Alaska Telehealth Advisory Council
Final Report
FY 2000

Legal/Regulatory Issues   Interoperability   Bandwidth   Reimbursement   Sustainability

Payor & Provider Acceptance   Telehealth Resources   Public/Private Partnering

Credits

Table of Contents

Council Members

Co-Chairs

Commissioner Karen Perdue
State of Alaska, Department of
Health and Social Services

Richard Mandsager, MD
Alaska Native Medical Center

Members

Doug Bruce, CEO
Providence Health Care Systems

Tom Posey, President
AT&T-Alascom

Representative Gary Davis
State of Alaska Legislature

Paul Sherry, President/CEO
Alaska Native Tribal Health Consortium

Ron Duncan, CEO
GCI

Alex Spector, Director
Department of Veterans Affairs

Mark Hamilton, President
University of Alaska Fairbanks

Commissioner Nan Thompson
Regulatory Commission of Alaska

Jeff Jessee, Executive Director
Alaska Mental Health Trust

Mary Weiss, RN
Alaska Nurses Association

Mark Johnson
Business/Regulatory Analyst
United Utilities (AK Telephone Assoc. rep.)

Peter West, MD
Associate Medical Director
Premera Blue Cross

Marilyn Kasmar, Executive Director
Alaska Primary Care Association

Staff

Edward H. Lamb, CEO
Alaska Regional Hospital

Tom Nighswander, MD, MPH
Facilitator

Jerome List, MD, President
Alaska State Medical Association

Karen M. Mitchell
Administrative Coordinator

Workgroups

Five workgroups were formed to address specific telemedicine issues: Clinical Providers, Legal, Reimbursement, Technical, and Telepsychiatry.

Clinical Provider Members

Jerome List, MD
Alaska State Medical Assoc., 261-3096

Leslie Bryant, MD, 261-3162

Debbie Kiley, NP, 261-3096

Annette Siemens, NP, Chugachmiut, 224-3076

Major Peter Ehrnstrom
Elmendorf Air Force Base Hospital, 580-2520

Owen Hanley, MD, 456-3750

Richard Burger, MD, 452-6610

William Applebee, Consultant, 486-4017

Kevin Stange, MD
Alaska Native Medical Center, 729-2701

Joe Klejka, MD
Yukon Kuskokwim Health Corp., 543-6028

Legal

Tim Schuerch, General Counsel, Alaska
Native Tribal Health Consortium, 729-1908

Reimbursement Members

Teri Keklak, State of Alaska,
Division of Medical Assistance, 561-2171

Gwen Obermiller
Alaska Native Medical Center, 729-1964

Kathe Boucha
Providence Health Care Systems, 261-4955

Marijo Toner
Bartlett Memorial Hospital, 586-8488

Peter West, MD
Premera Blue Cross, (425) 670-4760

Technical Members

William Applebee, Consultant, 486-4017

Terry Daniels, Consultant, 274-3169

Kathy Fanning
Technology Management Service, 257-5426

Stewart Ferguson, PhD, Alaska Native Tribal
Health Consortium, 729-2262

Doug LaMarche, AT&T-Alascom, 264-7316

Captain Steven Menzies
Department of Defense, 580-3094

Leigh Thurston
Fairbanks Memorial Hospital, 458-5465

Marijo Toner
Bartlett Memorial Hospital, 586-8488

Telepsychiatry Members

Commissioner Karen Perdue, State of Alaska,
Dept. of Health and Social Services, 465-3030

Jeff Jessee
Alaska Mental Health Trust, 269-7963

Vern Stillner, MD
Bartlett Outpatient Services, 586-8498

William Worrall, MD, State of Alaska
Department of Corrections, 269-7319

Ron Adler
Gateway Mental Health, 225-4135

Wandal Winn, MD, 562-0794

Jay Collier, MD
Southcentral Foundation, 729-2500

Background

The Alaska Telehealth Advisory Council was formed at the request of Senator Ted Stevens and is in its second year of operation. Council focus for the next year includes developing payor agreements to pay for remote services, a telehealth network to connect clinical providers, publication of a clinical provider directory, development of interoperability standards, and encouraging public and private telehealth partnering.

Senator Ted Stevens has had a long-standing interest in seeing a coordinated effort of public and private telehealth development in Alaska. At the Senator's request, Alaska Department of Health and Social Services Commissioner Karen Perdue formed the Alaska Telehealth Advisory Council in January of 1999 (which Commissioner Perdue originally chaired, and now co-chairs).

The Council's original charge was to:

- Explore and document the potential for any challenges to telehealth development and delivery in Alaska
- Propose a framework for rational development and deployment of statewide capacity for telehealth systems
- Establish core principles to ensure a coordinated, cost-effective, and integrated approach to telehealth in Alaska
- Consider ways to assess effectiveness, efficiency, and whether 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

At a retreat held in October 1999, Council members reviewed the Core Principles (see to Appendix A) developed earlier in the year to facilitate the creation of a coordinated, sustainable public and private telehealth system. The revised vision states:

> "Telehealth systems would be accessible to all patients and providers, operate under effective voluntary standards, be easy to use and highly accepted by both patients and providers, and importantly be financially sustainable."

The Council's focus for the next year includes:

- Developing a payors agreement to pay for remote services on the same basis as a face-to-face visit
- Working toward the goal of having a telehealth network that would connect all clinical providers and publishing a clinical directory
- Developing a set of interoperability standards
- Encouraging examples of public and private partnering in telehealth

Executive Summary

Executive Summary

This report details the activities of the Alaska Telehealth Advisory Council as well as other telehealth developments. The goal is to provide enough information to serve as a resource for those individuals and organizations wanting to review the status of telehealth in Alaska.

Statewide public and private sector organizations with an interest in telehealth in Alaska have shown their continued support for the ongoing efforts and activities of the Alaska Telehealth Advisory Council. Without the support of both the public and private sector, the work accomplished through the quarterly council meetings and by the various workgroups would not have produced the outcomes noted below.

