

# Telehealth Practices in the United States

## Introduction

A number of statewide telemedicine or telehealth programs exist within the United States (U.S.). There is wide variation in their administrative structure as well as their complexity regarding programs and services. Even though the New Hampshire Telehealth Program initially planned to investigate “best practices” in these programs, a literature search and a review of telehealth program websites revealed that the field of telehealth/telemedicine has not matured to the point of establishing “best practices” for statewide programs. Therefore, this report will discuss telehealth “practices” at different programs in the U.S., comparing and contrasting the salient features of these programs and sharing the New Hampshire Telehealth Program (NHTP) Planning Committee’s vision<sup>1</sup> of the components of these programs that may constitute a structure for a statewide telehealth program in New Hampshire.

New Hampshire Telehealth Program staff initially examined information about programs in New Mexico, Tennessee, California, Georgia, Maine, and Arizona. This investigation revealed that there was significant variation in the Arizona Telemedicine Program, Maine Telemedicine Services, and programs in Tennessee and Georgia; hence, the report will focus on these programs. The process used was to review the professional literature and the web, followed by telephone interviews with leaders at identified programs.

## Information about Programs

The report includes information on the following attributes of each program:

1. Program affiliation
2. Mission
3. Administrative model
4. Services offered
5. Telecommunications infrastructure
6. Factors prompting formation of program
7. Patient populations/users
8. Principal clinical uses/other uses
9. Funding/Long-term sustainability
10. Reimbursement
11. Most significant barriers

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<sup>1</sup> Provided at NHTP Planning Committee meeting at the New Hampshire Hospital Association in Concord, NH, on September 13, 2006.

## 1. Program Affiliation

Maine Telemedicine Services	Tennessee- U. of Tennessee Telehealth Network	Georgia Statewide Telemedicine Program	Arizona Telemedicine Program
Program of the Regional Medical Center at Lubec, a nonprofit community health center	University of Tennessee, Department of Preventive Medicine in College of Medicine  (many changes in this program)	Wellpoint- owns BC/BS (private business)  Part of Medical College of Georgia until 2003	Situated at the University of Arizona Health Sciences Center Department of Pathology –program of the legislature since 1996.

### Discussion:

At one point, there were two separate programs in Tennessee; one in Memphis, another in Knoxville. There were two directors, which posed challenges. Eventually, the “powers that be” merged the two programs. Georgia’s original program was designed and built prior to formation of the Internet. It closed in 2003 because of many factors; one being that it was unwieldy due to its size. Additionally, the small rural hospitals participating in the program could not afford the telecommunications costs once the State subsidies were not provided. Georgia’s Insurance Commissioner Oxendike subsequently negotiated an arrangement with Wellpoint (the owner of BC/BS in Georgia) to deploy a statewide network, which Wellpoint is in the process of creating.

## 2. Mission

Maine Telemedicine Services	Tennessee- U. of Tennessee Telehealth Network	Georgia Statewide Telemedicine Program	Arizona Telemedicine Program
Improve community health and well-being in rural Maine by supporting [multiple] agencies to enhance access to clinical, educational, social, and administrative services.	Provide access to specialty medical services for disadvantaged or isolated populations.	To develop, investigate and implement telecommunications and information technologies that will: -Enhance access to health care in underserved rural and urban areas -Facilitate research and analysis of telehealth applications -Facilitate health-related educational services and applications -Support efforts aimed at disaster preparedness and the availability of disaster-related services	Increase access to healthcare to all residents in Arizona using telemedicine technologies.

**Discussion:**

The New Hampshire Telehealth Program Planning Committee developed the following mission statement at a planning meeting on December 7, 2005:

**“To maximize the use of cost-effective telehealth technologies to improve access to health care and education for New Hampshire through partnerships.”**

**3. Administrative model**

<b>Maine Telemedicine Services</b>	<b>Tennessee- U. of Tennessee Telehealth Network</b>	<b>Georgia Statewide Telemedicine Program</b>	<b>Arizona Telemedicine Program</b>
Loose affiliation of health care and social service organizations that MTS helps set up so they can talk to one another over ISDN telecommunications lines.	Administrative structure is in a state of change. The program was housed administratively in the IT Department, then in the Outreach Center.	The administrative structure is currently in development at Wellpoint.	“Virtual corporation” connecting 55 health-care organizations through a membership program formalized through legal contracts

**Discussion:**

Maine’s administrative model can be described as “decentralized” since Maine Telemedicine Services does not own any telecommunication lines that require maintenance and recurring costs; nor does Maine’s program have a role in scheduling specialty consultations. The local sites schedule the consultations. On the other hand, the Arizona Telemedicine Program’s (ATP) administrative model is “centralized” since it arranges specialty consultations, owns the telecommunication lines used for consultations, and has a centralized training facility for sites that participate in/plan to participate in the ATP. Tennessee’s program is undergoing changes; Georgia’s program is also in a planning and (soon to be) deployment stage. At some time in the future, it may be appropriate to contact Wellpoint regarding the progress in the retooling of Georgia’s program.

