additionally, creating a web portal/health information exchange to support the appropriate and secure exchange of personal health information between the sites has been difficult. Further, the program was limited in scope to assessment of behavioral health crises in the ED, but at the current time is unable to address lack of access and workforce for other types of behavioral health services through the care continuum.</p>
<p>Lessons Learned and Promising Practices</p>	<p>NC-STeP has benefited from strong community and partner engagement, from inception through implementation. A group of an estimated 22 stakeholders worked together to draft the initial legislative proposal, which was submitted to the North Carolina state legislature and received bipartisan support. This stakeholder group has also continued to guide implementation</p>

	<p>of NC-SteP through quarterly advisory calls. This collaboration among champions has allowed North Carolina to develop and continue funding of this statewide program.</p> <p>NC-SteP’s provider hubs have also focused on utilizing clinicians (such as licensed clinical social workers or licensed professional counselors) to the top of their licenses first before referring patients to a more expensive level of care. It is beneficial to support workforce development programs, and North Carolina has also expanded state loan repayment benefits to clinicians practicing in HPSAs to include those providing telehealth services to HPSAs.</p>
<p>Emerging Opportunities and Next Steps</p>	<p>As of August 2017, the program is continuing its expansion efforts to additional sites and continuing to brainstorm how to address implementation challenges to further enhance the program’s success and reach. The vision of NC-SteP is ultimately to ensure access to specialized psychiatric treatment to individuals experiencing an acute behavioral crisis in any hospital ED in the state.</p>

<p>SOUTH CAROLINA</p>	
<p>At a Glance</p>	<ul style="list-style-type: none"> • Types of Telehealth Used: Live video and RPM. • Conditions Addressed or Services Provided: Acute care services, chronic disease management, and mental health counseling in the school setting; inpatient care, psychiatry, stroke, behavioral health and substance use, and others. • State Telehealth Laws Summary.
<p>Program Description</p>	<p>The South Carolina Department of Health and Human Services (SCDHHS), the state Medicaid agency, has worked with telehealth in a number of ways. Most significantly, SCDHHS participates in the oversight and is actively engaged in the South Carolina Telehealth Alliance (SCTA), a statewide collaboration of health systems, non-profit organizations, and government agencies that joined forces to expand telehealth services. SCTA receives its strategic direction from an advisory council comprised of personnel from area health education centers, the Greenville Health System, Palmetto Health-USC Medical Group, Department of Mental Health, Palmetto Care Connections, and Medical University of South Carolina. In total, these organizations serve South Carolina consumers from more than 270 connected sites, with consultation to the home and inpatient and outpatient clinical sites. Collaborative strategy has led to such outcomes as 96 percent of the state being within 1-hour drive of expert stroke care. Mobile device video consultations, RPM for chronic disease, and 24/7 monitoring of intensive care patients in community hospitals are also part of the scope of services provided through SCTA.</p> <p>A notable collaborative effort under the SCTA is that of school-based telehealth. SCDHHS is actively collaborating with SCTA partners to provide</p>

	<p>acute care services, chronic disease management, and mental health counseling in the school setting via telehealth. In collaboration with the South Carolina Department of Education, the effort aims to provide the service in the schools with the highest need based upon evidence of health disparities such as regional asthma emergency room visit rates.</p> <p>Additionally, SCDHHS is partnering with the South Carolina Department of Alcohol and Other Drug Abuse Services for a Medication Assisted Treatment program. SCDHHS will amend policy to add Act 301 Behavioral Health Centers as approved referral sites for covered telemedicine services, allowing the use of telemedicine technologies for the combination of behavioral and medication therapy commonly used to treat substance abuse disorders.</p> <p>An OB-GYN telemedicine demonstration project was piloted from 2014-2017 to enhance prenatal care via telemedicine technologies in at least four counties that demonstrated a lack of adequate OB-GYN resources.⁴⁷ Components of the intervention included using telemedicine as a tool to connect underserved counties with more specialized services, regular communication across health systems and stakeholders, and care management through Low-Country Healthy Start, a program of the South Carolina Office of Rural Health. Most recently, a pilot project began providing prenatal care visits to mothers' homes directly via telemedicine.⁴⁸</p> <p>Another program is a collaboration between the South Carolina Department of Mental Health and South Carolina Hospital Association to develop a statewide telepsychiatry network for all South Carolina hospitals with operating emergency departments. The collaboration has received more than \$10 million dollars in funding from the Duke Endowment to support this work.⁴⁹ A study evaluating this project found that of the 9,066 patients with one telepsychiatry visit between March 2009 and June 2013, the telepsychiatry group was more likely to receive 30-day and 90-day outpatient follow ups than matched controls. Those receiving telepsychiatry were 11 percent less likely to be admitted to the hospital at the index emergency department, with cost savings of \$2,336 for in-patient costs, but no difference in 30-day total healthcare costs.⁵⁰</p> <p>SCTA serves statewide telehealth stakeholders by providing guidance, assisting with strategic development, and advising on technology and standards to develop an open-access network that gives residents access to quality healthcare while effectively managing the cost of providing care.</p>
Challenges Encountered	The state has yet to enact parity legislation, which is a major barrier to telehealth uptake.
Lessons Learned and Promising Practices	One lesson from South Carolina's experience is that pilot programs demonstrate telehealth's value which can then be leveraged for additional funding or program support. Another crucial lesson is the importance of

