

**Medicaid Telehealth Reimbursement Research Project**

**IV. Implementation and Evaluation**

*Final Report*

For  
**Alaska Telehealth Advisory Council**

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## **1. Executive Summary**

On September 24, 2001, Commissioner Karen Perdue of the Alaska Department of Health and Social Services officially endorsed the recommendations of the Alaska Telehealth Advisory Council (ATAC) Reimbursement Workgroup for Medicaid reimbursement of telehealth services. The endorsement and approval of these recommendations are significant milestones in developing policy for Alaska Medicaid reimbursement of Telehealth services. The next significant milestones will be the implementation and evaluation of the Medicaid telehealth policies that foster and promote access to quality health care and that support the long-term viability of telehealth.

Several variables, processes, activities, and considerations will influence the implementation of Medicaid telehealth coverage and reimbursement policies. Administrative rules and the Medical Assistance State Plan must be reviewed to determine if amendments are necessary. A review of the state's Medicaid Management Information System(s) (MMIS) has concluded that no refinements to the system will be required. Practitioner licensure, liability, and confidentiality issues could influence practitioner involvement in the telehealth delivery model. The advent of telehealth and its potential to improve access to health care and to create competition for specialty services has prompted state legislatures and medical boards to re-examine traditional policies on practitioner licensing. Though providers maintain an awareness of available resources in the medical community, some may require assistance locating and collaborating with participating telehealth partners.

Billing should be administratively simple, using existing coding conventions, while allowing easy identification and quantification of telehealth services. Professional standards exist to guide the usage of telehealth treatments for certain types of health services. Where available, practitioners should be encouraged to observe these standards.

A vital key to the success of telehealth services will be convenience of use for Medicaid beneficiaries and practitioners. Anecdotal evidence suggests that ease of use for providers will be contingent on factors such as technical savvy utilizing telehealth equipment, the availability of other medical professionals, the amount of time required, the ability to delegate functions to assisting staff, and integration of telehealth into core business operations. It is equally essential that Medicaid recipients embrace telehealth services and find them convenient to access. Education and experience are two primary methods of encouraging recipients to accept telehealth services.

Evaluation of the Medicaid telehealth coverage and reimbursement policies will consider equipment functionality, clinical assessments, as well as patient and provider satisfaction. Coverage and reimbursement policy evaluation must be comprehensive, recurring, and reliable. These activities must yield information that can be used to refine and improve telehealth services.

## 2. Project Overview

The Alaska Telehealth Advisory Council agreed to fund a contract with a private consultant to assist the Reimbursement Workgroup with the development of policies. Accordingly, Alaska's Native Tribal Health Consortium engaged Myers and Stauffer LC to develop a recommendation plan for reimbursing Medicaid telehealth services. Myers and Stauffer's workplan for this project contains four components: (1) a report summarizing other states' telehealth initiatives, (2) a report outlining Alaska's telehealth issues, (3) a report recommending coverage and reimbursement policies; and (4) a final report recommending an implementation and evaluation plan.

The Alaska Telehealth Advisory Council (ATAC) is a group of private and public stakeholders (e.g., hospitals, professional practitioner groups, utility companies, and government agencies) that all have an interest in promoting telehealth in the state of Alaska. ATAC's primary goals are to accomplish the following:

- Explore/document the potential for and challenges to telehealth services in Alaska.
- Propose a framework for development/ deployment of statewide capacity for telehealth services.
- Establish core principals to ensure a coordinated, cost-effective, and integrated approach to telehealth in Alaska.
- Consider ways to assess effectiveness, efficiency, and whether or not telehealth is improving equity of access to health services for all Alaskans.
- Recommend a long-term process for addressing issues as they emerge with changing technologies and practice patterns.
- Deliver health services to individuals living in areas where geographic location or weather conditions may limit access to care.