#### 4. Services offered (What do customers want when they call program office?)

Maine Telemedicine Services	Tennessee- U. of Tennessee Telehealth Network	Georgia Statewide Telemedicine Program	Arizona Telemedicine Program
<ul style="list-style-type: none"> <li>• Set up telemedicine projects- link partners</li> <li>• Technical support</li> <li>• Information on policy/ reimbursement</li> <li>• Purchase of new equipment</li> <li>• Connect users to other network partners for services</li> <li>• Grant writing</li> </ul>	<ul style="list-style-type: none"> <li>• Rural physicians calling to set up consultations/ refer their patients to specialists</li> </ul>	<ul style="list-style-type: none"> <li>• Operational, not yet fully deployed</li> </ul>	<ul style="list-style-type: none"> <li>• Calls from rural areas asking for telemedicine svces.</li> <li>• Calls to set up training</li> <li>• Calls for specialty consultations</li> </ul> <p><b>Most common uses:</b></p> <ol style="list-style-type: none"> <li>1. Radiology,</li> <li>2. Behavioral Health,</li> <li>3. Dermatology</li> <li>4. Educational, admin.</li> </ol>

#### Discussion:

There is wide variation in the programs and services provided among statewide programs. The services offered through the New Hampshire's statewide program are emerging, based on discussions with the NHTP Planning Committee. (Refer to the **Summary** section at the end of this document for more information about potential services offered by NHTP.)

#### 5. Telecommunications infrastructure

Maine Telemedicine Services	Tennessee- U. of Tennessee Telehealth Network	Georgia Statewide Telemedicine Program	Arizona Telemedicine Program
Strictly ISDN- does not own any telecommunications lines/networks	Owens some lines- varies by project	T1 (maintained/subsidized by Wellpoint) for 36 months.	Owens equipment, lines leased from a variety of providers. ATM- T1- basic connections to rural sites.

#### Discussion:

Maine negotiated an extremely favorable rate for ISDN with Verizon back in 1997. Using ISDN has worked well in Maine, allowing the program to grow to well over 200 sites that use interactive videoconferencing statewide. (In parts of northern New Hampshire, the cost (~ \$200.00/hour) of using ISDN for videoconferencing is prohibitive.) The interviewee from Georgia expressed **extreme concern** over what will happen to Georgia's program on Month 37 when the subsidies cease. The end of the State subsidies led to the decline of Georgia's original program. Arizona's program began at a time when there was limited telecommunications infrastructure throughout this large rural state. The legislature saw the value of designing a statewide

telecommunications network; due to the generous support of the ATP through Arizona’s state budget (\$1.5 million/year), the Program has been able to grow and sustain itself. As New Hampshire moves forward, it needs to seriously consider the “lessons learned” from Georgia.

**6. Factors prompting formation of program**

<b>Maine Telemedicine Services</b>	<b>Tennessee- U. of Tennessee Telehealth Network</b>	<b>Georgia Statewide Telemedicine Program</b>	<b>Arizona Telemedicine Program</b>
<p>Rural nature of state of Maine. Started at the Regional Medical Center at Lubec and has been operational since 1998.</p>	<p>In May 1999, private foundation money used to initiate 2 chronic disease management programs using POTS from a FQHC to patient’s homes. OAT then funded in 2000 an initiative to expand this network to address dental, specialty, and behavioral health care to one county in TN.</p> <p>Got 5 or 6 grants right off. Mostly provide specialty care.</p>	<p>In 1991, the Medical College of Georgia (MCG) began telemedicine pilot linking MCG and Dodge County Hospital. President of MCG was active champion. Expanded to 7 sites by 1993. In 1992, Governor signed into law SB 144 (The Distance Learning and Telemedicine Act of 1992) mandating a statewide telecomm network to support distance learning and statewide telemedicine programs.</p>	<p>Senator Robert (“Bob”) Burns recognized the value of improving access to healthcare in Arizona using telemedicine and initiated the legislation that created the Arizona Telemedicine Program.</p>

**Discussion:**

Maine’s program can be described as a “grassroots” effort of a federally-qualified health center (FQHC) in the extreme northeast area of Maine. Arizona’s well-funded program had the initial support of its legislature, an important factor in gaining acceptance statewide. The President of the Medical College of Georgia championed this State’s program; the Governor of Georgia signed a law mandating (unfunded) a statewide telecommunications network for distance learning and telemedicine. In all of these cases, there were influential “champions” of the programs from the beginning.