	collaboration across partners and health systems, which was facilitated by developing shared strategies and mission within SCTA.
Emerging Opportunities and Next Steps	South Carolina plans to continue supporting SCTA, which is considering expanding its reach with additional sites and services.

VIRGINIA	
At a Glance	<ul style="list-style-type: none"> • Types of Telehealth Used: Live video (Project ECHO). • Conditions Addressed or Services Provided: Integrated behavioral health and primary care. • State Telehealth Laws Summary.
Program Description	<p>The Virginia Department of Health (VDH) and its State Office of Rural Health provided initial start-up funding for the Virginia Telehealth Network (VTN), and now offers it ongoing technical assistance and Board representation. VTN is a small nonprofit that provides support and technical assistance outreach to local health districts and other healthcare organizations that are using telehealth to improve population health. It was established in 2002 as a volunteer consortium of professionals from across Virginia who were dedicated to advancing telehealth. VTN promotes standards in three areas: business (e.g., common operating agreements, facilitating sharing of resources, and streamlined reimbursement processes), operations (e.g., standardized templates or clinical formats to ensure care quality), and technical issues (e.g., hardware and software compatibility and connectivity).</p> <p>In the past three years, VDH has ramped up its telehealth-related work and deployed a needs assessment to understand how telehealth services were provided across Virginia. Based on its findings, VDH determined that local health districts were very interested in telehealth, but there was wide variation in capacity and current telehealth services. Recently, Virginia was selected to participate in Project ECHO to establish a statewide, comprehensive, tele-consultative specialty hub that builds substance use disorder and mental health treatment capacity by integrating behavioral health into primary care settings to achieve coordinated, best-practice care, serving as a nationwide model. Moving forward, VDH hopes to serve as a hub for telehealth activities by supporting collaboration and providing technical assistance as a subject matter expert.</p>
Challenges Encountered	Funding is one challenge for Virginia’s telehealth activities, particularly because many local health districts’ programs are funded through grants that have limited terms. In general, state policies are supportive of telehealth, but some barriers remain. For example, there is only parity for telemedicine rather than telehealth, which limits some more innovative programs, such as RPM. Furthermore, Medicaid only provides reimbursement for some telemedicine services.
Lessons Learned and Promising Practices	VDH noted the importance of understanding the current telehealth landscape by deploying a needs assessment. By serving as a convener and

	technical expert, VDH can also support telehealth activities across the state. In addition, providing expertise to legislators and other policy decisionmakers can help promote telehealth. VDH also noted the importance of leveraging resources on telehealth to inform state programs, including its regional telehealth center.
Emerging Opportunities and Next Steps	VDH will continue convening health system partners and other stakeholders to support telehealth activities. It also plans to increase awareness and support for telehealth by convening state officials and working with Medicaid colleagues to encourage telehealth-friendly policies.