Work products from this last year include:

- Publication of draft Technical Standards generated by the Technical Workgroup, with public and private representation
- Publication of draft Telepsychiatry Guidelines for the State of Alaska
- Completion of a statewide survey of telehealth interests and capacity in the rural non-federal sectors of the state
- Award of two Telepsychiatry pilot contracts-- Low- and High-Bandwidth
- Award of a Telemedicine Efficacy pilot
- Contract for reviewing and recommending the required regulatory changes for the State of Alaska Medicaid program to allow payment for telemedicine

The proposed meeting dates for this next year include:

September 29, 2000
January 5, 2001
March 30, 2001
June 1, 2001

The Alaska Telehealth Advisory Council meets on a quarterly basus. Meetings are normally held in Anchorage. During this last year the Council did hold one of its meetings in Fairbanks. The focus of this meeting was on telehealth needs and applications currently being planned and implemented in Interior Alaska.

Summaries

Technical Standards

The Alaska Telehealth Advisory Council has taken a voluntary approach, versus a regulatory one, in the development of statewide Technical Standards for telehealth applications. Telecommunication and telehealth infrastructures currently under development will be more cost effective and efficient for the telehealth clinical applications using the proposed standards. In addition, due to the numerous telehealth participants in Alaska and the distances involved, the Council felt that out of self-interest the various telehealth service groups will voluntarily accept these standards.

The Alaska Telehealth Advisory Council Technical Workgroup is composed of 14 members, representing both public and private health and telecommunication sectors of Alaska. The standards developed by this workgroup are included in their entirety in this report (see Appendix B).

The Technical Standards are generic within the definition limits and, where possible, call for public domain applications. The standards also recognize the changing technology environment and call for a process to be developed to review and/or revise the standards on at least a yearly basis.

A summary of the Technical Standards includes:

- *Security* -- standards for data transmission, data storage, and access to data.
- *File formats* -- open file formats and open standards are required (industry-wide standards approved by manufacturer-neutral organizations, whereas closed standards typically refer to proprietary formats); compression algorithms must satisfy the diagnostic needs of clinicians; ANSI standard file formats will be used.
- *Software* -- all potentially harmful software components (e.g., Active X and JAV A controls) in the software will be license controlled;

telehealth vendors will be aware of security concerns and restrictions placed on the transport of data when promoting telehealth solutions in Alaska.

- *Videoconferencing* -- equipment must satisfy the appropriate H.3xx standards for the transmission technology used to connect to remote sites; multicasting client software will be non-proprietary and free.

- *Support and Maintenance* -- telehealth systems will be expected to meet 24 hour per day, 7 day per week uptime and access for users. Vendors will identify all potential future costs to customers, such as continued licensing fees, warranty costs, consumables; vendors are required to provide customers with information describing the current installed customer base for the telemedicine products, as well as the technical history.

For additional information or to suggest revisions to the Technical Standards, contact Stewart Ferguson, PhD, Technical Workgroup Chairman. He is available through the Alaska Federal Health Care Access Network (AFHCAN) project office, (907) 729-2260.

Private Survey Results

The rural areas of Alaska pose a potential gap in the future development of telehealth services as they are not covered by the AFHCAN project (for more information, see the section titled AFHCAN). AFHCAN covers all of the former Indian Health Service (IHS) sites, including Community Health Aide (CHA) clinics; 26 Public Health Nursing clinics; nine Department of Defense sites; four U.S. Coast Guard sites; and one Department of Veterans Affairs location.

To address the rural areas of the state, Daniels, Tschannen, and Associates was contracted to conduct a survey, "Readiness Assessment of Rural Health Care Providers to Participate in Telehealth Programs" (see Appendix C). One hundred thirty-two rural sites were identified which were beyond the scope of the AFHCAN project; e.g., other rural health clinics, rural hospitals and community mental health centers, Pioneer Homes, and rural physicians.

Notable findings of the report include:

- A large percentage of providers were connected to the Internet, with primary use being e-mail
- Numerous survey participants expressed an interest in participating in a telehealth program with the proper safeguards and security in place
- There is a lack of training on computer use for telemedicine purposes and handling medical information
- There is a lack of easily available and affordable technical support for rural programs

The recommendations from this report call for a number of initiatives, including:

- Development of a telehealth technical support system for the end users
- Funding support for required hardware and software needs in rural settings
- Sponsorship of working telehealth prototypes to demonstrate how this technology can be used in a medical practice on a daily basis

4

Telepsychiatry Standards

The Telepsychiatry Workgroup has generated a set of Telepsychiatry Guidelines for Alaska. The guidelines address the possibilities and limits of telepsychiatry, and give guidance for matching the capacity of bandwidth and the type of service that can be provided.

Four factors that need to be considered include:

1) The medical necessity for timely access to a psychiatrist
2) The availability of on-site psychiatric services in the community
3) Type of psychiatric service needed
4) The quality of the videoconferencing equipment and connectivity

The draft Telepsychiatry Guidelines are included in this report (see Appendix D).

Special Reports

Distance Delivery Education

Like the Alaska Telehealth Advisory Council, the Alaska Distance Education Technology Consortium was formed at the request of Senator Ted Stevens. The Consortium's focus will be to address the issue of distance education within the state. The Consortium is made up of 18 members representing various statewide educational institutions and membership is expected to grow with interest. The Consortium plans to meet throughout the summer of 2000. Several areas the Consortium will focus on over the coming months include: infrastructure for information technology, training for the end-user and support staff, and mechanisms for partnerships.

The mission of the Alaska Distance Education Technology Consortium is similar to that of the Alaska Telehealth Advisory Council:

- Bring together within the state the principals in education
- Coordinate at a high level the development of distance delivery education using advanced telecommunications

The Chair for the Alaska Distance Education Technology Consortium is University of Alaska Fairbanks President Mark Hamilton, with Michael Sfraga, PhD, serving as the facilitator. Dr. Sfraga is also with the University of Alaska Fairbanks.

