Telemedicine for CSHCN: A State-by-State Comparison of Medicaid Reimbursement Policies and Title V Activities

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The purpose of *Telehealth Connections* is to link two cornerstones of Florida's health-care system – Florida's Title V program (Children's Medical Services; CMS) and local community health centers (CHC) – to (1) reach uninsured children with special health care needs (CSHCN) in Florida and enroll them in insurance, particularly those in underserved communities that traditionally have faced numerous barriers to care: the Black and Hispanic communities, and children living in migrant and rural areas and (2) to implement a model of the medical home in the "safety net" that capitalizes on community-based care, and enhances access to specialty care and Title V services through telemedicine. Through this project we work to ensure that each CSHCN served by community health centers has a medical home that is accessible, family-centered, continuous, comprehensive, coordinated, compassionate, and delivered in a culturally competent environment; and to support the MCHB CSHCN national agenda that all families of CSHCN will have adequate private and/or public insurance to pay for the services they need.

Contents

Tables

Figures

Appendices

I. Introduction and Purpose of Report

One of the challenges states face is achieving equitable access to health care for their constituents, and this is especially so for low-income citizens who are served by public health insurance programs like Medicaid. Traditionally, solving access barriers has meant developing provider networks that are based on the premise that both the provider and the patient must be physically present in the same location. With recent advances in information and communication technology, however, this premise is no longer an imperative. Thus, as states struggle to find cost effective ways to provide care and seek ways to reduce geographic and provider-network barriers, many have considered telemedicine programs. In general, telemedicine refers to the delivery of health care and the exchange of health care information across distances.[1] (A glossary of specific terms related to telemedicine is in Appendix A.)

Despite growing opportunities for the use of telemedicine, not all states have embraced the technology. In part, this is due to significant challenges involving service reimbursement. Thus, state Medicaid programs vary in whether they provide telemedicine and in how they structure it. These variations include differences in what is covered (e.g., diagnoses, procedures); who is covered (an MD or an extender); which site is reimbursed (hub or spoke); whether the service is live or a store-and-forward consultation; coding conventions for how telemedicine is billed; and licensure issues.

Thus, the first goal of this study was to conduct a nationwide survey with Medicaid programs in each of the 50 states regarding telemedicine services, with a specific target of identifying common strategies related to Medicaid reimbursement.

The *Telehealth Connections* Project is focused on children with special health care needs (CSHCN), "…those who have or are at elevated risk for chronic physical, developmental, behavioral, or emotional conditions and who also require health and related services of a type or amount not usually required by children."[2] While many CSHCN receive health care through Medicaid, many also receive services from state Title V programs. Because of Title V's integral role in the care of CSHCN, our second key interest was in documenting states' strategies for the use of telemedicine for meeting the needs of CSHCN.

Over the past several years, State Title V agencies have started to embrace telemedicine technology as a way of solving access problems to specialists, care coordinators, and other types of services needed by CSHCN. Consider Florida, for example. Florida is a very rural state, but also has large urban areas, both of which lead to challenges for access to services needed by CSHCN. Children's Medical Services (CMS), Florida's Title V CSHCN program, has experienced significant access problems related to specialty services over the past few years. Some areas have 9-month waits for appointments; some areas lack specialists in general.[3] Telemedicine has the potential to drastically improve these access problems, by providing the technology for linking children in underserved areas to needed specialty care and case management. CMS has instituted a Telemedicine Initiative as a strategy to alleviate some

[1] Wootton R, Craig J (Eds). *Introduction to Telemedicine*. 1999; Royal Society of Medicine Press, Ltd. London, UK.
[2] McPherson M, Arango P, Fox H, et al. A new definition of children with special health care needs. *Pediatrics*. 1998;102:137-140.
[3] Youngblade, L.M., Wegener, D.H., Curry, L.A., Tuli, S., Nackashi, J., Malasanos, T.H., & Sloyer, P. (2005, April). TeleHealth Connections for Children and Youth: Providing access to Insurance, Care Coordination, and Specialty Care for Uninsured Children with Special Health Care Needs in Underserved Communities through telemedicine. Paper presented at the annual meeting of the American Telemedicine Association, Denver.

of these access issues. However, Florida is also a state in which Medicaid does not currently reimburse for telemedicine, making sustainability and expansion a challenge.

Thus, the second goal was to conduct a nationwide survey of Title V programs in each of the 50 states to ascertain the types of telemedicine services specifically available for CSHCN served by Title V.

Accordingly, this report is organized into two main sections. The first section presents the results of the survey of state Medicaid programs, and the second describes the Title V survey. Within each section, common themes are abstracted. State level detail is provided in accompanying tables. The final section of the report provides concluding commentary.

II. Telemedicine Reimbursement by Medicaid

Two data sources were used for this part of the report. First, a survey of state Medicaid programs was conducted by researchers from the Institute for Child Health Policy. Second, surveys were supplemented with information available on the internet from the Centers for Medicare and Medicaid Services website (www.cms.hhs.gov).

Telephone surveys were conducted during the spring and summer of 2004. The interviewer asked to speak with the Medicaid director or his/her designee who was knowledgeable about telemedicine. Respondents were screened first for whether the state reimbursed for telemedicine through Medicaid or not. If not, they were asked if they had future plans to do so. If so, they were asked a series of questions about reimbursement.

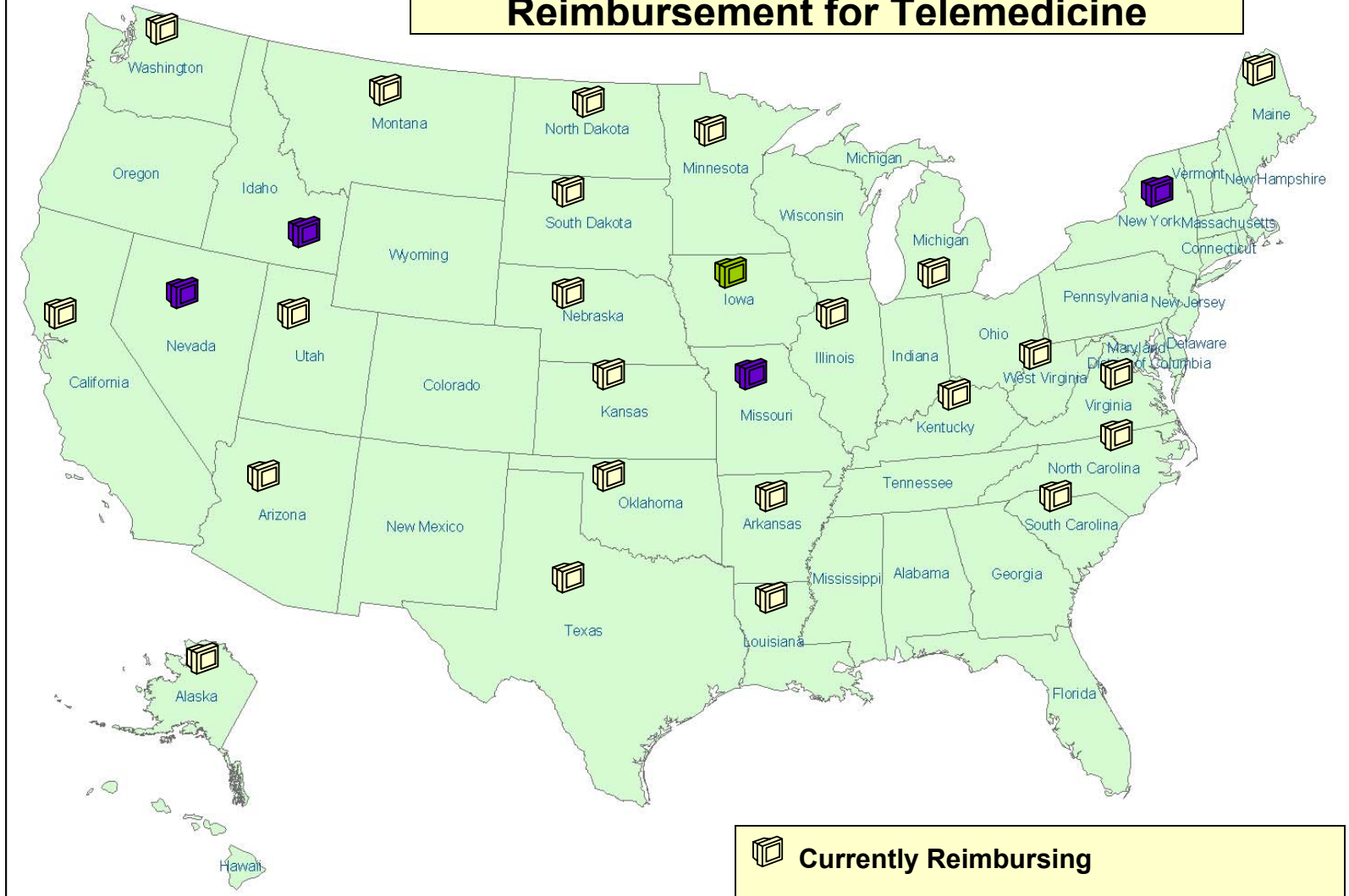
States that Reimburse for Telemedicine Through Medicaid