WASHINGTON	
At a Glance	<ul style="list-style-type: none"> • Types of Telehealth Used: Live video. • Conditions Addressed or Services Provided: Psychiatry. • State Telehealth Laws Summary.
Program Description	<p>Community Health Plan of Washington’s Mental Health Integration Program (MHIP) in Washington State uses an integrated care model to provide access to mental health screening and treatment for Medicaid and uninsured populations in safety-net primary care settings. Providers use a team-based approach to deliver primary and behavioral healthcare services through a primary care provider, care coordinator, and consulting psychiatrists and mental health providers. The team is able to connect remotely using telehealth infrastructure with live video to provide telepsychiatric consultation. The model also uses a web-based registry to track patients and ensure access to support and follow-up treatment.⁵¹</p> <p>MHIP was launched in 2008 as a state-funded pilot program in King and Pierce counties, and it was expanded into a statewide program in early 2009. The program is administered by Community Health Plan of Washington (a not-for-profit managed care plan) in partnership with the Advancing Integrated Mental Health Solutions (AIMS) Center at the University of Washington.</p> <p>The MHIP program enables psychiatrists at the University of Washington to provide consultation on medication and behavioral interventions to the onsite care coordinators and primary care providers using in-person meetings, video conferencing, and emails. Consultations typically focus on individuals with severe behavioral or physical health symptoms and individuals not meeting treatment expectations or clinical goals.⁵²</p> <p>MHIP has served over 50,000 individuals in over 150 primary care clinics. In 2016, 92 percent of the 5,000 psychiatric consultations were conducted by phone or over telecommunications. The program has demonstrated reduced inpatient admissions, reduced arrest rates among MHIP clients, improved clinical outcomes, and hospital savings of over \$11 million within the first 14 months of statewide implementation.</p>

<p>Challenges Encountered</p>	<p>The initial implementation of MHIP lacked stable funding, since at first Community Health Plan of Washington received annual appropriations from the state legislature. Partnering stakeholders responded by devoting resources to advocacy efforts to secure funding across multiple legislative sessions.⁵³ In 2009, the program shifted to a performance-based payment mechanism to address inconsistencies in quality of care and patient outcomes. Twenty-five percent of payment depends on achieving predetermined quality indicators.⁵⁴ These indicators include timely follow-up of patients, psychiatric consultation for patients who did not show clinical improvement, and regular tracking of psychotropic medications used. The shift to pay-for-performance has halved the median treatment time for patients with depression.</p> <p>This project also encountered workforce development challenges. The MHIP model introduced the roles of behavioral health care coordinator and a consulting psychiatrist into the primary care setting, which required trainings for new and existing practitioners on the web-based registry, systematic case load review, or other concepts.⁵⁵</p>
<p>Lessons Learned and Promising Practices</p>	<p>MHIP stakeholders (representing the AIMS Center, public health agencies, community health centers, community mental health centers, housing providers, and substance disorder providers) hold quarterly regional meetings to discuss program development and implementation with community partners.⁵⁶ This practice allows stakeholders to feel engaged and informed, discuss on-the-ground perspectives, and develop strong partnerships.</p>
<p>Emerging Opportunities and Next Steps</p>	<p>Community Health Plan of Washington and partners plan to sustain current efforts and gains made in both patient health outcomes and healthcare cost savings. Washington anticipates MHIP to be open to federally qualified health centers and rural health centers in 2018, with the implementation of the new Medicaid Collaborative Care billing codes. The Medicaid Demonstration Project’s focus on bi-directional care for Medicaid patients will provide additional opportunity to expand the MHIP model and Collaborative Care to additional sites throughout the state.</p>

Resources for State and Territorial Health Officials

General Information

The environmental scan identified several organizations that have significant resources related to telehealth, including:

- [HRSA’s Office for the Advancement of Telehealth](#) in the Federal Office of Rural Health Policy.
- [Office of the National Coordinator for Health Information Technology](#).
- [Center for Connected Health Policy](#).
- [American Telemedicine Association](#).
- [Rural Health Information Hub](#).

National and Regional Telehealth Resource Centers

The United States has 14 [Telehealth Resource Centers](#) (TRCs): 12 regional centers (RTCs) and two national centers. They comprise the [Consortium of Telehealth Resource Centers](#), which collaborates and develops national resources on telehealth-related policy. The Office for the Advancement of Telehealth funds the RTCs to serve specific regions and states.

The [National Telehealth Policy Resource Center](#), coordinated by CCHP, monitors state and federal legislation, identifies barriers to telehealth use, and provides policy technical assistance to the regional efforts. The center works in close collaboration with the [National Telehealth Technology Assessment Resource Center](#) (TTAC), which aims to inform consumers about telehealth technology. TTAC produces toolkits and technological assessments of different technologies to allow users to learn how they work and assess their applicability to telehealth initiatives.