The Alaska Distance Education Technology Consortium held its first meeting on May 24, 2000. Initial meeting participants included senior officials from higher education institutions, K-12 education sponsored by the State of Alaska, and various municipalities.

The Consortium's area of focus includes the following:

- Information technology infrastructure
- Distance education content and pedagogy
- Training for both the end-user and support staff
- Federal and state policy issues
- Technical support
- Mechanisms for partnerships

The group plans to meet throughout the summer of 2000. The Alaska Telehealth Advisory Council is represented by Commissioner Karen Perdue, with Thomas Nighswander, MD, MPH, attending in a staff capacity.

For more information regarding the Alaska Distance Education Technology Consortium, contact Dr. Sfraga:

Office of Program Development
University of Alaska Statewide System
Suite 202, Butrovich Building
Fairbanks, AK 99775
Phone: (907) 474-1997/FAX: (907) 474-7570

National Library of Medicine

In 1996, the Alaska Telemedicine Project received funding from the National Library of Medicine (NLM) to develop telehealth applications and technologies in several Maniilaq, Bristol Bay, and Yukon-Kuskokwim area villages. The original project focused on ENT and later incorporated a dermatology application.

By January 1999, the project completed 1,715 telemedicine transmissions. The project transmissions have been evaluated for efficacy, ease of use, and acceptability by both patients and providers. In addition, a special evaluation component has been added in regard to the appropriate use of antibiotics in suspected otitis media cases.

Project evaluation is currently underway and an additional year of funding has been received to expand this technology to private practices in Southcentral Alaska. Sites under consideration for inclusion in the expansion are Seward, Kodiak, and Talkeetna. Final funding determination, however, will not be made until the fall of 2000.

For additional information regarding this project, visit the Alaska Telemedicine Project website, www.telemedicine.alaska.edu.

Projects

Telepsychiatry:
Low- and High-Bandwidth

Through the Alaska Native Tribal Health Consortium, the Alaska Telehealth Advisory Council has awarded several pilot projects to various entities to assess and demonstrate the various aspects of telehealth. Two of the projects will assess the effectiveness of telepsychiatry in Alaska-- Low- and High-Bandwidth. Eastern Aleutian Tribes has been awarded the low-bandwidth project and Gateway Center for Human Services in Ketchikan was awarded the high-bandwidth project. A third project utilizing T-1 connections will be funded through the Alaska Mental Health Trust. All three projects will last for a one-year period and will have a similar evaluation, which will be sponsored by the Alaska Science and Technology Foundation.

To advance the use and evaluate the effectiveness of telepsychiatry in Alaska, the Alaska Telehealth Advisory Council has sponsored two requests for proposals (RFPs): Low-Bandwidth and High-Bandwidth Telepsychiatry projects.

The Low-Bandwidth project, which will use video phones and regular telephone lines, was awarded to the Eastern Aleutian Tribes for services to the Aleutian communities of Sand Point and King Cove. A psychiatrist located in Anchorage will provide weekly telepsychiatry services to these two communities using a videophone. In addition, the psychiatrist will visit on-site once every two months.

The Gateway Center for Human Services in Ketchikan was awarded the High-Bandwidth Telepsychiatry project. This project will initially focus on the child and adolescent population in Ketchikan and will eventually expand to the Indian community of Metlakatla. The psychiatrist for this project, who has worked for Gateway for the last three years, is located at Oregon Health Sciences University in the Division of Child and Adolescent Psychiatry. Use of the higher bandwidth (>128 kbps) for this project will allow for observation of play groups and other high motor activity of children.

A third locally funded telepsychiatry project will occur in Kotzebue and will utilize T-1 connections, which still need to be installed in each of the villages. This project will use a model similar to the two other projects -- namely, weekly telepsychiatry consultations interspersed with on-site visits by a mental health specialist.

All three projects will have a similar evaluation sponsored by the Alaska Science and Technology Foundation. The evaluation component will be to determine the types of psychiatry services that can be provided by this modality given a specific bandwidth. Two specific goals of the evaluation will be to answer the following:

- Does telepsychiatry improve the timeliness and ease of access to a psychiatrist?
- Does the telepsychiatric encounter meet the standards of a face-to-face encounter in meeting the requirements for reimbursement by a third-party carrier.

The three study pilots will last for a one-year period and each evaluation will occur concurrently.

Telemedicine Efficacy

The Telemedicine Efficacy project was awarded to Kez'aani, LLC, located in Anchorage. The project focus will be to generate telehealth clinical encounters for the evaluation and development of telehealth reimbursement guidelines. Project sites will include the Family Residency Program, portions of the Providence Health Care Systems network, and several rural settings.

To generate additional telehealth clinical encounters for the purpose of evaluation and development of guidelines for reimbursement, a Telemedicine Efficacy RFP was developed to answer the questions noted below.

- Does telehealth add value to the patient encounter?
- Does telehealth specifically bring appropriate and timely clinical consultation and advanced diagnostic capabilities to patients in their local settings?
- What is the effect on the patient's and provider's time and resources used for the clinical episode?
- What are the satisfaction levels for both the provider and the patient?

Additionally, the pilot will attempt to demonstrate interoperability capabilities of several different delivery systems and develop a telehealth consultation process that is easy to use and time efficient for the busy practitioner.

The project was awarded to Kez'aani, LLC, based in Anchorage. The telehealth sites will include the Family Practice Residency Program, portions of the Providence Health Care Systems network, and several rural settings.

Telemedicine Reimbursement

The long-term viability of telehealth will depend to a great extent on the availability of reimbursement for this service. In Alaska it is especially important that store and forward applications be reimbursable. To this end, the Alaska Telehealth Advisory Council has awarded a competitive bid to the public accounting firm of Myers and Stauffer to research telehealth reimbursement and propose a set of guidelines and proposed regulations for Medicaid reimbursement. The proposal process for this project was very competitive with four qualified bidders responding.