Figure 1 presents a map showing at the time of the survey which states reimbursed for telemedicine services through Medicaid, and which did not. Of the 50 states surveyed, Medicaid programs in 24 states reported reimbursing for telemedicine. Four additional states responded that they were planning to implement reimbursement in the future.

Twenty-two states reported that Medicaid does not reimburse in their state, including one state that discontinued telemedicine reimbursement after determining that the data did not support cost effectiveness. Of these 22 states, 18 have no future plans to pursue telemedicine reimbursement. Four have ongoing pilot projects and expressed the intent to establish a reimbursement program through Medicaid; in the meantime they are watching the experience of other states and waiting for data from pilot projects.

Several core issues are related to reimbursement, including what is covered (e.g., diagnoses, procedures), which provider is reimbursed (MD or extender), which site is reimbursed (hub or spoke), whether live or store-and-forward consultations are reimbursed, coding conventions for how telemedicine is billed, and licensing issues. State specific information for all of these issues is provided in Tables 1 (Allowable Services and Provider Types for States Providing Medicaid Reimbursement for Telemedicine) and 2 (Reimbursement Methods Used by States Providing Medicaid Reimbursement for Telemedicine). Below, we summarize key elements in these areas as reported by the 24 state Medicaid programs who reimburse for telemedicine.

Figure 1. States Providing Medicaid Reimbursement for Telemedicine



Currently Reimbursing

Planning to Implement Reimbursement

Discontinued Reimbursement

Mode of Telemedicine

All 24 states that reimburse for telemedicine through Medicaid reimburse for some physician consultations via video teleconferencing. Nineteen state Medicaid programs reimburse for real-time consultations only, and of these, three states explicitly specify that patient must be present at the time of the consultation. Five states reimburse for both real-time and store-and-forward consultations. No state reported reimbursement for only store-and-forward consultations. In other words, states that reimburse for store-and-forward consultations also reimburse for real-time visits.

Reimbursable Services

In the 24 states who reimburse, the most common reimbursable services are medical and behavioral/mental health diagnostic consultations or treatment. These and other services are listed below:

- Medical consultations or treatment – 22 states
- Psychological consultations or treatment – 12 states
- Pharmocological management – 2 states
- Home health – 2 states
- Radiology/pathology – 2 states
- Case management – 1 state
- ER consults – 1 state
- Patient education (diabetes) – 1 state

Limitations on Services

Limitations on services were reported of two types: geographic limitations, and service constraints. With respect to geographic limitations, three states reported that Medicaid reimbursed in rural areas only or when service was not available within a 30-mile radius of patient's home.

Ten states report service limitations. Three states reported reimbursing for telemedicine related to behavioral/mental health only. On the other hand, one state reported explicitly that there was no reimbursement for mental health services. Two states stated that there was no reimbursement for ancillary services. One state reimbursed only when the spoke site was in a hospital ER or outpatient setting. Finally, three states constrained reimbursement to clients enrolled in fee-for-service Medicaid.

Who is Reimbursed and How They are Reimbursed

Three sets of questions were asked about who is reimbursed, at what site, and using which coding conventions. Licensed physicians are reimbursed in all 24 states. Other providers (e.g., nurse practitioner) are reimbursed in all but one of these states. Generally, any provider that bills for face-to-face visits can bill for telemedicine, however, the billed services must be within coverage provisions and within the scope of the health-care practitioner's license. All 24 states reimburse under fee-for-service (FFS) arrangements. However, 3 of these states limit telemedicine reimbursement to only FFS Medicaid clients; in these 3 states, if managed care organizations cover telemedicine, they do it under their capitated arrangement.

23 of the 24 states reimburse at both the hub and spoke sites. Some of these states reimburse the hub provider and also provide a facility fee at the spoke site; others reimburse both providers, but in these cases the patient and physician are required to be present at the spoke site. One state reimburses at the hub site only. Few states allow explicit add-ons for line charges or equipment. However, 3 of the 24 states reimburse for transmission fees or applicable long-distance charges, and 1 state covers transportation to the spoke site.

States vary in the billing conventions they use to identify telemedicine services. Most use a combination of Physician's Current Procedural Terminology (CPT) codes and modifiers. Two of the 24 states use CPT codes only. 15 states use CPT codes plus GT (interactive method) or GQ (Store and forward) modifiers from the Healthcare Common Procedure Coding System (HCPCS), which provides physician fee schedule payment amounts for services covered under the Medicare Physician Fee Schedule, developed by the Centers for Medicare and Medicaid Services (CMS). Seven states use CPT plus a TM modifier or local codes; the use of local codes is being phased out with the HIPAA requirement that local codes no longer be used.

Understanding state Medicaid practices for reimbursement is important for service delivery and implementation. It is also important for evaluations of cost effectiveness and quality of care. Along these lines, it is important to note that coding/billing inconsistencies across states make it difficult to track telemedicine utilization and expenditures, which is an important facet of effectiveness demonstration.

Licensure Requirements

Sixteen of the 24 states limit reimbursement to licensed providers within the state; one of these states also requires enrollment with the state as a telemedicine provider. Six of the 24 states allow out-of-state billing, but the consultant must be licensed in the state from which the consultation is provided. And, of these six, one allows out-of-state billing only on an emergency basis, with prior authorization. Two states did not have licensure requirements available.

Summary

Variability in Medicaid telemedicine reimbursement exists between states. However, some generalities can be concluded. The most common scenario is for medical or mental health consultation or treatment, with fee-for-service reimbursement to both the hub and spoke site, either to both providers or with a provider fee to the spoke and a facility fee to the hub. Reimbursement is provided to physicians and extenders, mainly within the state, and is generally billed by CPT codes with HCPCS modifiers. Some states have limitations related to service type and geography.

Table 1. Allowable Services and Provider Types For States Providing Medicaid Reimbursement for Telemedicine

State	Type of Service(s) Which Can Be Reimbursed	Conditions or Limitations	Payments to Non-physician health care providers	Licensure Requirements
Alaska	Physician consultations using interactive video teleconferencing. Services using telemedicine must be within the scope of Medical Assistance's coverage provisions, be within the scope of the health-care practitioner's license, and be a service that is appropriate for using a telemedicine method.	No reimbursements for: Home and community-based waiver, pharmacy, DME, transportation, accommodation, ESRD, Midwife, PCA, private duty nursing, and vision (including optician services).	Yes, nurse Practitioners can bill for telemedicine services.	Information not available.
Arizona	Medically necessary consultative and/or treatment for all eligible members within certain limitations.	Covered behavioral health services for Title XIX and Title XXI members include: 1) diagnostic consultation and evaluation, 2) psychotropic medication adjustment and monitoring, 3) individual and family counseling, and 4) case management. – real time only.	Yes, referring provider can be physician, PA, RN practitioner, RN midwife, or clinical psychologist. Medical professional personnel as consultants also can include behavioral health case manager, behavioral health professional, or an occupation, physical, speech, or respiratory therapist. At the time of service delivery, the health care provider can designate a trained telepresenter if the PCP is not present.	Only services provided by AHCCS registered provider can be reimbursed. A consulting service delivered via telemedicine by other than an Arizona licensed provider must be a single, or infrequent, service provided and the consultant must be licensed to practice in the state from which the consultation is provided.
Arkansas	Physician consultations using interactive video teleconferencing (real time).	No information available.	No, only physicians. However, State does reimburse facilities (community mental health centers) for certain services provided by qualified mental health professionals via telemedicine. The State does not reimburse the professionals, but the facilities where those professionals work. Hospital outpatient departments and	Only licensed providers within the state.