TRCs stand ready to assist those who are interested in creating telehealth initiatives. For example, in June 2016, the Northeast Telehealth Resource Center published [Telehealth for Rural Health: Regional Updates and Model Programs](#), an update that summarizes state legislation activities, innovative telehealth applications, and other activities. For more information about TRC resources, see Table 1.

Table 1: National and Regional Telehealth Resource Centers

Resource Center	National or State(s)	Website
National Telehealth Policy Resource Center	Nationwide	http://cchpca.org/national-telehealth-policy-resource-center
National Telehealth Technology Assessment Resource Center	Nationwide	www.telehealthtechnology.org
California Telehealth Resource Center	CA	www.caltrc.org
Great Plains Telehealth Resource and Assistance Center	IA, MN, NE, ND, SD, WI	www.gptrac.org
Heartland Telehealth Resource Center	KS, OK, MO	www.heartlandtrc.org
Mid-Atlantic Telehealth Resource Center	DC, DE, KY, MD, NC, PA, VA, WV	www.matrc.org
Northeast Telehealth Resource Center	CT, MA, ME, NH, NY, RI, VT	www.netrc.org
Northwest Regional Telehealth Resource Center	AK, ID, MT, OR, UT, WA, WY	www.nrtrc.org
Pacific Basin Telehealth Resource Center	HI, Pacific Basin	www.pbtrc.org
South Central Telehealth Resource Center	AR, MS, TN	www.learntelehealth.org
Southeastern Telehealth Resource Center	AL, FL, GA, SC	www.setrc.us

Southwest Telehealth Resource Center	AZ, CO, NM, NV, UT	www.southwesttrc.org
TexLa Telehealth Resource Center	LA, TX	www.texlatrc.org
Upper Midwest Telehealth Resource Center	IN, IL, MI, OH	www.umtrc.org

Conclusion

Telehealth is a promising strategy to improve access to care and health outcomes for rural and underserved populations. This resource guide highlights telehealth-related resources that S/THAs or other organizations can use to create or further refine telehealth initiatives. In addition, firsthand experiences from different states described in this guide help inform readers about common challenges and lessons learned when undertaking telehealth activities.

Acknowledgements

The development of this resource is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number UD30A22890 National Organizations for State and Local Officials. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS, or the U.S. Government.

ASTHO would also like to acknowledge the Alabama Department of Public Health, Alaska Department of Health and Social Services, California Department of Public Health, Georgia Department of Public Health, Hawaii Department of Health, Massachusetts Department of Public Health, North Carolina Division of Public Health, South Carolina Department of Health and Human Services, Medical University of South Carolina, University of Washington Department of Psychiatry and Behavioral Sciences, and Virginia Department of Health for their feedback and contributions to this resource guide.