With offices throughout the United States, Myers and Stauffer has worked in Alaska for the State of Alaska Division of Medical Assistance on numerous occasions. Myers and Stauffer is familiar with the local demographics, geography, and the health policy and service issues unique to Alaska.

The firm of Myers and Stauffer has also been requested to recommend specific Medicaid payment and coverage policies related to telehealth services, including provider service types, specialty restrictions, and guidelines required to maximize use of in-state services.

Applications

Department of Corrections Telepsychiatry

The State of Alaska Department of Corrections provides statewide telepsychiatry through a telepsychiatry project implemented in November 1997. Communities serviced include Anchorage, Palmer, Nome, Bethel, Fairbanks, Kenai, Juneau, Seward, and Ketchikan. Approximately 20 consultations are provided per week in regularly scheduled clinics and unscheduled emergency consultations. To date, over 13,000 consultations have been completed by the Department of Corrections using this technology.

The Department of Corrections implemented a statewide telepsychiatry project in November 1997. The system uses Plain Old Telephone Service (POTS) lines and 8x8 video-conferencing equipment (videophone), which usually connects at about 19.2kb (baud rate). Each site is equipped at a cost of less than $600 with the only additional operating cost being the long-distance charge for the standard telephone line.

Anchorage, Palmer, Nome, Bethel, Fairbanks, Kenai, Juneau, Seward, and Ketchikan are all being served by the Department of Corrections telepsychiatry project. The current utilization rate is approximately 20 consultations per week for regularly scheduled clinics and unscheduled emergency consultations. To date, the Department of Corrections has completed more than 1,300 consultations using this technology.

The Department of Corrections' current equipment and connectivity is adequate for most decisions that need to be made by a psychiatrist assessing patients for psychotropic management and emergency management, but most likely would be inadequate in other settings for the range of services that they provide. The advantage that the Department of Corrections has is that the patients are incarcerated in a highly structured setting with security, medical, and mental health personnel who are able to do the following:

- Maintain security and safety
- Administer the medications
- Monitor the patient's response to medications

This structure in effect provides a safety net, allowing the Department of Corrections to handle fairly acute patients as well as stable patients. In an outpatient setting it would be more difficult to provide the range of services to acute patients that the Department of Corrections provides, particularly with this low quality video-conferencing equipment and connectivity.

The Department of Corrections is currently working to upgrade its equipment in a joint project with the Department of Health and Human Services. The Department of Corrections plans to improve the quality of video-conferencing to support telepsychiatry with a measurable improvement that is two to three times better.

Teleradiology

Providence Health Care System's Radiology Service has been providing teleradiology services to the following communities:

- Cordova
- Dutch Harbor
- Homer
- Kodiak
- Seward
- Valdez

The workload varies from 350 – 400 readings per month. Preliminary reports are automatically faxed to each site as soon as the reading transcription is completed (usually the same day as the film was obtained). The signed hard copy of the report is then sent to each site by the Medical Records Department.

Alaska Native Medical Center

The Alaska Native Medical Center's (ANMC) Radiology Department has established teleradiology links with the communities of Dillingham, Barrow, Sitka, Juneau, and Kotzebue.

Workload volume is noted in the table below.

MONTHY TELERADIOLOGY EXAMS
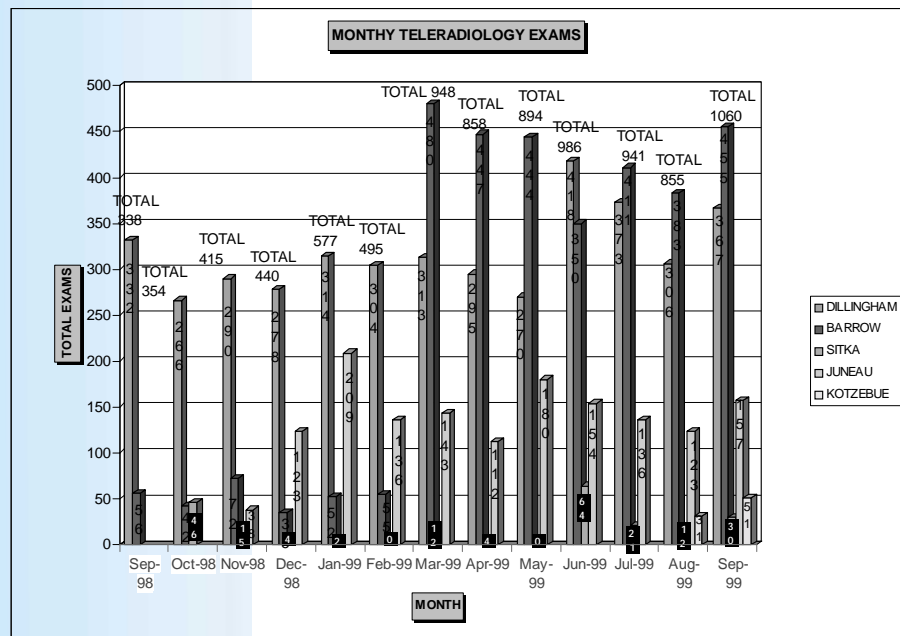
In the next phase of development, several of the mid-level practitioner clinics will be connected to their regional centers. Clinic connections will include: Tanana and Galena to Fairbanks; Hoonah and Klawock to Sitka; and McGrath to Anchorage.

Petersburg Telehealth

Through a partnership with the University of Washington Medical School, the Petersburg Clinic has been able to successfully use various telehealth applications for the past five years. In addition, the clinic has been providing outreach psychiatric services to special needs children two to three times each month through grant funding.

The Petersburg Clinic has had a telehealth link with the University of Washington Medical School for the past five years. Clinic modalities include both interactive and store and forward technology, with an average of two to three transmissions per month. The clinic has found pediatric cardiology (using an electronic stethoscope), pediatric orthopedics, and rheumatology to be the most useful applications. Store and forward technology has also been used successfully for dermatology applications. The clinic plans to upgrade its equipment for teleradiology services.