State	Type of Service(s) Which Can Be Reimbursed	Conditions or Limitations	Payments to Non-physician health care providers	Licensure Requirements
			ambulatory surgical centers may be reimbursed for services that are, by definition, telemedicine, but the State currently has no means by which to track payments.	
California	Physician consultations (medical and mental health) using interactive video teleconferencing.	No information available.	Yes, any provider that can bill face-to-face may bill for telemedicine services. Telemedicine is billed no differently than face-to-face.	Place of service is where resident resides. If provider is out-of-state, a valid license from that state is required.
Georgia	Physician consultations using interactive video teleconferencing. The use of video conferencing for direct patient management by a remote physician is not covered. Physician consultations are the only type of telemedicine services covered.	Special program for using telemedicine with behavioral health conditions.	Yes, referring physician may have other trained medical personnel present the patient during the telemedicine consultation. Enrolled attending physicians, physician assistants, and ARNPs may bill for their services.	Yes, consulting physician must be licensed and practicing medicine within the state.
Idaho	**Note**: State considering Medicaid reimbursement at the time of survey. Specific information not yet available, but plan is for physician consultations using interactive video teleconferencing.	No information available.	No.	Yes, consulting physician will need to be licensed and practicing medicine within the state.
Illinois	Physician consultations using interactive video teleconferencing.	Services must be provided in the hospital emergency room or hospital outpatient setting for emergent and non-emergent situations.	Yes, the hub site may use a physician or other medical personnel (PA, ARNP, or other RN) operating under written protocol established by the physician to present the patient.	Consulting physicians must meet the State's requirements for consultations.
Iowa	**Note**: Program terminated at time of survey due to insufficient data to support it. State had reimbursed for physician consultations using interactive video teleconferencing	No information available.	No information available.	No information available.
Kansas	Home health care (limited to certain services) and mental health services already covered by the state plan using video equipment	No information available.	Yes, any provider that bills for face-to-face visits can do telemedicine.	In state only. Some border cities may also out-of-state licensed providers but this must have prior authorization from the State.

State	Type of Service(s) Which Can Be Reimbursed	Conditions or Limitations	Payments to Non-physician health care providers	Licensure Requirements
	Consultations, office visits, individual psychotherapy, and pharmacological management.			
Kentucky	Physician consultations using interactive video teleconferencing. Psychiatric services (limited to 12 per recipient per year).	No information available.	Yes, ARNPs and PAs working under physician supervision, dentists or oral surgeons. Presence of a medical provider at the spoke site is not required unless it is requested by the medical specialist at the hub site.	Yes. Psychiatric services must be provided by a licensed CMHC.
Louisiana	Physician consultations using interactive video teleconferencing. Mental Health program only live consultations only --- no store-and-forward. Otherwise no Medicaid policy on reimbursement. Tertiary care facilities do provide telemedicine services and bill as if face-to-face – no modifiers, etc.	No information available.	Yes, RNs and other allied health professionals. Physician Assistants are allowed to perform the service using telemedicine if they are authorized by a primary physician.	Yes.
Maine	Physician consultations using interactive video teleconferencing. Services reimbursed must be medically appropriate.	No information available.	Yes, RNs and other allied health professionals that provide a billable service. Payment amount is no different but may change to 80% of physician reimbursement amount in the future. Providers also can be reimbursed for translation or interpreter services for non-English speaking and deaf/hard of hearing members.	Yes. In addition provider must be enrolled with State as a provider of telemedicine services. Also required is documentation justifying the provision of services via telemedicine instead of face-to-face encounters.
Michigan	Physician consultations using interactive video teleconferencing.	No information available.	Yes, both RNs and allied health professionals.	Yes, must be registered as a Michigan provider
Minnesota	Physician consultations (medical and mental health) using interactive video teleconferencing or store-and-forward	Telemedicine consultation coverage is limited to physician services.	Yes. ARNP and Physician Assistants are	Yes. In emergencies (rare) out-of-state providers can bill. Requires prior

State	Type of Service(s) Which Can Be Reimbursed	Conditions or Limitations	Payments to Non-physician health care providers	Licensure Requirements
	technology. Interactive video conferencing may be billed when there is no physician present in the ER, if the nursing staff requests a consultation from a physician in a hub site. Coverage limited to three consultations per beneficiary per calendar week. Reimbursement made for only one reading or interpretation of diagnostic tests such as x-rays, lab tests, and diagnostic assessments. Reimbursement now includes home telemedicine.	Only for Medicaid recipients in fee-for-service programs. Prepaid health plans may or may not choose to pay for services delivered in this manner.	reimbursed at 90% of the physician's rate. Midwives are reimbursed at 100% of the physician's rate.	authorization prior to the service being provided. Out-of-state providers can enroll in the telemedicine program but they must have a Minnesota license to be reimbursed.
Missouri	**Note:** State considering Medicaid reimbursement at the time of publication. Specific information not yet available.	No information available.	No information available.	No information available.
Montana	Any medical or psychiatric service already covered by state plan using interactive video teleconferencing.	No information available.	Yes. ARNP and Physician Assistants are reimbursed at 90% of the physician's rate.	Allow out-of-state providers but these providers must have a valid state license and be enrolled as a Medicaid provider.
Nebraska	Most state plan services when using interactive video teleconferencing. In general, services are covered so long as a comparable service is not available within a 30-mile radius of the patient's home.	Mental health and dermatology. Excluded: DME and supplies, orthotics, prosthetics, personal care aides, pharmacy services, medical transportation services, MHSA, Home & Community based waiver services.	Yes. ARNPs, Physician Assistants, mental health providers, dentists, ancillary services/therapists.	Yes, must follow state regulations of the state that the procedure is occurring in.
Nevada	**Note**: State considering Medicaid reimbursement at the time of survey. Specific information not yet available.	No information available.	No information available.	No information available.
New York	**Note**: State considering Medicaid reimbursement at the time of survey. Specific information not yet available.	No information available.	No information available.	No information available.

State	Type of Service(s) Which Can Be Reimbursed	Conditions or Limitations	Payments to Non-physician health care providers	Licensure Requirements
North Carolina	Initial, follow-up or confirming consultations in hospitals and outpatient facilities using interactive video teleconferencing – mental health and physician consults primarily. The patient must be present.	No information available.	Yes, RNs and other allied health professionals; however, it must be billed under a physician's Medicaid number.	Yes – no out-of-state providers yet.
North Dakota	Specialty physician consultations using interactive video conferencing. Patient must be present.	No information available.	No information available.	No information available.
Oklahoma	Physician consultations using interactive video conferencing.	No information available.	Yes, any provider who is a Medicaid provider. Reimbursement is the same amount regardless of type of provider.	Yes, only in-state providers are reimbursed.
South Carolina	Physician consultations (medical and psychiatric – telepsychiatry added in 2000) when live, real-time, two-way interaction via a telecommunication system.	Patient's health care provider or other trained medial personnel (PA, ARNP, RN) must be present during the session. A maximum of two follow-up consultations may be billed per patient per admission.	Yes, nurse practitioners, and nurse-midwives, Physician assistants, clinical nurse specialists, clinical psychologists and clinical social workers may refer patient for teleconsultation.	Yes, psychiatrist must be licensed and enrolled with the SC Medicaid program and practicing medicine within the SC service area.
South Dakota	Physician consultations using (interactive and non-interactive) video conferencing.	Coverage is limited to physician consultation services, and follow-up office visits for established patients. State does not cover mental health services provided via telemedicine technology.	Yes, ARNPs, Doctors of Osteopathy, and Certified Mid-wives are allowed to bill as are rural health clinics and federally qualified health centers.	No information available.
Texas	Physician consultations (teleconsultations) using interactive video teleconferencing. Also reimbursed are services without face-to-face contact current using telemedicine – teleradiology and telepathology.	Limited to physician services in rural or underserved areas.	Yes, D.O.s, ARNPs, and certified nurse midwives.	Yes, must be licensed within the state of Texas.