References

-
- ¹ HRSA. “What is Telehealth?” Available at: <https://www.healthit.gov/telehealth>. Accessed 7-12-2017.
- ² Majerowicz A, Tracy S. “Telemedicine: Bridging Gaps in Healthcare Delivery.” May 2010. Available at: <http://library.ahima.org/doc?oid=100028#.WZNZCiiGPD4>. Accessed 8-15-2017.
- ³ American Telemedicine Association. “What is Telemedicine?” Available at: <http://www.americantelemed.org/about/about-telemedicine>. Accessed 8-2-2017.
- ⁴ Center for Connected Health Policy. “What is Telehealth?” Available at: <http://www.cchpca.org/what-is-telehealth>. Accessed 8-2-2017.
- ⁵ Telehealth Resource Centers. “Types of Telemedicine Specialty Consultation Services.” Available at: <https://www.telehealthresourcecenter.org/toolbox-module/types-telemedicine-specialty-consultation-services>. Accessed 8-15-2017.
- ⁶ *Ibid.*
- ⁷ *Ibid.*
- ⁸ Totten A, Womack, W, Eden K, *et al.* “Telehealth: Mapping the Evidence for Patient Outcomes from Systematic Reviews.” AHRQ Technical Brief Number 26. Available at: <https://www.effectivehealthcare.ahrq.gov/ehc/products/624/2254/telehealth-report-160630.pdf>. Accessed 11-7-2016.
- ⁹ Center for Connected Health Policy. “Advancing California’s Leadership in Telehealth Policy: A Telehealth Model Statute & Other Policy Recommendations.” 2011. Available at: <http://www.cchpca.org/sites/default/files/resources/Telehealth%20Model%20Statute%20Report%202-11.pdf>. Accessed 7-28-2017.
- ¹⁰ Mid-Atlantic Telehealth Resource Center. “Delaware Telehealth Roundtable Strategic Action Plan, 2014-2016.” Available at: <https://delawaretelehealth.files.wordpress.com/2014/02/delaware-roundtable-strategic-plan-draft-042514.pdf>. Accessed 7-28-2017.
- ¹¹ South Carolina Telehealth Alliance. “2016 – 2nd Quarter Report.” Available at: https://msp.scdhhs.gov/proviso/sites/default/files/scta_cy2016_q4_report.pdf. Accessed 7-28-2017.
- ¹² Sherwood, Christina Hernandez. “Statistics Show An Increase in State Telehealth Policies.” MedCity News. April 13, 2017. Available at: <http://medcitynews.com/2017/04/statistics-show-increase-state-telehealth-policies/>. Accessed 7-28-2017.
- ¹³ Center for Connected Health Policy. “State Telehealth Laws and Reimbursement Policies: A Comprehensive Scan of the 50 States and the District of Columbia – April 2017.” Available at: <http://www.cchpca.org/sites/default/files/resources/50%20STATE%20PDF%20FILE%20APRIL%202017%20FINAL%20PASSWORD%20PROTECT.pdf>. Accessed 8-2-2017.
- ¹⁴ Epstein Becker & Green, P.C. “Implementation of Private Payer Parity Laws for Telehealth Services. The National Law Review. July 19, 2017. Available at: <https://www.natlawreview.com/article/implementation-private-payer-parity-laws-telehealth-services>. Accessed 7-28-2017.
- ¹⁵ HHS, CMS. “The Medicare Learning Network: Telehealth Services.” Available at: <https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/telehealthsrvcfsctst.pdf>. Accessed 8-2-17.
- ¹⁶ Center for Connected Health Policy. “State Telehealth Laws and Medicaid Program Policies Infographic.” Available at: <http://www.cchpca.org/sites/default/files/resources/50%20states%20summary%20infographic%20FINAL%20Apr%202017.pdf>. Accessed 7-28-2017.
- ¹⁷ Center for Connected Health Policy. “State Telehealth Laws and Reimbursement Policies: A Comprehensive Scan of the 50 States and the District of Columbia – April 2017.” Available at: <http://www.cchpca.org/sites/default/files/resources/50%20STATE%20PDF%20FILE%20APRIL%202017%20FINAL%20PASSWORD%20PROTECT.pdf>. Accessed 7-28-2017.

¹⁸ *Ibid.*

¹⁹ *Ibid.*

²⁰ *Ibid.*

²¹ Thomas L, Capistrant G. "State Telemedicine Gaps Analysis: Coverage & Reimbursement." American Telemedicine Association. Available at: https://higherlogicdownload.s3.amazonaws.com/AMERICANTELEMED/3c09839a-fffd-46f7-916c-692c11d78933/UploadedImages/Policy/State%20Policy%20Resource%20Center/2017%20NEW_50%20State%20Telehealth%20Gaps%20%20Analysis-%20Coverage%20and%20Reimbursement_FINAL.pdf. Accessed 8-2-2017.

²² U.S. Office of Personnel Management. "FEHB Program Carrier Letter: Health Maintenance Organizations." Available at: <https://www.opm.gov/healthcare-insurance/healthcare/carriers/2017/2017-04a.pdf>. Accessed 8-15-2017.

²³ Thomas L, Capistrant G. "State Telemedicine Gaps Analysis: Coverage & Reimbursement." American Telemedicine Association. Available at: https://higherlogicdownload.s3.amazonaws.com/AMERICANTELEMED/3c09839a-fffd-46f7-916c-692c11d78933/UploadedImages/Policy/State%20Policy%20Resource%20Center/2017%20NEW_50%20State%20Telehealth%20Gaps%20%20Analysis-%20Coverage%20and%20Reimbursement_FINAL.pdf. Accessed 8-2-2017.

²⁴ *Ibid.*

²⁵ Interstate Medical Licensure Compact. "The IMLC." Available at: <http://www.imlcc.org/>. Accessed 7-28-2017.

²⁶ National Council of State Boards of Nursing. "Original Nurse Licensure Compact." Available at: <https://www.ncsbn.org/nurse-licensure-compact.htm>. Accessed 8-17-17.