The Petersburg Clinic has another partnership with the University of Washington Department of Psychology to provide outreach services to special needs children. For the past one and a half years, outreach services have been provided to special needs children two to three times each month. Funding for this service is through an Outreach to Children with Special Needs grant.

As telehealth service provision moves forward, an ongoing issue for the Petersburg Clinic, as well as many providers within the state, is funding to support the significant costs associated with line service charges (ISDN). For Petersburg these costs vary between $1,500-$3,000 per month. Although Universal Services Funding is available, it has been difficult to access.

For more information regarding Petersburg Clinic telehealth developments, contact Dr. Mark Tuccillo at the Clinic, (907) 772-4299.

AFHCAN

AFHCAN

The Alaska Federal Health Care Access Network (AFHCAN) is a federal telehealth initiative sponsored by the Alaska Federal Health Care Partnership to develop a statewide telecommunications network. The mission of the project is to improve access to health care for federal beneficiaries in Alaska through sustainable telehealth systems.

The goal of the AFHCAN project is to successfully develop a telehealth infrastructure using modern telehealth technology to link 235 federal and state health care sites in Alaska. The telecommunications network will have the capability to link rural clinics, regional hospitals, and medical centers statewide. The network will send data, digital images, video, and voice between health care providers and referring providers.

The AFHCAN project has 37 member organizations including IHS/Tribal entities, the Veterans Administration, Department of Defense, US Coast Guard, and the Alaska Division of Public Health, Nursing section. The Alaska Native Tribal Health Consortium manages the project.

Five organized committees address five areas of emphasis of the health care delivery system to guide the development of the project. They are Business, Clinical, Informatics, Technology, and Training. Each committee consists of talented individuals from various member organizations, professional backgrounds, and communities all over the state. The committees generate discussion and advise the AFHCAN Steering Board and AFHCAN Project Office to develop project objectives.

AFHCAN staff are currently providing technical assistance to member organizations in preparation of deployment by August 2000.

The software application is near completion and the hardware selection is in the final stage. Equipment will include a standard computer, keyboard, digital camera, printer, scanner, digital otoscope, and EKG. The training manual, specifically developed for selected equipment, is also near completion.

The AFHCAN network is successfully co-located at GCI and the second co-location at AT&T will be completed by July 2000. Sites currently linked to the network are Maniilaq Association, the Department of Veterans Affairs, Alaska Native Medical Center, and the Anchorage Project Office. Eastern Aleutian Tribes and Bristol Bay Area Health Center will be linked by July 2000 with participating sites following.

For more information, contact the AFHCAN Project Office at:

<div align="center">

4201 Tudor Centre Drive, Suite 310
Anchorage, AK 99508
Phone: (907) 729-2260/FAX: (907) 729-2269
afhcan@afhcan.org   http://www.afhcan.org

</div>

Appendix

Section Contents

Appendix A

Core Principles

Telehealth Core Principles

The Telehealth Core Principles:
Thomas S. Nighswander, MD, MPH

Introduction

Alaska has the potential to receive millions of dollars over the next several years to develop telehealth in our state. Funds to accomplish this task will come from special appropriations and specific grants; private industry will also invest sizeable capital. The Alaska Telehealth Advisory Commission must seek to establish ground rules that ensure wise utilization of these funds. Lower 48 states have indicated that the infusion of large amounts of money was instrumental in developing sophisticated projects; their efforts, however, faltered when the one-time funding was fully expended. The Commission must carefully develop an infrastructure that keeps in mind the future costs in making telehealth services available to all Alaskans who will benefit from this technology.

With careful planning, the Commission has an opportunity to utilize this technology to advance personal health care and community health throughout the state. The guiding principles for this development include the following:

Telehealth Core Principles

1) **Any entity that becomes engaged in statewide telehealth in Alaska should ensure equal access, when financially realistic, to all Alaskans who would benefit from this technology.**

   The underlying principle is to make telehealth technology available to all Alaskans who will benefit from this technology. However, providing access to this technology to Alaskans who will receive the most benefits will be problematic—the small, rural and distant Alaskan community. Access to traditional health service in these communities can be limited due to the cost and difficulty of travel. Yet these same communities also have, potentially, the most difficulty with telecommunication infrastructure. This is especially true if telehealth technology must be supported with more bandwidth than is currently available in the community.

   Therefore, technologies using existing telecommunication infrastructure should have standardized applications for telehealth.

2) **All entities participating in telehealth must assure that their systems meet inter-connectivity and inter-operative standards and participate in the coordination of other telehealth efforts in the state of Alaska.**

   As of January 1999, fifteen projects have been identified that are currently operating or in various phases of development. It will be in the best interests of our state if these systems are able to communicate with one another (open architecture), which would allow for the easy exchange of information. The end user should also be able to connect to the provider or system of choice, or the sponsor of the patient's health service with ease.

   Furthermore, in order to support the infrastructure and development costs, there should not be a duplication of efforts. While pilot projects of new or upgraded technologies will always be welcomed, the program development costs, where feasible, should not be duplicated and effective telehealth tools should be available to everyone as public domain.

   Likewise, the telecommunication infrastructure would need to be shared in order to spread maintenance costs to as many partners as possible. This requires that in the initial telehealth roll out, attempts should be made to partner with as many public and private institutions as possible. These partnerships may include non-traditional partners in health care (i.e., schools and libraries, other state agencies, financial institutions, oil companies, fisheries, the military, and perhaps more).

3) **All telehealth applications should be acceptable to both the patient and the provider and be easy to use.**

The experience from other states suggests that providers of care do not easily adopt telehealth technologies. There are multiple reasons for this. Some providers are technophobes; this can be resolved as providers become more familiar with the technology. Providers also see the technology as interfering with the way they currently provide care or services to their patients; i.e., there is a break in established routines, or the technology does not fit into the flow of the provider's practice.