State	Type of Service(s) Which Can Be Reimbursed	Conditions or Limitations	Payments to Non-physician health care providers	Licensure Requirements
Utah	Mental health consultations provided by psychiatrists, psychologists, social workers, psychiatric registered nurses and certified marriage or family therapists; diabetes self-management training provided by qualified registered nurses or dieticians; services provided to for children with special health care needs by physician specialists and pediatricians when children reside in rural areas using interactive video teleconferencing.	Telehealth Home Healthcare is a 2-year pilot program.	Yes, RNs and Dieticians. Actual amount reimbursed varies by the type of service.	Yes, currently in state providers only.
Virginia	Medical and mental health services already covered by the state plan when furnished using interactive video teleconferencing. Office visits, individual psychotherapy and full range of consultations covered.	Only for those enrollees in Medicaid FFS programs, coverage doesn't extend to those enrollees in capitated plans.	Yes, ARNPs, Nurse Midwives, Clinical Nurse Specialists, Clinical Psychologists, Clinical Social Workers, Licensed Professional Counselors – any provider participating in the state's Medical Assistance Program.	No information available.
Washington	Physician consultations using interactive video teleconferencing. Patient must be present and participating in the telehealth visit.	Only fee-for-services enrollees are eligible for the reimbursement. Home health monitoring is not reimbursed.	Yes, ARNPs only.	No information available.
West Virginia	Physician consultations using interactive video teleconferencing. Patient must be present at time of the consultation.	No information available.	No information available.	No information available.

Table 2. Reimbursement Methods Used by States Providing Medicaid Reimbursement for Telemedicine

State	Payment Method	Reimbursement Type	How Identified in Claims/Use of Modifiers	"Store and Forward" vs. Live
Alaska	FFS for provider type Same as reimbursement for covered services furnished in the conventional, face-to-face manner.	Reimbursement is at both ends (hub and spoke), however presenting provider can bill only with interactive telemedicine consultations.	Appropriate CPT codes for provider type. Some telemedicine modifiers are required – "GT" (interactive method) and "GQ" (store-and-forward method) – exception: teleradiology services don't require modifiers.	Reimburses for both real-time and "store and forward".
Arizona	FFS Same as reimbursement for covered services furnished in the conventional, face-to-face manner.	Consulting provider only. Can also bill for non-emergency transportation to and from the telemedicine spoke site to receive medically necessary consultation or treatment.	CPT codes using the "GT" modifier and are billed by the consulting provider.	Reimburses for both real-time and "store and forward".
Arkansas	FFS Same as reimbursement for covered services furnished in the conventional, face-to-face manner.	Reimbursement is at both ends (hub and spoke). State would review "add-on" costs but none have been presented.	Specific codes to identify telemedicine services Before HIPAA implementation, State used very few modifiers, but have since developed unique type of service codes. Modifiers need to be developed soon as providers are currently unable to bill electronically for telemedicine services.	Reimburses for real-time only. No "store and forward". If a "store and forward" consultation is medically necessary and meets AMA guidelines for a consultation, then it is a covered service, but it is not reimbursed as telemedicine.
California	FFS Same as reimbursement for covered services furnished in the conventional, face-to-face manner.	Reimbursement is at both ends (hub and spoke). No "add ons" (technical support, line charges or depreciation of equipment) are allowed.	Consultative CPT codes with the modifier "TM" to identify telemedicine services. However, this modifier is voluntary so not much motivation for providers to use. Approximately 100 codes used.	Reimburses for real-time only. No "store and forward". Note: There may be future reimbursement for "store and forward" due to market pressures.

State	Payment Method	Reimbursement Type	How Identified in Claims/Use of Modifiers	"Store and Forward" vs. Live
Georgia	FFS Same as reimbursement for covered services furnished in the conventional, face-to-face manner See Appendix ? for reimbursement rates.	Reimbursement is at both ends (hub and spoke).	Specific local codes to identify the consultation furnished at the hub site. No special codes or modifier used at the spoke site. Request must be documented in the medical record at the referring site. Referring providers use the most appropriate CPT Evaluation and Management code.	Reimburses for real-time only. No "store and forward". The use of video conferencing for direct patient management by a remote physician is not covered. Physician consultations are the only type of telemedicine services covered.
Idaho **Note**: Program not reimbursing at time of survey. Currently working on it.	FFS Same as reimbursement for covered services furnished in the conventional, face-to-face manner.	State to reimburse for a "facility fee" of $20, billed with a HCPCS code (Q3014 telehealth originating site facility fee).	State has chosen three CPT codes which are billable. These include codes for: pharmacologic management --codes 9081M and 90862), 2) and individual psychotherapy -- code 90805. The "GT" modifier (used by Medicare) is used.	No information available.
Illinois	FFS Same as reimbursement for covered services furnished in the conventional, face-to-face manner.	Reimbursement is at both ends (hub and spoke). IDPA will reimburse one provider at the spoke site and one or more providers at the hub site depending on medical necessity.	Specific codes to identify telemedicine services. Assigned codes have a crosswalk to CPT codes and use an appropriate, site-specific (hub or spoke) telemedicine "W" code.	Reimburses for both real-time and "store and forward".
Iowa **Note**: Program terminated at time of publication due to insufficient data to support it.	FFS Same as reimbursement for covered services furnished in the conventional, face-to-face manner.	Reimbursement is at both ends (hub and spoke).	Specific local codes for the add-on payment and CPT codes with the modifier "TM" to identify the consultations.	No information available.

State	Payment Method	Reimbursement Type	How Identified in Claims/Use of Modifiers	"Store and Forward" vs. Live
Kansas	FFS for MH services. Same as reimbursement for covered services furnished in the conventional manner. Compensation for home health care via telemedicine made at a reduced rate.	Reimbursement at hub site only. Reimbursement at the originating site (where patient is) is billed as Q3014 (telemedicine originating facility fee) and reimbursed at the rate of $20.00. As a condition of payment, the patient must be present and participating in the telemedicine visit.	Local codes identify home health services furnished using visual communication equipment. No special modifiers for mental health services. "GT" modifiers used for telemedicine. Covered services include: consultation (CPT codes 99241-99275), office visits (CPT codes 99201-99215), individual psychotherapy (CPT codes 90801, 90804-90809 and 90847), and pharmacologic management (CPT code 90862).	Reimburses for real-time only. No "store and forward".
Kentucky	FFS Same as for covered services furnished in the conventional, face-to-face manner.	Reimbursement is at both ends (hub and spoke). Medical record at the referring provide site must include the location of the hub and spoke site, informed consent, documentation of supporting medical necessity, diagnosis and treatment plan.	"GT" modifier identifies a Telehealth service which is approved by the healthcare common procedure coding system (HCPCS).	Reimburses for real-time only. No "store and forward".
Louisiana	FFS Same as reimbursement for covered services furnished in the conventional, face-to-face manner.	Reimbursement is at both ends (hub and spoke)	Consultative CPT codes Modifier for mental health CPT codes.	Mental Health program only live consultations only --- no store-and-forward. Otherwise no Medicaid policy on reimbursement. Tertiary care facilities do provide telemedicine services and bill as if face-to-face – no modifiers, etc.