Subcommittees or "workgroups" have been formed to deal with certain telehealth issues. In 1999, ATAC created a Reimbursement Workgroup to (1) investigate general reimbursement policy, (2) determine how other Medicaid programs across the country cover and reimburse telehealth applications, (3) analyze issues relevant to Alaska's unique geographic environment, (4) assist in collecting information to support recommendations for future telehealth coverage for Medicaid beneficiaries, and (5) develop an implementation plan for recommendations. Teri Keklak is the Alaska Department of Health and Social Services/Division of Medical Assistance (the Medicaid office) Designated Representative to the ATAC Reimbursement Workgroup for this project.

### **3. Introduction**

On September 24, 2001, Commissioner Karen Perdue of the Alaska Department of Health and Social Services officially endorsed the recommendations of the Alaska Telehealth Advisory Council (ATAC) Reimbursement Workgroup for Medicaid reimbursement of telehealth services. Director Bob Labbe of the Division of Medical Assistance (DMA) presented the recommendations at the September 28, 2001 ATAC meeting.

The endorsement and approval of the Reimbursement Workgroup's recommendations marks the most substantially defined Medicaid telehealth coverage and reimbursement policies in the nation to-date. The endorsement and approval of these recommendations are significant milestones in developing policy for Alaska Medicaid reimbursement of Telehealth services. The next significant milestones will be the implementation and evaluation of the Medicaid telehealth policies that foster and promote access to quality health care and that support the long-term viability of telehealth.

The recommendations for Medicaid coverage and reimbursement are discussed in the report entitled, "Medicaid Telehealth Reimbursement Research Project: III. Coverage and Reimbursement."

1. Allow initial, follow-up, or confirming consultations; diagnostic and interpretative services via live telehealth media in all regions of the state.
2. Allow initial, follow-up, or confirming consultations; diagnostic and interpretative services via store-and-forward telehealth media in all regions of the state.
3. Allow providers currently reimbursed for HCPCS Evaluation and Management codes to be eligible to serve as referring/ presenting providers.
4. Allow any recognized practitioner, (1) eligible for Alaska Medicaid reimbursement, (2) rendering a Medicaid qualified consulting service, (3) to eligible Alaska Medicaid recipients to be a consulting provider. Exclusions apply.
5. Require that the referring and consulting practitioners be licensed in the state(s) in which each is located.
6. Prohibit direct reimbursement of practitioners' equipment/on-going technological costs.
7. Reimburse telehealth services at no less than the current fee schedule amount paid for the same service rendered in the traditional manner.
8. Reimburse both the consulting and referring practitioners separately at the full fee for services provided by each.

9. Use HCPCS Level 1 and Level 2 codes with a “GT” modifier for billing and tracking telehealth services provided via interactive telecommunications. Assign a “GQ” modifier for the appropriate Level 1 or Level 2 code for billing and tracking telehealth services provided via store-and-forward technology.

The newly defined telehealth coverage and reimbursement policies of the Alaska Medicaid program require a comprehensive implementation and evaluation plan. The objectives of the plan are to 1) identify the next steps required to implement the policies, 2) monitor utilization, and 3) evaluate clinical outcomes, satisfaction, costs and fiscal impact.

This report is intended to assist the Division of Medical Assistance in developing plans for implementing and evaluating reimbursement of telehealth services

## **4. Implementation**

There are many variables that will affect the implementation of the Medicaid coverage and reimbursement policies. The most significant of these include State regulations and the Medical Assistance State Plan. In addition, there are numerous considerations to be made, coalitions to be built, and education activities that must be explored and undertaken. The primary considerations are discussed below.

### **Regulatory Changes**

To implement reimbursement of Medicaid telehealth services, regulatory changes may be necessary. A complete review of Alaska Administrative Code (AAC) cites related to administration of the Medicaid program should be initiated. Specifically, Alaska Administrative Code, Title 7, Health and Social Services, Chapter 43 should be examined to determine if certain rules may require amendments to support the telehealth provisions enumerated above. DMA initiated a review of applicable State regulation after receiving the endorsement of Commissioner Perdue.

### **MMIS System Modifications**

DMA has assessed the current Medicaid information/claims processing system and concluded that the system supports the claim and billing requirements of telehealth services. At this time, no MMIS system modifications are anticipated. The current system provides all of the functionality necessary to support the program.