²⁷ Health Technology & Tele-Health Committee, New Canaan Health & Human Services Commission. "Building The Optimal Livable Community for All Residents, Developing a Vision for New Canaan Seniors Health & Wellness, 2016 Program Results & Recommendations Year IV." October 6, 2016. Available at: http://www.newcanaan.info/filestorage/9488/9220/809/13485/2016_Final_TH_Full_Report.pdf. Accessed 7-27-17.

²⁸ Center for Connected Health Policy. "HIPAA." Available at: <http://www.cchpca.org/hipaa-0>. Accessed 7-27-17.

²⁹ Telehealth Resource Center. "Privacy, Confidentiality and Security." Available at: <https://www.telehealthresourcecenter.org/toolbox-module/privacy-confidentiality-and-security>. Accessed 7-28-17.

³⁰ AMD Global Telemedicine. "I want to 'do telemedicine': What is Involved and how much does it cost?" July 9, 2015. Available at: <http://www.amdtelemedicine.com/blog/article/i-want-do-telemedicine-what-involved-and-how-much-does-it-cost>. Accessed 9-1-2016.

³¹ Rural Health Information Hub. "Alabama Public Health Telehealth Network." Available at: <https://www.ruralhealthinfo.org/community-health/project-examples/967>. Accessed 8-17-17.

³² Lewis J, Stapf C. "Using Telehealth to Expand Access to Care for Rural and Underserved Communities: Telehealth in Alaska." Presented on August 35, 2016. Available at: <http://www.astho.org/Health-Systems-Transformation/Webinars/Lessons-Learned-from-States-Using-Telehealth-To-Expand-Access-to-Care-Slides/>.

³³ Lokahi O. "Hawaii Department of Health Grant Funds Telemedicine Program to Improve Access to Care for Stroke Victims." Available at: <http://health.hawaii.gov/news/olalokahi/hawaii-department-of-health-grant-funds-telemedicine-program-to-improve-access-to-care-for-stroke-victims/>. Accessed 11-7-2016.

³⁴ Higa C. "Hawaii Telehealth Update." Hawaii State Rural Health Association Conference. Presented on Oct. 23, 2014. Available at: <http://health.hawaii.gov/opcrh/files/2014/11/Telehealth-Resources-in-Hawaii-Christina-Higa.pdf>. Accessed 8-9-2016.

³⁵ ASTHO. "Genomics and Public Health Case Study: Hawaii's Comprehensive Access Approach." Available at: <http://www.astho.org/Programs/Access/Genomics/Hawaii--A-Comprehensive-Access-Approach/>. Accessed 8-9-2016.

³⁶ Massachusetts Health and Human Services. "About the Center." Available at <http://www.mass.gov/eohhs/gov/departments/dph/programs/community-health/dvip/violence/sane/telenursing/the-national-telenursing-center.html>. Accessed 7-25-2017.