Another obstacle has been the telehealth equipment itself, which has not been easy to use. Prior to the telehealth application being introduced, sufficient training was not offered to providers. Current telehealth equipment requires special operating skills which need to be learned by the provider before the equipment can be used. These skills need to be continually upgraded as new hardware and software are introduced. In addition, the telehealth equipment has not been reliable. When equipment breakdowns or computer glitches occur, the repair service has not been easily accessed or provided in a timely manner.

Furthermore, the telecommunications link has been slow or unreliable, which results in the provider viewing telehealth as a chore to access and maintain as a current communication link to the consultation service.

4) **All entities that participate in telehealth must determine their financial viability for the long term, including the provision of professional capacity development and training as an ongoing component of operating expenses.**

Lower 48 states participating in the early development of telemedicine often faltered and failed when funding for their sophisticated and expensive telehealth projects was fully expended. Therefore, a guiding principle for the Commission should be that all potential projects be evaluated with an analysis of the recurring long-term costs.

These costs should include: equipment maintenance, replacement, and upgrades; equipment use training, including initial and ongoing training for upgraded technologies and initial training for new providers of care who move into the community; and costs associated with telecommunication links (connectivity).

There is a general agreement that subsidized transmission costs (Universal Services Fund) should not be depended upon for the long term. For planning purposes, telehealth systems must be self-sufficient.

5) **All participants in telehealth in Alaska should engage in a needs assessment and evaluation of services.**

Lastly, for increased provider acceptance, this technology must be viewed as helpful in providing services either in a more efficient manner or at a more specialized level. This requirement suggests that the developers of telehealth services must develop their programs after talking to a variety of providers of care, all the while keeping in mind the fundamental question of how this technology can assist the provider in conducting his/her work.

Once the goal of telehealth technology is clear, and fully in place, an ongoing evaluation needs to occur to design improvements and determine if the original goal is still being met.

Appendix B

Technical Standards

ATAC Technical Standards
developed by the
ATAC Technical Standards Workgroup
Edited by A. Stewart Ferguson, Ph.D.

1.0 Participants

This document is the result of discussions held by the ATAC Technical Standards Workgroup during the period of September 1999 to February 2000. Participants included (in alphabetical order):

- **William Applebee,** *Consultant* (william@applebee.net**)**
- **Tom Bohn,** *AFHCAN Project* (tbhn@afhcan.org**)**
- **Terry Daniels,** *Daniels, Tschannen & Associates* (warpspd@alaska.net**)**
- **Kathy Fanning, Veterans Administration** (kathy.fanning@med.va.gov**)**
- **Jeff Farnsworth,** *U.S. Air Force*
- **Stewart Ferguson,** *AFHCAN Project* (sferguson@afhcan.org**)**
- **Steve Fletcher,** *AT&T* (sfletcher@alascom.att.com**)**
- **Doug LaMarche,** *AT&T* (dlamarche@alascom.att.com**)**
- **Greg Loudon,** *SAIC* (loudong@saic.alaska.net**)**
- **Capt. Steven Menzies,** *U.S. Air Force* (steven.menzies@elmendorf.af.mil)
- **Tom Nighswander,** *ATAC* (tnighswander@anthc.org**)**
- **Kelly Nokelby,** *SAIC* (nokelby@saic.alaska.net**)**
- **Leigh Thurston,** *Fairbanks Memorial Hospital* (lthursto@LHSnet.com**)**
- **Marijo Toner,** *Bartlett Regional Hospital* (mctoner@hisea.org**)**

2.0 Context

The Alaska Telehealth Advisory Commission (now the Alaska Telehealth Advisory Council) established four core guiding principles for the development of telehealth technologies throughout the state of Alaska. Outlined in the Final Report in 1999 [1], the second of these core principles states:

> All entities participating in telehealth must assure that their systems meet inter-connectivity and interoperability standards and participate in the coordination of other telehealth efforts.

Interoperability, as it is being used within this report, is defined by the General Services Administration [2] as:

> Interoperability 1. The ability of systems, units, or forces to provide services to and accept services from other systems, units or forces and to use the services so exchanged to enable them to operate effectively together. 2. The condition achieved among communications-electronics systems or items of communications-electronics equipment when information or services can be exchanged directly and satisfactorily between them and/or their users. The degree of interoperability should be defined when referring to specific cases.

Fifteen projects were identified in the ATAC Final Report, and it was suggested that an "open architecture" design would be in the best interest of the state to allow these systems to communicate with each other. An "open system" is defined as [2]:

> A system with characteristics that comply with specified, publicly maintained, readily **available** standards and that therefore can be connected to other systems that comply with these same standards.

Recognizing that an "open system" is defined in terms of publicly maintained standards, ATAC proposed to:

> …implement a technical work group to assist in the development and facilitation of the interoperability of telehealth systems within the state.

Subsequent to the ATAC Final Report issued on June 30, 1999, the ATAC Technical Standards Workgroup was formed and met eight times during the period of September 1999 to February 2000. The workgroup participants recognized that a set of standards is no assurance that systems will inter-operate, regardless of the rigor established and enforced by the standards. Many examples exist which demonstrate that standards by themselves cannot guarantee, but can promote, interoperability.

The workgroup also recognized that setting technical standards may provide significant benefits aside from promoting interoperability. Consequently, the workgroup opted to define a reasonable set of technical standards that should be met by all future telehealth applications, to:

- Enhance the interoperability of disparate telehealth systems and applications
- Improve the sustainability and usability of such systems in future years
- Provide a mechanism for meeting current and projected needs for data security

The first goal would meet those addressed by the ATAC Final Report. The second goal is independent of cooperation with other telehealth systems, but answers the question: "Will a system implemented today be usable in 20 years?" Will patient data recorded with one system be accessible when the software manufacturer no longer exists, or when a different system is implemented? The third goal was added because the workgroup felt the issue of security was sufficiently important and not necessarily covered by the first two goals.