### **Licensure**

The practice of medicine without a license is prohibited, whether the physician is treating the patient in person or from a distant location. When a physician exercises primary responsibility for the care of a patient, that physician is practicing medicine in the state where the patient is located and is subject to that state's laws regarding medical practice.

State boards have denied requests from out-of-state psychiatrists, for example, to conduct therapy with patients located in the state via telephone or videoconferencing equipment. Until recently, physicians who provided an opinion or interpretation to a local physician with primary patient care responsibility were not regarded as practicing in the state where the local physician and patient were located.

The advent of telehealth and its potential to create a new form of competition for specialty services has prompted state legislatures and medical boards to re-examine their views. We recommend that all medical personnel involved in the delivery of telehealth services to Alaska Medicaid beneficiaries (1) be licensed in the state in which each is located and (2) be enrolled in the Alaska Medicaid program prior to the receipt of reimbursement. Further, it is recommended that Alaska consider requiring practitioners to observe any telehealth standards developed for their scope of practice. Generally, it is anticipated that some new Medicaid policies will be initiated or required for the coverage of telehealth services. All current State and Federal statutes and regulations regarding provider licensing and practicing apply. Providers must adhere to all applicable laws and regulations.

### **Confidentiality**

Current statutes and regulations regarding privacy and confidentiality of medical information are the same for telehealth encounters as for other medical encounters. The fundamental concerns relating to the need to protect the confidentiality of patient information are the same whether a physician treats a patient face-to-face or through telehealth. Confidentiality includes maintaining the privacy of information stored on video and audio tapes, still images, and electronic records.

Most practitioners—including those who deliver services in a traditional manner—are accustomed to maintaining the integrity of such information as part of normal, day-to-day operations. A problem may arise, however, in the transmission of sensitive information over unsecured wires, lines, computers, and web-sites. The transmission of personal information to third parties and the storage of patient records in electronic form cannot guarantee privacy and confidentiality. This is true because telehealth services invariably require that patient information be exchanged with or viewable to individuals outside the traditional medical loop—normally consisting of physicians and administrative staff.

It is the responsibility of the health care provider to maintain and enforce the security of data transmissions, data storage and retrieval systems, and access to information. Failures to maintain adequate security measures can expose practitioners to liability for unauthorized disclosure or modification of sensitive information. All applicable State and Federal laws and regulations regarding patient information and confidentiality are enforce and the responsibility of the health care provider, whether a service is delivered using telehealth or a in a traditional manner.

### **Practitioner Resources**

A successful telehealth delivery network will require linking Alaskan practitioners with one another and linking Alaskan practitioners to out-of-state practitioners. Though providers maintain an awareness of available resources in the medical community, some may require assistance locating and collaborating with participating telehealth partners. Appendix A includes a list of Internet sites and e-mail discussion groups for practitioners who wish to engage in or discuss telehealth.

### **Billing Guidelines**

Practitioners will bill according to the current Current Procedural Terminology (CPT) procedural guidelines and will be reimbursed at current Medicaid fees. General billing and reimbursement guidelines and policies may be found at the Alaska Medicaid website (<http://www.hss.state.ak.us/dma/>).

### **Implementation Timeline**

Implementation of reimbursement for Medicaid telehealth services is expected to be completed in calendar year 2002. This estimate is based upon the assessment that the supporting infrastructure for the program will require (1) no MMIS system changes, (2) no coding or billing changes, (3) no separate enrollment of providers or recipients, and (4) no new professional practice standards.

### **Professional Standards**

Reimbursement for Medicaid telehealth services guidelines will expect that providers participating in telehealth encounters observe professional practice standards for telehealth services that may have been developed for the providers' professional practice area(s). Among the practice areas for which an accrediting organization has established professional practice standards are radiologists, psychiatrists, pathologists, home care providers, nurses, cardiologists, dermatologists, rehabilitation providers, and ophthalmologists. There are also multiple standards for telehealth equipment.