- ³⁷ Massachusetts Health and Human Services. "Pilot Sites." Available at <http://www.mass.gov/eohhs/gov/departments/dph/programs/community-health/dvip/violence/sane/telenursing/target-populations-for-pilot-program-rfr.html>. Accessed 7-25-2017.
- ³⁸ Massachusetts Health and Human Services. "About the Center." Available at <http://www.mass.gov/eohhs/gov/departments/dph/programs/community-health/dvip/violence/sane/telenursing/the-national-telenursing-center.html>. Accessed 7-25-2017.
- ³⁹ Rural Health Information Hub. "National TeleNursing Center Helps Rural Clinicians to Provide Sexual Assault Exams." Available at <https://www.ruralhealthinfo.org/community-health/project-examples/889>. Accessed 7-26-2017.
- ⁴⁰ National Indigenous Women's Resource Center. "Hopi Sexual Assault Tele-Nursing Project: Enhancing Safety for Victims of Sexual Violence." Available at <http://www.niwrc.org/resources/hopi-sexual-assault-tele-nursing-project-enhancing-safety-victims-sexual-violence>. Accessed 7-26-2017.
- ⁴¹ North Carolina Department of Health and Human Services. (n.d.). "Statewide Telepsychiatry Program." Available at <https://www.ncdhhs.gov/statewide-telepsychiatry-program>. Accessed 7-25-2017.
- ⁴² Cooper, Brian P. "Improving Behavioral Health Care in the ED: North Carolina Statewide Telepsychiatry Program." Presentation on ASTHO Webinar. August 7, 2017.
- ⁴³ Saeed, S. (March 2016). "North Carolina Statewide Telepsychiatry Program (NC-STeP): Using telepsychiatry to improve access to evidence-based care." *European Psychiatry*. Available at <http://www.sciencedirect.com/science/article/pii/S092493381600972X>. Accessed 7-26-2017.
- ⁴⁴ Craver R. (23 June 2014). "Telepsychiatry initiative gets \$1.5 million grant." *Winston-Salem Journal*. Available at http://www.journalnow.com/news/local/telepsychiatry-initiative-gets-million-grant/article_d508bd63-4711-5133-91ad-5f455af03876.html. Accessed 7-26-2017.
- ⁴⁵ North Carolina Department of Health and Human Services (2016). "North Carolina Telepsychiatry Program: 2016 Profile (Date from State Fiscal Year 2016)." Available at <https://ncdhhs.s3.amazonaws.com/s3fs-public/2016%20NC%20DHHS%20ORH%20Telepsychiatry%20One%20Pager.pdf>. Accessed 7-25-2017.
- ⁴⁶ North Carolina Department of Health and Human Services. (2015). "North Carolina Telepsychiatry/Rural Health Information Technology Program: 2015 Profile." Available at <https://ncdhhs.s3.amazonaws.com/s3fs-public/documents/files/Telepsych%20One%20Pager%2010-12-15.pdf>. Accessed 7-25-2017.
- ⁴⁷ South Carolina Healthy Connections Medicaid. "OB/GYN Telemedicine Demonstration Project: Provider Alert." Available at: <https://www.scdhhs.gov/press-release/obgyn-telemedicine-demonstration-project>. Accessed 5-31-2016.
- ⁴⁸ Head S. "The Role of Telemedicine in Expanding Prenatal Care." Healthy Connections. Available at: <https://palmettocareconnections.org/wp-content/uploads/2014/12/Head-Telehealth-Summit-Slides-fin.pdf>. Accessed 5-31-2016.
- ⁴⁹ South Carolina Department of Mental Health. "DMH Emergency Department Telepsychiatry Program." Available at: <http://www.state.sc.us/dmh/telepsychiatry/>. Accessed 5-31-2016.
- ⁵⁰ Narasimhan M, Druss BG, Hockenberry JM, *et al.* "Impact of a telepsychiatry program at emergency departments statewide on the quality, utilization, and costs of mental health services." *Psychiatric Services*. July 1, 2015. Available at: <http://europecpmc.org/articles/pmc4699583>. Accessed 5-31-2016.
- ⁵¹ Advancing Integrated Mental Health Solutions (AIMS) Center. "Washington State's Mental Health Integration Program (MHIP)." Available at <https://aims.uw.edu/washington-states-mental-health-integration-program-mhip>. Accessed 7-25-2017.
- ⁵² University of Washington School of Medicine. "Mental Health Integration Program (MHIP)." Available at <https://sharepoint.washington.edu/uwpsychiatry/ClinicalServices/ConsultationandTelepsychiatry/Pages/Mental-Health-Integration-Program.aspx>. Accessed 7-26-17.
- ⁵³ Unutzer, J. "Integrated Mental Health Care: Closing the gap between what we know and what we do." University of Washington. Available at http://uwaims.org/webinars/slides/aims_intro-mhip_031212.pdf. Accessed 7-25-2017.
- ⁵⁴ Bao A, McGuire T, *et al.* "Value-Based Payment in Implementing Evidence-Based Care: The Mental Health Integration Program in Washington State." *American Journal of Managed Care*. Available at <http://www.ajmc.com/journals/issue/2017/2017-vol23-n1/value-based-payment-in-implementing-evidence-based-care-the-mental-health-integration-program-in-washington-state/P-1>. Accessed 7-26-2017.

⁵⁵ Unutzer, J. "Integrated Mental Health Care: Closing the gap between what we know and what we do." University of Washington. Available at http://uwaims.org/webinars/slides/aims_intro-mhip_031212.pdf. Accessed 7-25-2017.

⁵⁶ No Health without Mental Health. "State of Washington Integration for a Safety Net Population with Complex Needs – the Essential Role of Registries, Tracking Systems and SCRS." Available at <http://www.nhmf.org/stateofwashington.html>. Accessed 7-26-2017.