State	Payment Method	Reimbursement Type	How Identified in Claims/Use of Modifiers	"Store and Forward" vs. Live
Maine	FFS Same as for covered services furnished in the conventional, face-to-face manner.	Reimbursement is at both ends (hub and spoke). No "add ons" (technical support, line charges or depreciation of equipment) are allowed. Reimbursed only if application on file with State and approved as a provider of telemedicine services.	Same procedure codes as face-to-face with the "GT" modifier included to distinguish the codes as delivered via telemedicine. The state has experienced difficulty in identifying claims. They are now attempting to use modifiers.	Reimburses for real-time only. No "store and forward".
Michigan	FFS Same as for covered services furnished in the conventional, face-to-face manner.	Reimbursement is at both ends (hub and spoke). No "add ons" (technical support, line charges or depreciation of equipment) are allowed.	Both CPT codes and modifiers	Reimburses for real-time only. No "store and forward".
Minnesota	FFS Same as for covered services furnished in the conventional, face-to-face manner.	Reimbursement is at both ends (hub and spoke). No payment made for transmission fees.	Consultation CPT codes with modifier "CT" for interactive video services and modifier "WT" for store-and-forward technology consultations Emergency Room CPT codes are used with a "GT" modifier for interactive video consultation done between ER rooms. The state has experienced difficulty in determining the volume of TM as providers do not consistently use modifiers.	No information available.
Missouri	**Note:** State considering Medicaid reimbursement at the time of publication. Specific information not yet available.	No information available.	No information available.	No information available.
Montana	FFS Same as for covered services furnished in the conventional, face-to-face manner.	Reimbursement is at both ends (hub and spoke). Referring provider does not need to be enrolled in Medicaid nor be present during the telemedicine consult. No "add ons" (technical support, line	No new codes developed; codes used from existing CPT. Modifiers ("GT" and "GQ") are used, however.	Reimburses for real-time only. No "store and forward".

State	Payment Method	Reimbursement Type	How Identified in Claims/Use of Modifiers	"Store and Forward" vs. Live
		charges or depreciation of equipment) are allowed.		
Nebraska	FFS Same as for covered services furnished in the conventional, face-to-face manner.	Reimbursement is at both ends (hub and spoke). Payment for transmission costs are set at the lower of the billed charge or the state's maximum allowable rate. NOTE: Also includes a transmission fee of $.05 per minute.	Code requirements vary depending on billing for service and claim forms used The state has experienced billings <$1,000 in the past two years.	Reimburses for real-time only. No "store and forward".
Nevada	**Note:** State considering Medicaid reimbursement at the time of publication. Specific information not yet available.	No information available.	No information available.	No information available.
New York	**Note:** State considering Medicaid reimbursement at the time of publication. Specific information not yet available.	No information available.	No information available.	No information available.
North Carolina	FFS Same as for covered services furnished in the conventional, face-to-face manner.	75% of fee schedule amount at hub site; 25% at spoke site. The above information is changing. Full payment will go to the hub site and the spoke site will be reimbursed a facility rate of $20 per visit but this has not yet gone into effect. (This change was apparently implemented as a response to HIPPA.	GT modifier used by the consulting provider at the hub site; YS modifier used by the referring provider at the spoke site.	Reimburses for real-time only. No "store and forward".
North Dakota	FFS Same as for covered services furnished in the conventional, face-to-face manner.	Reimbursement is at both ends (hub and spoke). If a physician is present with the patient he can bill for the service he is providing. If a separate long distance line charge is required for out-of-network sites, NDMA will reimburse the actual cost of the line from the phone company. $20.00 is for the use of the room and the	CPT codes used with TM modifier to identify covered services which are furnished by audio visual communication equipment. The consulting site must use the "GT" modifier on their claims to denote telemedicine services.	Reimburses for real-time only. No "store and forward".

State	Payment Method	Reimbursement Type	How Identified in Claims/Use of Modifiers	"Store and Forward" vs. Live
		technical set up of the equipment. The reimbursement is the same no matter if the telemedicine room is in the clinic, hospital, or ER room. All sites are considered a clinic site or service.		
Oklahoma	FFS Same as for covered services furnished in the conventional, face-to-face manner.	Reimbursement is at both ends (hub and spoke) No "add ons" (technical support, line charges or depreciation of equipment) are allowed.	Consultative CPT codes. Do not use modifiers to keep track of telemedicine reimbursement. Teleradiology is used a lot but no modifier is used.	Reimburses for real-time only. No "store and forward".
South Carolina	FFS Same as reimbursement for covered services that are delivered face-to-face.	No "add ons" (technical support, line charges or depreciation of equipment) are allowed.	Local codes have been changed to comply with HIPAA. CPT codes included initial, follow-up or confirming consultation codes (99241-99245, 99251-99255, 99261-99263, and 99271-99275). Referring physician uses a "TM" modifier and the psychiatric physician also uses the same code.	Reimburses for real-time only. No "store and forward".
South Dakota	FFS Same as for covered services furnished in the conventional, face-to-face manner	Reimbursement is at both ends (hub and spoke) No "add ons" (technical support, line charges or depreciation of equipment) are allowed.	Consultative CPT codes with a TM modifier to identify telemedicine services. Appropriate CPT codes for physician consultation services are within the CPT range of 99241-99275. Also covered CPT evaluation and management procedures codes (99211-99215).	Reimburses for both real-time and "store and forward".
Texas	FFS Same as for covered services furnished in the conventional, face-to-face manner.	Reimbursement is at both ends (hub and spoke) No "add ons" (technical support, line charges or depreciation of equipment) are allowed.	Consultative CPT codes with a TM modifier.	Also reimbursed are services without face-to-face contact current using telemedicine – teleradiology and telepathology.

State	Payment Method	Reimbursement Type	How Identified in Claims/Use of Modifiers	"Store and Forward" vs. Live
Utah	FFS Same as for covered services furnished in the conventional, face-to-face manner.	Reimbursement is at both ends (hub and spoke) for diabetes self management training services and children with special health care needs. Reimbursement is made only to the consulting professional for mental health services. Payment is made for transmission fees.	CPT codes with GT and TR modifiers	Currently only reimburse for live consultations but anticipate reimbursing for "store-and-forward" consultations in the future.
Virginia	FFS Same as for covered services furnished in the conventional, face-to-face manner.	Reimbursement is at both ends (hub and spoke) for only medical services.	Specific local codes to identify telemedicine services. Use of "GT" as modifier. Hub provider bills for consultation and referring provider bills a HCPCS telemedicine code for presenting patient. Consultations: CPT 99241-99275; office visits: CPT codes 99201-99215; individual psychotherapy: CPT codes 90804-90809; Pharmacologic Management: CPT codes 90862; other specific tests: CPT codes 57452, 574543, 57460, 76805, 76810, 76825, 93010, 99307, 99308, 99321, 99325.	Reimburses for real-time only. No "store and forward".
Washington	FFS Same as reimbursement for covered services that are delivered face-to-face.	Full reimbursement at hub site only. Referring provider is reimbursed a $20 facility fee per completed transmission.	Use appropriate CPT code with the "GT" modifier. Consultations: CPT codes 99241-99275; Office or other outpatient visits: CPT codes 99201-99215; Psychiatric intake and assessment: CPT code 90801; Individual psychotherapy: CPT codes 90804-90809, and Pharmacologic management: CPT code 90862.	Reimburses for real-time only. No "store and forward".
West Virginia	FFS Same as for covered services furnished in the conventional, face-to-face manner.	Reimbursement is at both ends (hub and spoke). No "add ons" (technical support, line charges or depreciation of equipment) are allowed.	Consultative CPT codes with a TV "GT" modifier.	Reimburses for real-time only. No "store and forward".

III. State Title V Programs Using Telemedicine and Telehealth for CSHCN

Telephone surveys were conducted during fall 2004 and winter 2005. The interviewer asked to speak with the Title V director or his/her designee who was knowledgeable about telemedicine for CSHCN. Respondents were screened first for whether the state Title V Program was involved with any telemedicine or telehealth activities. If not, they were asked if they had future plans to do so. If so, they were asked about how they were using this technology.