### **Convenience of Use**

Telehealth services should be convenient for providers and recipients to use. For recipients, convenience may depend on factors such as transportation to services, comfort with telehealth technology, trust in the accuracy and integrity of telehealth applications, and the availability of services. For practitioners, convenience of use may be influenced by technical savvy utilizing telehealth equipment, the availability of other medical professionals to consult and collaborate with, the amount of time required to perform telehealth functions, the ability to delegate functions to assisting staff, and integration of telehealth into core business operations.

### **Future Issues**

Alaska's policies for Medicaid telehealth services will evolve and likely undergo changes to insure its ability to serve Medicaid beneficiaries and providers. Several potential issues that may influence policy evolution are discussed briefly below.

1. The reimbursement structure may affect the volume of encounters.

Telehealth services involve both fixed costs, such as equipment, and variable costs such as practitioner time. The reimbursement structure is reflective of practitioners' costs for services delivered in a traditional manner and may not reflect costs for telehealth services. Though the Medicaid program will not reimburse equipment costs initially, DMA may consider alternate reimbursement structures in the future after further evaluation of the efficacy, costs and utilization of the services. Providers are encouraged to investigate alternate methods for purchasing equipment necessary to participate in telehealth encounters, including grants and equipment donations. Often, information about these funding sources may be located on the Internet or at public libraries.

2. There may be perceived risks, such as misdiagnosis or equipment malfunctions, that affect provider and recipient attitudes about telehealth utilization.

Anecdotal evidence suggests that practitioner liability issues will influence practitioner involvement in telehealth services. Failure to correctly calibrate an instrument can increase the likelihood of inaccurate diagnosis. Deficiencies or failures in equipment used to transmit an image, video clip or patient record may increase liability. When the patient employs multiple practitioners, all may be held

liable for any negligence. Likewise, practitioners are responsible for the lack of proper care by assistants or employees.

Practitioners who deliver services across state boundaries should ensure they are adequately protected in all jurisdictions where they provide medical care. Unlike other medical technologies, many of the tools involved in telehealth consultations or decision support systems were developed for non-medical purposes. Common provider and recipient concerns include whether there is more potential error in diagnosing patients via telehealth observation than in face-to-face interaction, whether telehealth technology allows increased opportunity for violations of patients' right to privacy, whether technological limitations compromise the quality of care, who is responsible for equipment failures or deficiencies that produce inadequate or incorrect information, whether providers should be required to use the most advanced applications available, and how often practitioners should update or replace telehealth technology.

Anecdotal evidence suggests that providers may be encouraged to embrace telehealth services because of (1) benefits to patient care, (2) opportunities to collaborate with medical peers, (3) reimbursement, and (4) the opportunity to use new medical techniques. To encourage practitioner acceptance of telehealth services, DMA may emphasize aspects that may appeal to medical practitioners. To encourage provider participation, other states have considered options such as stakeholder meetings, informational bulletins, and telehealth start-up booklets that assist providers with equipment selection, collaboration with other providers, and staff training.

3. The uncertainty over federal and state licensing requirements may impact the program.

State and federal guidelines regarding licensing requirements for telehealth services are presently being debated. At issue is whether providers practicing medicine via telehealth means in a state in which they neither live or are located should be required to hold a medical license in the state where their telehealth consultations, advice, or other services are used. However, the practice of medicine without a license is prohibited, whether the physician is treating the patient in person or from a distant location. When a physician exercises primary responsibility for the care of a patient, that physician is practicing medicine in the state where the patient is located and is subject to that state's laws regarding medical practice. Until recently, physicians who provided an opinion or interpretation to a local physician with primary patient care responsibility were not regarded as practicing in the state where the local physician and patient were located. The advent of telehealth services and their potential to create a new form of competition for specialty services have prompted state legislatures and medical boards to re-examine this view.

4. Abuse by providers.

Like other health care services reimbursed by the Medicaid program, telehealth services may be abused by certain unscrupulous providers. Telehealth encounters will be monitored by internal controls already in place, such as system edits, audits, and surveillance activities.