**7. Patient populations/users**

<b>Maine Telemedicine Services</b>	<b>Tennessee- U. of Tennessee Telehealth Network</b>	<b>Georgia Statewide Telemedicine Program</b>	<b>Arizona Telemedicine Program</b>
All residents of Maine including those housed within the Department of Corrections.	Predominantly rural population; beginning in urban- just opened 2 clinics in Memphis	Citizens of Georgia	Isolated communities Indian Tribes Rural prisons Schools Home health

**Discussion:**

Even though many clinical telemedicine programs were created to improve access to care in rural and underserved areas, there is a growing trend in using clinical telemedicine services in more densely populated areas because there is increasing evidence in the telemedicine literature that telemedicine is a cost-effective way to provide quality health care services.

**8. Principal clinical uses/other uses**

<b>Maine Telemedicine Services</b>	<b>Tennessee- U. of Tennessee Telehealth Network</b>	<b>Georgia Statewide Telemedicine Program</b>	<b>Arizona Telemedicine Program</b>
<ol style="list-style-type: none"> <li>1. Mental Health</li> <li>2. Endocrinology</li> <li>3. Home health</li> <li>4. Wound Care</li> <li>5. Video relay interpreting services</li> <li>6. Judicial uses (arraignments)</li> <li>7. Dept of Corrections</li> </ol>	<ol style="list-style-type: none"> <li>1. Dermatology</li> <li>2. ENT (adult and Ped)</li> <li>3. neuro (adult, ped)</li> <li>4. behavioral health</li> <li>5. radiology</li> <li>6. neurosurgery</li> <li>7. post- oncology follow-up</li> </ol>	<ol style="list-style-type: none"> <li>1. pediatrics (genetics)</li> <li>2. psychiatry</li> <li>3. pulmonology</li> <li>4. hematology/oncology</li> <li>5. family medicine</li> <li>6. dermatology</li> <li>7. infectious diseases</li> <li>8. neurology</li> </ol>	<ol style="list-style-type: none"> <li>1. Radiology,</li> <li>2. Behavioral Health,</li> <li>3. Dermatology</li> <li>4. Pathology</li> <li>5. Educational, admin.</li> </ol>

**Discussion:**

The most common clinical uses (other than store-and-forward radiology) of telemedicine are for behavioral health and dermatology. Maine Telemedicine Services does not use teledermatology because Medicare does not reimburse for store-and-forward teledermatology.

**9. Funding/Long-term sustainability**

<b>Maine Telemedicine Services</b>	<b>Tennessee- U. of Tennessee Telehealth Network</b>	<b>Georgia Statewide Telemedicine Program</b>	<b>Arizona Telemedicine Program (ATP)</b>
<p><b>Funding Sources</b> Federal Foundation Revenue from administrative and educational use of system</p> <p><b>Long-term sustainability</b> Each individual site has a contract with MTS (training, tech support). Each year they can renew or go to fee for service.</p>	<p><b>Funding Sources</b> U of Tennessee Medical College Federal Grants Some state funding for 1 city and 4 county jails and youth development.</p> <p><b>Long-term sustainability</b> Unknown</p>	<p><b>Funding Sources (prior to 2003)</b> State (\$10 million from 1994-2000) MCG (\$6 million) Local sites (\$24,000/yr + salary of Telemed Coordinator)</p> <p><b>Current Funding Sources</b> Wellpoint (Georgia BC/BS carrier)</p> <p><b>Long-term sustainability</b> Unknown</p>	<p><b>Funding Sources</b> State Federal Foundation Membership Fees</p> <p><b>Long-term sustainability</b> Application service provider business model- sites join together in a shared-cost model to capitalize on economies of scale.</p>

**Discussion:**

Arizona’s business model is well developed. The developers have published numerous articles in the scholarly literature and have presented this model at national meetings. A brief description of the Application Service Provider (ASP) approach follows. For the price of a network membership, a telemedicine site get access to specialty care, network management, training, and continuing education credits. Sites are responsible for a network administration fee (\$5,000/site, multi-sites get discounts.) The membership fee is paid annually; maintenance costs are part of the annual fee. The ATP program office handles all of the paperwork and the ATP business office does all filing for Universal Service discounts (considered to be extremely important).