State Title V Programs that Use Telemedicine/Telehealth

As seen in Figure 2, 31 state Title V programs are either currently using or planning to implement telemedicine or telehealth activities for CSHCN and their families. However, the use of telemedicine/telehealth varies widely from state to state – from specific subspecialty clinics to educational meetings, training, or internet communication with families. Of these 31 Title V programs, 19 are in states that have Medicaid reimbursement for telemedicine, whereas 12 are not. Four states reimburse for telemedicine, but Title V in these four states does not conduct telemedicine or telehealth for CSHCN; the remaining 11 states report no telemedicine through either Medicaid or Title V.[4]

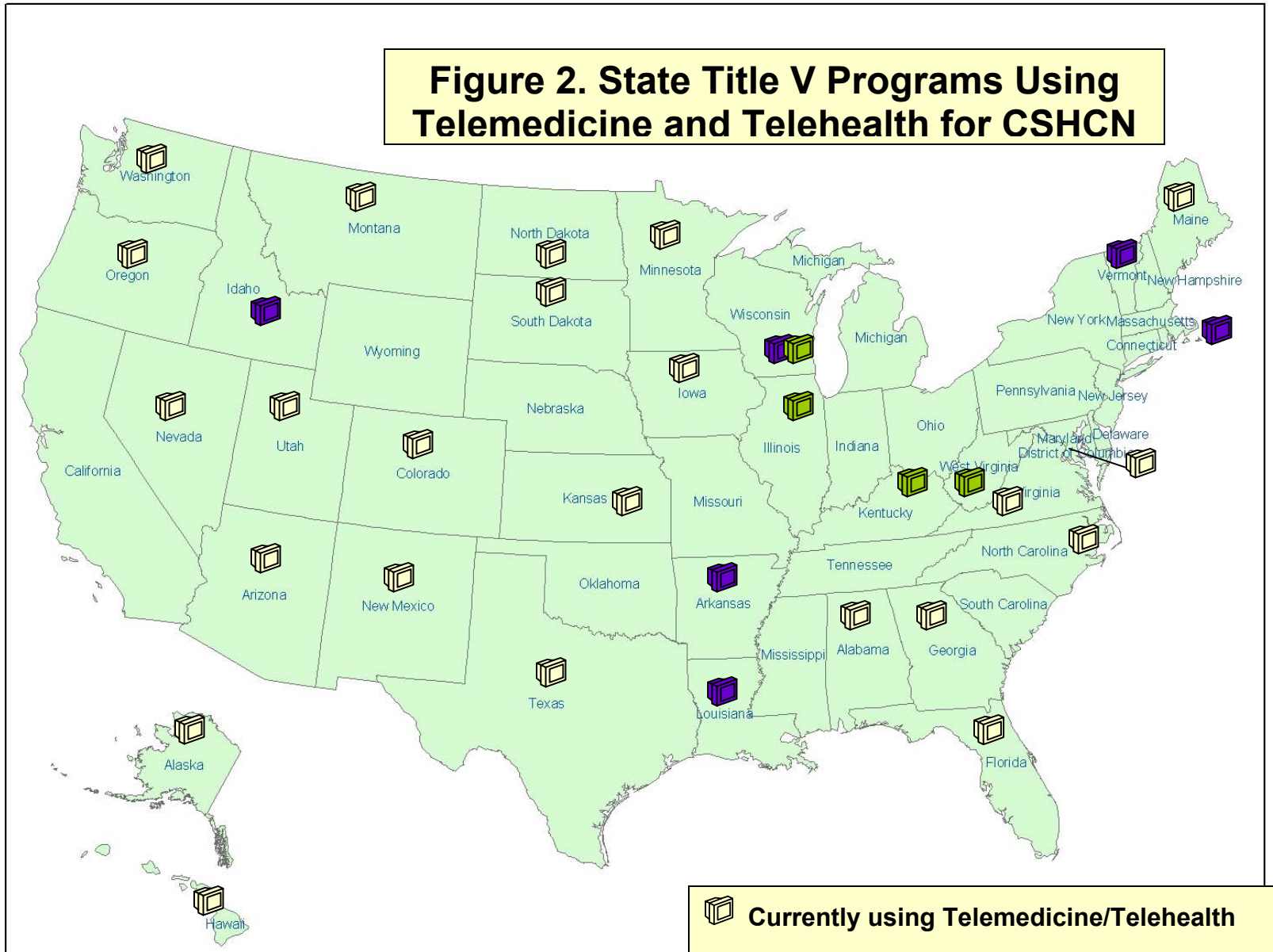
The survey asked about several core issues related to Title V involvement in telemedicine and telehealth for CSHCN. These include questions about specific uses, eligibility criteria, Title V's role (e.g., referrals, funding equipment), and funding mechanisms (Medicaid, private insurance, or other). State specific information about these issues is in Table 3 (Title V Involvement in Telemedicine and Telehealth for CSHCN: Uses, Eligibility, and Funding Mechanisms). The survey also asked about Title V's perceptions of the successes and challenges related to telemedicine and telehealth, and state specific information is in Table 4 (Title V Involvement in Telemedicine and Telehealth for CSHCN: Satisfaction and Challenges). Next, we summarize key elements in these areas as reported by the 31 state Title V programs who report using telemedicine or telehealth to serve CSHCN and their families.

Use of Telemedicine or Telehealth

Twelve states described providing only telemedicine services, such as clinics and diagnostics. Six states reported conducting only telehealth activities, such as education or internet research and communication. About half (thirteen) of the 31 Title V programs are involved in both telemedicine (e.g., clinics) and telehealth (e.g., education) activities.

[4] Four states did not respond to the Title V survey, so the numbers only sum to 46.

Figure 2. State Title V Programs Using Telemedicine and Telehealth for CSHCN



Note: The following states did not respond to the survey: Maryland, Michigan, Nebraska, New York.

Currently using Telemedicine/Telehealth

Currently using Telehealth

Planning to implement Telemedicine program

Client Eligibility and Title V's Role

Title V programs reported on eligibility criteria. About 5 states reported very broad criteria (e.g., "children," or "Title V enrollee"), and 18 reported specific criteria – generally along diagnostic or geographic dimensions (e.g., "child with neurological problems" or "rural patients"). The remaining 8 states reported either no eligibility criteria, or were conducting broad educational telehealth activities (e.g., internet based).

The survey also queried Title V about its role in telemedicine/telehealth – from funding services, to making referrals, to providing equipment, to care coordination, to training. While there was a good deal of overlap, such that many Title V programs were involved in all these aspects, there was some slight variation. On the whole, however, about 15 Title V programs reported funding services, 17 reported making referrals, 13 reported providing equipment, 14 reported coordinating care, and 13 reported providing either provider or client training activities.

Additional Funders

From the first part of the study, states were identified as either reimbursing through Medicaid for telemedicine or not. In addition, the survey asked Title V programs whether other funding mechanisms were available in terms of either private insurance or other (e.g., grants, pilot projects). Eleven Title V programs reported that private insurance was available; and 17 states reported funding sources that included grants, pilot projects, or other sources.

Telemedicine/Telehealth Motivation and Success

The primary motivation for state Title V programs to adopt telemedicine/telehealth was access. Nineteen states reported that improving access was a main motivator, and that this was especially so for rural clients. One of these states specifically mentioned a shortage of providers. Four states reported they were looking to find cost effective ways to provide access, and one state said that providing education was the main reason they started telehealth.

After describing the motivation for using telemedicine/telehealth, Title V programs were asked about their perceptions of success. Specifically, we asked respondents whether they thought telemedicine/telehealth had:

- ***Improved access?***
  - 13 said yes, 2 said no, and 7 did not know
- ***Improved family satisfaction?***
  - 11 said yes, 4 said no, 7 did not know
- ***Proved cost effective?***
  - 11 said yes, 3 said no, 8 did not know

Benefits and Challenges to Title V

The last part of the survey asked the Title V respondent to comment on perceived benefits and challenges of telemedicine/telehealth for CSHCN. With respect to benefits, by far the greatest benefit was improved access to care. Other benefits included cost effectiveness and efficiency; improving quality of care including monitoring and follow-ups; increasing the use of more community-based services for families and minimizing travel to distant locations; and

improving coordination, communication, and partnerships – in short, improving and supporting the child's medical home.

- ***Improving access*** – 13 states
- ***Improving quality*** – 5 states
- ***Cost effectiveness/efficiency*** – 6 states
- ***Improving use of community-base care*** – 5 states
- ***Improving the medical home*** – 6 states

State Title V programs also reported on a number of challenges. The biggest challenge lies in costs – buying and maintaining equipment costs money, as do ongoing line charges. In addition, states vary by whether or not there are substantial funding streams to support telemedicine through reimbursement. There are also issues related to technical support – that is, help for equipment malfunctions and training to use the equipment. Several programs also mentioned issues with scheduling appointments and identifying provider networks who have the capacity to participate in telemedicine or telehealth. Finally, several states mentioned issues surrounding "personal touch" – and either provider or family hesitance to embrace this technology.