5. Recipient attitudes towards the use of telehealth technology may impact utilization.

Patients are accustomed to interacting in-person, one-on-one with a health care provider. Service delivery via telehealth will require some changes in attitudes and some attention to recipients' possible fears. Recipients may have concerns about the accuracy of machinery, the reliability of the opinions and evaluations of a health practitioner who assesses their condition from a remote location, confidentiality, or other issues.

Education and experience are two primary methods of addressing recipient concerns and encouraging acceptance of telehealth services. To insure positive recipient perceptions of telehealth services, other states have considered producing educational pamphlets, mailing telehealth literature to recipients, polling recipient satisfaction following a telehealth encounter, encouraging health practitioners to counsel patients about their fears, and requesting recipient consent prior to delivering services via telehealth. Residents in the state of Alaska, especially in rural areas, may be less reluctant to depend on telehealth services than could be anticipated in other areas of the country since technology is likely already a significant factor in their daily lives.

## **5. Evaluation**

To maximize efficiency and opportunities for enhancement, DMA must continually evaluate claims data and medical outcomes for reimbursed Medicaid telehealth services, similar to other Medicaid program areas. Program evaluation is often a complex undertaking. There are multiple tools and methods available for conducting a programmatic assessment. Some of the major tools available to DMA are discussed briefly below.

### **Stakeholder Evaluation**

Evaluation should be an assessment of how patients, health care providers, or other stakeholders feel about telehealth services and telehealth encounters. Telehealth encounters are largely controlled by, and at the discretion of, the primary care provider and the consultant provider. A successful telehealth encounter is contingent on a provider's ability to:

- (1) Accurately assess the appropriateness of the use of telehealth in relation to the severity and urgency of the presenting problem.
- (2) Understand and appropriately utilize the available technology.
- (3) Successfully guide a patient through an encounter.
- (4) Coordinate with and establish a "network" of participating medical professionals and specialists.
- (5) Apply appropriate medical standards.

Ultimately, an evaluation must speculate about the providers' roles in the success of telehealth encounters and make recommendations for achieving better outcomes through training, awareness, or other mechanisms.

Because an effective telehealth encounter requires consent, cooperation, and participation on the part of the patient, evaluations must measure patient actions that influence the use of telehealth services. These actions must be described, recorded, and evaluated. Ultimately, an evaluation must speculate about the patient's role in the effectiveness of telehealth encounters and make recommendations for achieving better outcomes through training, awareness, or sensitivity to the patient role in telehealth procedures.

The most common type of assessment is to ask telehealth participants to complete a questionnaire describing their attitudes toward their telehealth encounter. Separate questionnaires may be developed for providers and recipients. Reactions are usually sought immediately following a professional development session, and the responses are interpreted as 'levels of satisfaction' in terms of content of the services presentation by the facilitator/trainer, organization of the services, perceived effectiveness of the services and

overall rating of the use of telehealth technology. Follow-up with individual respondents may be desired on a case-by-case basis for further evaluation.

Concurrent to the study of Medicaid coverage and reimbursement policies, ATAC authorized a medical efficacy study designed to examine potential health-related outcomes and patient, provider satisfaction with telehealth services while building the business case for a reimbursement strategy. The outcomes of this study may assist DMA in evaluating telehealth services reimbursed by the Alaska Medicaid program.

### **Community Experience**

The introduction of telehealth services into a community invariably affects not only the patients who obtain services via telehealth but also the entire community. Based on the perceptions of the individual patients and medical practitioners, attitudes and expectations regarding telehealth services will be born. The patterns of care and access to care in the community will be affected by these perceptions. The community may embrace telehealth services unconditionally, or it may completely shun and be suspicious of telehealth practices. Ultimately, the assessment must speculate about the impact telehealth services have on the community and make recommendations for achieving positive perceptions, awareness, and acceptance of telehealth medical practices.