The workgroup often reflected on the "power" of any standards to attain these goals. The objective was to set "reasonable" expectations on telehealth implementations that would not necessarily preclude specific solutions, but which would achieve the above specifications. Existing projects would only be expected to meet these standards if the projects expect to expand beyond their current implementation.

Generally speaking, the workgroup did not set any new standards, but embraced existing "industry" and "open standards" whenever possible. Standards that are specific to vendors or manufacturers are only permissible when no other alternatives exist, or when the manufacturer has established a defacto industry standard.

The Technical Standards Workgroup emphasizes that these technical standards are recommendations that, if followed, increase the likelihood of telemedicine systems reaching the above goals. The workgroup recommends that both vendors and customers alike follow these standards during the design, development and deployment of telemedicine systems.

Finally, the workgroup strongly believes the following statement:

> *Standards should be simple to be effective.*

3.0 Extent of Standards

Technical standards are inseparable from the state of current technology – as one changes, so must the other. Consequently, these standards are "snap shots" in time and may not necessarily be relevant as technology changes. For example, setting standards based on the XMLand HL7 file format may not be relevant in 10 years and certainly was not relevant 10 years ago when these technologies did not exist.

The following caveat applies to all technical standards established by the Technical workgroup and presented in this document:

- **3.0.1 The technical standards presented in this document reflect the "state of technology" at the current time, and must be reviewed and modified as technology changes. This document is a "living document" and must be**

maintained to adequately reflect these changes. It is reasonable to review these standards on an "as needed" basis for this purpose.

4.0 Security

The security of confidential patient health data is the legal, moral and ethical responsibility of all entities involved in telemedicine [3]. Security can be considered at several levels: protecting data from unauthorized access (encryption), verifying the source of data (authentication and nonrepudiation), and guaranteeing the integrity of data during transmission or storage (hash functions). The fundamental principle for security, established in the Federal Privacy Act of 1974 for federal systems [4], is that systems must "establish appropriate administrative, technical, and physical safeguards to insure the security and confidentiality of records and to protect against any anticipated threats or hazards to their security or integrity which could result in substantial harm, embarrassment, inconvenience, or unfairness to any individual on whom information is maintained."

Standards exist at the federal (and possibly state and local) levels concerning the storage and transmission of confidential patient health data. In some cases, the standards only apply to specific forms of data or specific forms of transmission.

HCFA (the Health Care Financing Administration**,** the federal agency that administers the Medicare/Medicaid/Child Health Insurance Programs, has adopted a policy that covers Internet transmission of HCFA Information [5]. The HCFA Internet Security Policy covers Internet data transmission only. It does not cover local data-at-rest (storage), or LAN transmission of data. It only applies to "HCFA Privacy Act-protected Data," not all electronic patient data. For example, Medicaid data not sent to HCFA is not covered by this policy. Nonetheless, this policy clearly defines that "a complete Internet communications implementation must include *adequate encryption*, employment of *authentication or identification* of communications partners, and a management scheme to incorporate *effective password/key management* systems." Moreover, the policy defines acceptable encryption algorithms as of November 1998, and outlines the possible procedures for implementing security: hardware-based encryption, software-based encryption, authentication, and identification. For example, the policy states that algorithms such as Triple 56 bit DES and Secure Sockets Layer (SSL) Version 3.0 are acceptable.

A more restrictive set of procedures is currently being proposed at the federal level [6] to implement the administrative simplification provisions of the Health Insurance Portability and Accountability Act of 1996 (HIPAA). This policy is expected to become federal law in 2000. It is much broader than the HCFA regulations, covering more types of data and many more aspects than merely Internet encryption and authentication. It delineates the individual security issues of access control, audit control, authorization control, data authentication and entity authentication. The policy details 55 mapped standards concerning security, including DES (ANSI X3.92 Data Encryption Standard) and triple DES (ANSI X9.52 Triple DES Modes of Operation) encryption algorithms.

As more sophisticated encryption techniques are becoming available and easier to implement, the trend is towards standards that effectively utilize these techniques for all data over all forms of transport. To ensure future compliance, proposed standards would adopt the "best" or "most restrictive" of all security policies to cover all forms of data over all forms of transmission. However, the policy cannot remain fixed – encryption routines may be found to be ineffective and newer techniques adopted. The best encryption techniques are those that are made available to public scrutiny, withstand rigorous testing, and are based on accepted standards and protocols [7].

4.1 Security Standards for Data Transmission

The workgroup adopted the following standards for the transmission of telehealth data:

- **4.1.1 All telehealth applications will meet all existing legal standards for secure data transmission, including federal, state and local standards.**

The workgroup recognizes that security standards do not apply to the transmission of all forms of telehealth data. The transmission of "live video" data, as occurs during videoteleconferencing, typically is not secured (perhaps to constraints on timing and volume of packet sizes). "Live audio" data (e.g., voice or stethoscope) is also typically not secured. Note that securing live audio data would then suggest that telephone calls between consulting physicians must also be

secured. For these reasons, the following standards for security only apply to "non live-video/audio" data at this time (pending changes in technologies).

- **4.1.2 All systems transmitting data outside an organization's LAN or over POTS or WAN connections, will encrypt the data to maintain privacy, will provide a means for maintaining validating data integrity, and will provide a means for authenticating the source of the data at the user level.**

- **4.1.3 The acceptable procedures and algorithms for providing security are those outlined in the "HCFA Internet Security Policy" and the "Health Insurance Portability and Accountability Act of 1996," or subsequent upgrades to these regulations.**

- **4.1.4 VPN (Virtual Private Network) hardware and software will conform to IETF standards (e.g., IPSec, IPv6) [8] and not employ techniques that are proprietary to a manufacturer. Vendors employing VPN solutions will demonstrate the true throughput of such systems and indicate any performance degradation resulting from their implementation due to CPU utilization.**

Recognizing that security standards are evolving and moving towards more restrictive measures, the workgroup believes in the immediate adoption of more restrictive standards than currently implemented by HCFA. The workgroup expects federal standards to change, as proposed changes are currently in circulation. The new standards are clearly on the horizon and, recognizing that software has a finite lifetime, it is better to guarantee the software is useful in the future. Software that fails to meet these standards may require expensive upgrades or outright replacement in the near future. Consequently, telehealth applications should meet the current HCFA standards for the transmission of all telehealth data outside a local area network, regardless of the use of the Internet or whether or not the data is HCFA data. In addition, while HCFA does not specify hash function or other measures to ensure data integrity, the Technical workgroup believes a standard should be set to establish a minimum procedure for ensuring data integrity.