- ***Equipment problems/limitations*** – 5 states
- ***Reimbursement/financing/sustainability*** – 11 states
- ***Coordination/scheduling*** – 4 states
- ***Lack of one-on-one personal touch*** – 5 states
- ***Provider or family resistance*** – 8 states

IV. General Comments and Conclusions

Telemedicine/telehealth is an exciting new frontier in health care, one that holds great promise for reducing access barriers. As the Title V program from Arizona stated, "It puts everyone on the same page – professionals can meet more frequently and move initiatives forward; it increases creativity; it provides opportunities for stronger partnerships; and increases access and communication." In short, many states express the sentiment that the greatest benefits of telemedicine/telehealth are in access – by reducing travel and access barriers, telemedicine capitalizes on systems of community-based care and provides connections to external health-care supports.

Despite the promise of this technology, significant challenges arise for states or programs wishing to initiate telemedicine, including financing and reimbursement, network infrastructure, and technical support. Our goal in providing this report was to present a useful compendium of state Medicaid practices for reimbursement and Title V utilization of telemedicine specifically for CSHCN and a useful resource for individuals who are interested in examining these and other issues related to telemedicine. To that end, state specific information was included to provide examples of strategies used to support this technology. Additional information about telemedicine and telehealth can be found in the additional resources listed in Appendix B.

Table 3. Title V Involvement in Telemedicine and Telehealth for CSHCN: Uses, Eligibility, and Funding Mechanisms

State	Use of Telemedicine or Telehealth	Eligibility Criteria	Title V's Role	TM/TH Funding Mechanisms		
				Medicaid	Private insurance	Other funders
Alabama	Neuro-motor clinics, evaluations, assessments, and screenings	Title V enrollees & eligible for neuromotor clinic	Funds services, referrals, equipment, coordination, training	No	No	Yes
Alaska	Minimal use for CSHCN; specialist care (e.g. radiology, ENT, dermatology); education; video conferencing	None	None	Yes	Don't Know	Yes
Arizona	Children's Rehabilitation Services (CRS); specialty services; mentoring; training; education; meetings	Through CRS; when appropriate	Funds services, referrals, equipment, coordination, training	Yes	Yes	Yes
Arkansas	Internet research; communication through email; share information with families	N/A	N/A	Yes	N/A	N/A
Colorado	Neurology clinic; conferences; education	Child with neurological problems	Funds services, referrals, equipment, coordination	No	No	No
DC	Dental services; video conferencing	Attend one of two schools for children with physical or mental disabilities	Funds services, referrals, equipment, coordination, training	Yes	No	Yes
Florida	Clinical services; distance learning; grand rounds	In Title V CSHCN program or clinically & financially eligible.	Funds services, referrals, equipment, coordination, training	No	Yes	Yes
Georgia	Genetic & allergy/asthma clinic; private consults; perinatal follow ups; training; Title V clinics; TM video conferencing; ultrasounds	Patients in Waycross district	Funds services, referrals, equipment, coordination, training	Yes	Yes	Yes
Hawaii	Pediatric orthopedics; access to neonatal intensive care unit; education (internet & videoconferencing); planning	Specialty-, diagnosis-, and geographically-based	None	No	Don't Know	Yes
Idaho	Educational meetings only	N/A	N/A	No	N/A	N/A
Iowa	Pediatric diagnostic clinics in rural areas; child psychiatry consultation and behavioral evaluations	Eligible for clinic or has psychiatric need; CSHCN	Funds services, equipment, coordination, training	No	Yes	Yes
Kansas	Outreach clinics (e.g. cardiology)	Depends on the clinic	Funds services, referrals, coordination	Yes	Don't Know	Yes

State	Use of Telemedicine or Telehealth	Eligibility Criteria	Title V's Role	TM/TH Funding Mechanisms		
				Medicaid	Private insurance	Other funders
Kentucky	Future experimental program for CSHCNs	N/A	Will fund services, refer, equipment, coordinate, & train in future program	Yes	N/A	N/A
Louisiana	Training only	N/A	N/A	Yes	N/A	N/A
Maine	Limited patient-specialist use; use for diagnostic reasons; provider instruction; grand rounds	None	N/A	Yes	Don't Know	Yes
Massachusetts	Education, training	N/A	N/A	No	N/A	N/A
Minnesota	In children's hospitals; for specialty health care	None	None	Yes	Don't Know	Don't Know
Montana	Genetic diagnosis and consultation; education	Must have genetic problem	Referrals	Yes	Yes	Yes
Nevada	Sporadic use when travel is difficult for patient	Capable of payment; rural patients	Funds services, referrals, coordination	Considering It	Yes	Don't Know
New Mexico	Audiology (services, communication, & training); pediatric services (developmental assessment, genetics, nutrition)	For one program, child must be deaf or hard of hearing	Funds services, referrals (in future), equipment, coordination, training	No	No	Yes
North Carolina	PT&OT diagnosis & evaluations; early intervention clinics; professional development; internet education and communication; Broad range of developmental problems; video conferencing	Usually children age 0-3 with developmental disabilities	Referrals	Yes	Don't Know	Yes
North Dakota	Connects rural areas to providers, more for elderly than CSHCN; training; facilitate professional communication	Depends on TM system	None	Yes	Yes	Yes
Oregon	Education; training; store & forward EKGs; sleep studies; premie follow-ups; future program for newborns with birth defects and children with metabolic disorders; video conferencing; multistate genetics grant	new program limited to newborns with birth defects and children with metabolic disorders	Will provide Funds services, referrals, equipment, coordination, training	Yes, in future	Yes, in future	Yes
South Dakota	Cardiac, endocrine, pulmonary, or gastro specialist visits; clinical services; stethoscope & image reader	Patient need of specialist services; not first-time patient	Funds services, referrals, equipment, coordination, training	Yes	Yes	No
Texas	Routine physician services to rural underserved areas; mental health and specialty care	None	Funds services	Yes	Don't Know	Yes

State	Use of Telemedicine or Telehealth	Eligibility Criteria	Title V's Role	TM/TH Funding Mechanisms		
				Medicaid	Private insurance	Other funders
Utah	Clinical staffing; training; meetings	Title V-CSHCN	Funds services, referrals, equipment, coordination, training	Yes	No	Don't know
Vermont	Digital x-rays; educational teleconferencing; email communication	N/A	N/A	No	N/A	N/A
Virginia	Specialist clinical services	None	Funds services, referrals, equipment, coordination, training	Yes	Yes	No
Washington	Psychiatric & psychological services; in future, genetics services	Children only	Referrals, training	Yes	Yes	Yes
West Virginia	Is starting neurology clinic for CSHCNs	CSHCN	Don't Know	Yes	Don't Know	Don't Know
Wisconsin	Electronic medical records training; are planning genetics program	N/A	N/A	No	N/A	N/A

Table 4. Title V Perceptions of Telemedicine and Telehealth for CSHCN: Satisfaction and Challenges

State	Motivation for Starting Telemedicine or Telehealth	Improved Access for Families	Improved Families' Satisfaction	Proved Cost Effective	Benefits	Challenges
Alabama	U of S. AL office of emerging health technologies-approached the state; improve accessibility of care	Yes	Yes	Yes	Reduces travel; increases specialty access in rural areas; cost efficient; save money	Reimbursement & financial issue; sometimes equipment doesn't work; technical difficulties
Alaska	Improve healthcare access for patients in rural areas	Don't Know	No	No	Minimizes travel and improves healthcare access	Technological capacity is limited; limited # of providers & specialists for CSHCNs
Arizona	Improve specialty care access for patients in rural areas; reduce travel	Yes	Yes	Don't Know	Puts everyone on same page – professionals can meet more frequently and move initiatives forward; increases creativity; provides opportunities for stronger partnerships; increases communication	Reimbursement issues; issue of long-term funding; keeping technology up to date is costly; educating/convincing physicians who are less receptive than families
Colorado	Shortage of pediatric neurologists	Yes	Yes	Yes	Increases information and communication with primary care physicians; improves medical home	HMO, physicians are often barriers; private insurance doesn't reimburse
DC	Improve CSHCN access to dental care; it's difficult to manage some patients in typical dentist's offices	Don't Know	Don't Know	Don't Know	Ensures CSHCN get adequate and necessary care	Major coordination effort
Florida	Improve access to healthcare	Yes	Yes	Yes	More efficient; better access to service in areas where not otherwise available	Reimbursement issues
Georgia	Reduce patient travel	Don't Know	Don't Know	Don't Know	Patients/families appreciated easier/more timely access to care	Determined to not be cost effective; low reimbursement