### **Clinical Evaluation**

Clinical evaluation should be an assessment of whether health outcomes are better, worse, or similar to those achieved for the same population experiencing the same types of health problems as those attained via traditional health delivery methods. The most important result of telehealth encounters is the patient health outcome. It is imperative that telehealth practices support and encourage positive medical outcomes without compromising medical standards. The clinical evaluation must speculate about how medical outcomes are influenced by telehealth services and make recommendations for insuring that no aspect of a telehealth service promotes negative medical outcomes. Evaluative methods may include the following:

- **Medical chart abstraction**  
Medical records for those who received telehealth encounters could be reviewed to evaluate the effectiveness of telehealth encounters. Items that might be reviewed could include diagnoses, expediency of care, acuity, referral patterns, procedures, follow-up care, and health outcomes.
- **Population studies**  
Specific beneficiaries may be selected, based on frequent interaction with telehealth services, and studied as a group. Studies might include routine feedback from the group, meetings, questionnaires, or process improvement discussions.
- **Focused review of each encounter prior to reimbursement**  
Claims for telehealth services may be suspended by the MMIS system for manual review and evaluation before payment, perhaps requiring that providers submit

supporting documentation regarding the telehealth encounter before a claim may be reimbursed.

### **Policy Assessment**

Policy assessment should be used to monitor the performance of telehealth services in comparison to the intended objectives of DHHS. Evaluative methods may include a combination of the following:

1. **Claims Analysis**

One way to assess the overall integrity of telehealth services is to conduct a data analysis utilizing paid (and denied) claims for telehealth services. A data analysis might include an examination of payment trends, service volume, service utilization, access to care, and resource patterns. Further analysis may be conducted to include regional variations and comparisons to utilization patterns in other telehealth models, including both private and public payors.

2. **Feedback Assessment**

Another way to assess the overall integrity of telehealth services is to review and assess feedback. Assessment might include examinations of unsolicited stakeholder comments regarding their experiences and perceptions of telehealth services and how to improve them.

3. **Technological Experiences**

Telehealth services may be delivered via a variety of technological methods, ranging from sophisticated interactive technology to common telephone-and-modem-based applications. The differences in cost, bandwidth, speed, complexity of usage, and clarity of images may have a definitive impact on the effectiveness of telehealth encounters. Ultimately, an assessment must speculate about how technology affects telehealth delivery and make recommendations for insuring that technology is a neutral factor in telehealth delivery.

4. **Cost Efficiency**

Cost efficiency is a three-pronged consideration for telehealth services. Providers are typically concerned with the cost of technology and reimbursement for services. Patients are typically concerned with the cost of receiving services. DMA is concerned that their reimbursement rates provide access to high quality health care while simultaneously being responsible with public funds. Cost may influence the types of services available, the sophistication of available services, patient willingness to access care, provider willingness to provide services, and the scope of insurance benefits. The assessment must speculate about how cost influences telehealth services and make recommendations for neutralizing the impact of cost on telehealth practices.

## **6. Conclusion—Post Evaluation Data Analysis and Reporting**

Once reimbursement for telehealth services has been implemented and evaluation activities have concluded their first cycle, the process of data analysis begins and the effects of service patterns will emerge. It is difficult to evaluate service patterns that involve a complex combination of technology, people, and health outcomes as is found in a telehealth setting. New reimbursement policies, such as those for Alaska Medicaid telehealth services, may not be sufficiently developed or implemented to yield meaningful data. One way to avoid inconclusive data is to ensure that the evaluation protocols are sensitive to the newness of telehealth services.

Most evaluations have both positive and negative findings as well as inconclusive findings. These may be the result of methodological and other limitations or they may be the result of external events that impede the data collection or analysis. Evaluation findings should not be viewed as the final word on the integrity of telehealth services in Alaska, but should be considered as part of a cumulative and evolving process. Evaluation data represent one input into decision-making, but there are other sources of information as well. The evaluation is ultimately a device for DMA to make adjustments, to improve effectiveness. Evaluation is the first step in a continuing sequence of implementation, evaluation, analysis, and policy refinement.

The thoroughness of the development of the telehealth reimbursement and coverage policies, the complete but simplistic approach of the policies, and ultimately the consensus of State and community leaders with health care practitioners have built a solid foundation for Medicaid telehealth coverage and reimbursement. This foundation, along with continued evaluation and refinement should lead to improved access to high quality health care, improved patient outcomes, and long-term viability of telehealth services in Alaska - satisfying the objectives of this initiative.