## 10. Reimbursement

<b>Maine Telemedicine Services</b>	<b>Tennessee- U. of Tennessee Telehealth Network</b>	<b>Georgia Statewide Telemedicine Program</b>	<b>Arizona Telemedicine Program</b>
<p>Medicaid, Medicare</p> <p>Basically, physicians are paid like a face-to-face visit.</p> <p>Worked directly with State Medicaid office.</p> <p><b>Private Payers (5)</b>  Guardian  NYL Care  Maine Health Plan  Cigna  BC/BS</p>	<p>Medicaid  Medicare</p> <p>Transportation a big factor in negotiating Medicaid reimbursement.  TennCare- state-run.</p> <p>Private Payers (6)</p> <p>Some meetings with BC/BS. No contracts with private insurers, according to interview with Tennessee's program.*</p> <p>* This statement conflicts with report published Online at  <a href="http://www.amdtelemedicine.com/private_payer/index.cfm">http://www.amdtelemedicine.com/private_payer/index.cfm</a></p>	<p>Medicare  Medicaid  Private Payers (59)</p>	<p>Medicare  Medicaid  Private Payers (10)</p>

### Discussion:

Since many telemedicine providers receiving private payer reimbursement treat the billing of telemedicine services as usual and customary, many do not use modifiers or specialized CPT codes for tracking purposes. Because of this, it is impossible to accurately quantify the volume of reimbursement.<sup>2</sup>

<sup>2</sup> According to survey conducted in 2004 by the American Telemedicine Association and AMD Telemedicine. Available Online at [http://www.amdtelemedicine.com/private\\_payer/index.cfm](http://www.amdtelemedicine.com/private_payer/index.cfm)

**11. Most significant barriers**

Maine Telemedicine Services	Tennessee- U. of Tennessee Telehealth Network	Georgia Statewide Telemedicine Program	Arizona Telemedicine Program
<ul style="list-style-type: none"> <li>• Physician acceptance</li> <li>• Integration of telemedicine into health care delivery</li> <li>• lack of organizational commitment</li> <li>• small volume in rural areas</li> </ul>	<p>Geographical setup of the state.</p> <p>In rural areas, clinicians are very suspicious of new ideas. Patient satisfaction surveys at the end of each clinical visit. About 98% patients said they will use again.</p> <p>Perception that telemedicine is for specialists only.</p>	<p>Sustainability</p>	<p>Unknown</p>

**Discussion:**

The most significant barriers in New Hampshire include lack of:

1. Knowledge about telemedicine among primary care and specialty clinicians and legislators
2. Clinical champions
3. Reimbursement for telehealth services through NH Medicaid Program
4. Funding for planning and implementing programs
5. Telecommunications infrastructure in rural areas

The New Hampshire Telehealth Program is addressing some of these issues through an educational program for health care administrators and clinicians. The New Hampshire Charitable Foundation is funding this 2 year project, which will also involve educating the legislature in Year 2. Additionally, the NHTP is working on a strategy for engaging the NH Medicaid Program in telemedicine. The NHTP will also be involved in conversations with stakeholders in the State to discuss a Federal Communications Commission pilot project to design and implement a telecommunications network on the Internet 2 that will be used for telemedicine/telehealth. It is important that “networks of people” who are champions of telehealth interact with groups who are less convinced of telehealth’s value (or who lack knowledge about telehealth) in order to increase the rate of adoption of these technologies.

## Summary

The programs represented in this report were carefully chosen to demonstrate the many different ways which statewide telehealth/telemedicine programs function. Maine's and Arizona's programs are very different, particularly in the areas of telecommunications and administrative infrastructure, yet they are both extremely successful. Georgia's program was once very successful; however it declined when the telecommunications infrastructure subsidies to participating sites ceased.<sup>3</sup> Tennessee's program is alive and is also realigning.

The NHTP Planning Committee met in Concord, NH, on September 13, 2006. The purpose of the meeting was to develop a consensus vision for the model, scope of services and near term (1-2 years) development priorities for the NHTP. The meeting included presentation and discussion of needs assessment results, information gathered from network audits of selected organizations, and summaries of state telehealth program models from Maine, Arizona, Tennessee and Georgia.

The discussion of other state programs centered on the attributes of centralized versus decentralized models. The Arizona program represents an example of a centralized program in that the program directly operates a telecommunications network and provides centralized scheduling services (among an array of management and technical services). The Maine program represents an example of a decentralized program in that the telehealth program primarily provides technical assessment, consultation and development assistance, while health care organizations maintain their own networks and arrange their own service relationships.

The sense of the meeting was that a decentralized model is the best fit in the New Hampshire context at present. The concepts of "cooperative" and "convener" were advanced in which participants would receive technical information and expertise, gap analysis, connection with other participants for sharing and learning, and potentially a 'brokerage' of referral-consult relationships. New Hampshire Telehealth Program staff will be meeting with the NHTP Planning Committee in late Fall 2006 to further define the best model for implementation of NH's statewide telehealth program.

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<sup>3</sup> As mentioned previously in this report, Georgia's program is currently restructuring under Wellpoint's direction.