State	Motivation for Starting Telemedicine or Telehealth	Improved Access for Families	Improved Families' Satisfaction	Proved Cost Effective	Benefits	Challenges
Hawaii	Improve access to healthcare	Yes	Yes	Yes	Improves access to healthcare; decreases travel time for families and specialists	Coordination takes extra effort; lack of staff; physicians too busy
Idaho	N/A	N/A	N/A	N/A		
Iowa	Improve healthcare access for rural population; cost effective & efficient	Yes	Yes	Yes	Allows rural states to provide services that aren't otherwise available; efficient and cost effective	Reimbursement issues; support for technology is not always available; scheduling issues; initial investment; physician resistance; staff often do not know how to use equipment properly
Kansas	Improve healthcare access for rural population	Yes	Yes	Yes	Improves healthcare access	Funding issues
Kentucky	N/A	N/A	N/A	N/A		
Louisiana	N/A	N/A	N/A	N/A		
Maine	N/A	Don't Know	No	Don't Know	Could be useful for rural pop; ensure systems of care; mental hc	Families want face to face contact
Massachusetts	N/A	N/A	N/A	N/A		
Minnesota	N/A	Don't Know	Yes	Don't Know		
Montana	Improve healthcare access for rural population; education	Yes	Don't Know	Yes	Enables families and practitioners to have access to care that isn't readily available in community; furthers community access goal	Initially, people (patient & physician) are self conscious.
Nevada	Reduced travel expenses	No	Yes	No	Gives kids access to services	Some diagnoses & interventions should be done face to face
New Mexico	Improve healthcare access for rural population	Don't Know	Don't Know	No	Improves monitoring and follow-ups for kids by audiologists; improves quality of service; better access for rural population; better able to identify kids at risk	

State	Motivation for Starting Telemedicine or Telehealth	Improved Access for Families	Improved Families' Satisfaction	Proved Cost Effective	Benefits	Challenges
North Carolina	Improve healthcare access	Yes	Yes	Yes	Improves health care access; low cost	Technology could use some improvements; connections hard to make; lag in voice; takes time to get used to
North Dakota	Improve healthcare access for rural population	Yes	No	Don't Know	Reduces travel time and costs; helps in disease management; improves sub-specialty care access	Technology not always ideal; some families prefer face to face visits; eimbursement issues
Oregon	Improve healthcare access for rural population	N/A	N/A	N/A	Improves healthcare access	Costly charges for connectivity; reimbursement issues
South Dakota	Improve healthcare access for rural population; reduce travel costs	Yes	No	Yes	Better access to care; cost and time efficient	Some diagnoses need to be done face to face
Texas	Improve specialty care access for rural population	No	Don't Know	Don't Know	Improves infrastructure; improves access; minimizes travel	
Utah	Already part of Utah TH network and Shriner's TM efforts	Don't Know	Don't Know	Yes	Travel cost savings; ability to connect with many people throughout rural state	Need for improved (expensive) equipment; staff must keep up with advances in TM; reimbursement issues
Vermont	N/A	N/A	N/A	N/A	Efficient way to see patients; good way for pcp's to consult with psychiatrists	N/A
Virginia	Efficient healthcare access for families in rural areas	Yes	Yes	Yes	Reduces travel; better access to specialty care	No physical contact therefore exam is limited; technical issues
Washington	Improve healthcare access for rural population	Yes	Don't Know	Don't Know	Better specialty care access; more community based services for families; improved access for higher caliber of specialty care	Not face to face; lack of personal touch; billing problems
Wisconsin	N/A	N/A	N/A	N/A	N/A	N/A

Appendix A:
Glossary of Telemedicine/Telehealth Terminology

Consultation
A type of service provided by a physician whose opinion or advice is requested by another provider.

Distant Site (also see Spoke Site)
The location where the recipient is receiving the telemedicine service. The most common term used is Spoke Site.

Hub Site
The location of the telemedicine consulting provider, which is considered the place of service.

Peripheral Devices
Items which can be attached to computers which can aid in an interactive examination. (ex. Otoscope, Stethoscope)

Provider
There are three possible roles a health care practitioner may take during a telemedicine consultation:
Referring Provider- Evaluates a patient, determines the need for a consultation, and arranges services of a consulting provider for the purpose of diagnosis and treatment.
Presenting Provider- Introduces a patient to the consulting provider during an interactive telemedicine session (may assist in the telemedicine consultation).
Consulting Provider- Evaluates the patient and/or medical data/images using telemedicine mode delivery upon recommendation of the referring provider.

Real Time (also see Interactive video conferencing)
The interactive, two-way transfer of information and medical data, which occurs at two sites simultaneously: the hub site and the spoke site.

Spoke Site (also see Distant Site)
The location where the recipient is receiving the telemedicine service. The Spoke Site physician requests the opinion or advice of another physician at the Hub Site.

Store-and-forward
Transferring medical data from one site to another through the use of a camera or similar device that records (stores) an image that is sent (forwarded) via telecommunication to another site for consultation. This method is typically used for non-emergent situations, when a diagnosis or consultation may be made in the next 24 – 48 hours and sent back.

Telehealth
The use of telecommunications and information technology to provide access to health assessment, diagnosis, intervention, consultation, supervision, education, and information across distance. Generally used as an umbrella term to describe all the possible variations of healthcare services using telecommunications.

Telemedicine
The real time or near real time two-way transfer of medical data and information between places of lesser and greater medical capability and expertise, for the purpose of patient evaluation and treatment. Medical data exchanged can take the form of multiple formats; text, graphics, still images, audio, and video. The information or data exchanged can occur in **real time** (synchronous) through interactive video or multimedia collaborative environments or in near real time (asynchronous) through so-called **"store and forward"** applications.

Teledermatology
Also used for store-and-forward technology. Digital images may be taken of skin conditions, and sent to a dermatologist for diagnosis.

Telepathology
The sending of pathology slides from one location to another for diagnostic consultation.

Teleradiology
The sending of x-rays, CT scans, or MRIs (store-and-forward images). It is the most common application of telemedicine is use today.

Telesurgery
When a surgeon in one location can remotely control a robotics arm for surgery in another location.

Two-way Interactive Video
A type of technology that permits a "real time" consultation to take place. This is used when a consultation involving the patient, the primary caregiver, and a specialist is medically necessary. Video conferencing equipment at two different locations permits a live non-face-to-face consultation to take place.

Appendix B:
Telemedicine Resources

Telemedicine Resources

1. Children's Medical Services, Florida Department of Health
   http://www.doh.state.fl.us/cms/

2. FITE – Florida Initiative in Telehealth and Education
   http://fite.peds.ufl.edu

3. American Telemedicine Association
   http://www.atmeda.org

4. Office for the Advancement of Telehealth
   http://telehealth.hrsa.gov

5. Telemedicine Information Exchange
   http://tie.telemed.org/

6. Association of Telehealth Service Providers
   http://www.atsp.org/

7. Center for Telemedicine Law
   http://www.ctl.org/

8. Telehealth Connections for Children and Youth
   http://www.telehealthconnections.ichp.ufl.edu

9. Institute for Child Health Policy, University of Florida
   http://www.ichp.ufl.edu

10. Maternal and Child Health Bureau, Health Resources and Services Administration http://www.mchb.hrsa.gov

11. Centers for Medicare and Medicaid Services (CMS)
    http://www.cms.hhs.gov