## **APPENDIX A: Practitioner Resources for Telehealth Services and Information**

Below are resources telehealth practitioners may find useful for locating other practitioners and information regarding telehealth services in the United States and other countries.

### **Internet Sites**

1. The Association of Telehealth Service Providers  
<http://www.atsp.org/>
2. Telemedicine Information Exchange. The most comprehensive and complete database on telemedicine projects, legislation, issues, equipment and vendors. Provided by the Telemedicine Research Center, in Portland, Oregon.  
<http://tie.telemed.org/TIEtexthome.html>
3. Telehealth - Issues for Nursing The American Nurses Association (ANA) is committed to the use of telemedicine/telehealth in a manner that enhances access to quality, affordable health care services.  
<http://www.nursingworld.org/readroom/tele2.htm>
4. Telemedicine Library and Information Service (TeLIS) at the Medical College of Georgia. Information on an expensive, and non-internet telemedicine publications collection.  
<http://www.mcg.edu/Library/LibServices/Telemed.html>
5. MedWeb: Telemedicine. A comprehensive list of telemedicine resources on the Internet. Updated Regularly  
<http://www.cc.emory.edu/WHSC/medweb.telmed.html>
6. Jim Cabral's Telemedicine Resources. An excellent overview of the technical issues surrounding medical networks  
<http://icsl.ee.washington.edu/~cabralje/tmresources.html>
7. Arent Fox Telemedicine Page. Information on the legal issues surrounding health information systems, computerized decision support technologies and telemedicine.  
<http://www.arentfox.com/telemedicine.html>
8. Centre Hospitalo-Universitaire de Rouen Informatique Hospitalière & de Santé ET en Télématicque de Santé & Télémédecine.  
<http://www.chuouen.fr/dsii/html/infmed.html>
9. OSU College of Osteopathic Medicine list of Telemedicine & Medical Informatics.

- <http://telemed1.ocom.okstate.edu/webpages/telemed/nettmed.htm>
10. Telemedicine Resources and Services list of telemedicine resources, including the charter of the American Telemedicine Association.  
<http://naftalab.bus.utexas.edu/nafta-7/tmpage.html>
  11. Marshall University RuralNet Telemedicine Resources. Provides links to a Gopher with a wide range of information on world-wide projects in text format from 1994.  
<http://ruralnet.marshall.edu/informat/telemed.htm>
  12. National Telecommunications and Information Administration- works to spur innovation, encourage competition, help create jobs and provide consumers with more choices and better quality telecommunications products and services at lower prices. Includes a list of technology grants.  
<http://www.ntia.doc.gov/index.html>
  13. Office for the Advancement of Telehealth- network engineers, clinicians, telehealth grant administrators, multimedia producers, distance learning consultants and telehealth policy analysts. Includes a list of grant opportunities.  
<http://telehealth.hrsa.gov/>

**E-mail Discussion Groups (See Specific Web-site for Subscription Information)**

1. <http://www.egroups.com/group/telemedicine>
2. <http://www.egroups.com/group/telemedicine-India>
3. <http://www.egroups.com/group/csen-telemedicine-mailing-list>
4. <http://www.egroups.com/group/telemedicinet>
5. <http://www.egroups.com/group/pmis-telemedicine>
6. <http://www.egroups.com/group/Arizonatelemedicine>
7. [http://www.egroups.com/group/Africa\\_telemedicine](http://www.egroups.com/group/Africa_telemedicine)
8. <http://www.egroups.com/group/Ethiopia-telemedicine>
9. [http://www.egroups.com/group/medical\\_online](http://www.egroups.com/group/medical_online)
10. <http://www.egroups.com/group/arctic>
11. [http://www.egroups.com/group/virtual\\_hospital\\_users](http://www.egroups.com/group/virtual_hospital_users)

12. <http://www.egroups.com/group/maamiit>
13. <http://www.egroups.com/group/telehealth-nurse>
14. <http://www.egroups.com/group/telehealth>
15. <http://www.egroups.com/group/Health-E-List>
16. <http://www.egroups.com/group/thug>