Consequently, the standard calls for secure transmission of data anywhere outside the LAN supported by an organization. Data transmission over POTS or WAN connections must be secure. Furthermore, the only acceptable techniques are those detailed by HCFA and HIPAA. Both HCFA and HIPAA specifications call for open standards for encryption algorithms, whereas software such as First Class server uses a proprietary algorithm that is not publicly available. There was considerable discussion over the value, or danger, in using an algorithm that has not been held up for public scrutiny [9]. One solution, for First Class and other email-based systems, is to use client-side security to provide S/MIME or other encryption techniques rather than relying on the proprietary server-side techniques.

VPN systems using open standards are more likely to work with hardware from various manufacturers. However, users of a VPN-based system should be aware that IPSec cannot authenticate individual users and may use the 56-bit DES protocol that may eventually not meet Federal standards. VPN solutions that employ the more secure Triple-DES solution (168 bit encryption) have been know to demand significant CPU utilization such that performance of other software suffers significantly and true network throughput (bit rate) over the VPN may drop as much as 80% [10]. In such cases, a separate crypto accelerator may significantly improve overall performance. Vendors must demonstrate the effect of any VPN solution on system performance and network throughput.

It should be noted that the National Institute for Standards and Technology (NIST) has developed four levels of security standards which apply to "unclassified information within computer and telecommunication systems (including voice systems)" [11]. The "Federal Information Processing Standards" (FIPS) allow manufacturers to apply for certification at increasingly more secure levels. Manufacturers whose equipment meets or exceeds "Security Level 3" may meet all proposed HIPAA standards for all forms of data communication, including audio and video.

4.2 Security Standards for Data Storage

The workgroup adopted the following standard for the storage of telehealth data:

- **4.2.1 All telehealth applications will minimize the quantity of data stored outside secure server databases.**

This provides the greatest capability to secure and archive patient data. Client-server software applications are the best example of this technique. Databases located on secure servers will employ proper backup and archive operations. It is recommended that existing IS or HIS staff be involved in these procedures, as they are already cognizant of such procedures for other patient data.

4.3 Security Standards for Access to Data

The workgroup adopted the following standard for accessing telehealth data:

- **4.3.1 Administrative controls will be implemented by each health care organization to restrict access to telehealth data to "credentialed user," including restricting the senders and recipients of such data. Telehealth software will support this capability.**

Clearly, health organizations need to maintain access control to the telehealth data by implementing policies for determining who can (and cannot) access the multimedia telehealth data. Moreover, the organization must also be able to limit the movement of this data, by limiting the capability of users to send and receive data from other users and organizations. Telehealth software must provide this administrative capability.

This capability may have the negative effect of restricting the use of telemedicine when it is absolutely needed. A late-night consult requiring an urgent transmittal of data to a "non-credentialed user" will require administrative access to the system security. It is anticipated that vendors will desire to provide remote administration tools to facilitate this procedure. Alternatively, an organization may choose to disable this feature and not prevent any valid users from sending data outside the system. However, such a decision should be a choice for the organization to make (i.e., the software should support enabling/disabling this feature), and should not be forced on an organization by a limitation in the software design (i.e., the feature is not present).

5.0 File Formats

The workgroup failed to reach a consensus on specific file formats that must be adopted by telehealth projects, to promote interoperability and to provide a path for future access to the file structures. The following key points were raised in regards to file formats:

- The workgroup unanimously accepts the concept of "open file formats." This issue is critical to the ability to access patient data in future years, beyond the lifetime of the software. This issue is also critical to the interchange of data across systems.

- It is difficult to discuss "open" versus "closed" (or proprietary) standards when discussing file formats, because many manufacturer-specific formats have become defacto standards in recent years. Examples include Microsoft Word files for text documents, CompuServe GIF files for images, Apple QuickTime for video, and Adobe PDF files for complex documents. Moreover, the wide range of data types (e.g., text, still image, movie, sounds, temporal data) results in a wide range of file formats from many manufacturers.

- "Open standards" typically refers to industry-wide standards or standards approved by manufacturer-neutral organizations whereas "closed standards" typically refers to proprietary formats. Where a clear open standard exists, that file format should clearly be endorsed. The MPEG standard, issued by the Moving Picture Experts Group, is one example of a file format that is clearly acceptable and is not manufacturer specific. Others include JPEG, JPEG 2000, HL7 and DICOM. Manufacturer-specific file formats that have become defacto standards include TIFF, GIF, Bitmap, HPGL, PIC, PCL, PostScript, WMF, and PICT. Some image file formats permit the user to specify "proprietary tags" (e.g., JPEG) and compressions, which effectively prohibits other code from reading the file format.

- Consequently, the Work Group did not reach a clear consensus on what file formats are acceptable. It was also recognized that, in some instances, no "open standard" currently exists (temporal EKG or EEG data, for example). In those cases, the file format is specific to the equipment manufacturer and the work group

may not be able to set standards.

The following standards were adopted by the workgroup:

- **5.0.1 Telehealth systems will provide the capability for storing or exporting data to an appropriate "industry standard" or "open standard" file format, when such a format exists.**

- **5.0.2 Systems that only provide the capability for storing data in a "proprietary" or "manufacturer-specific" file formats are only acceptable when no other reasonable alternative exists. In such a case, the manufacturer will provide a complete file specification, including details on the bit-level format of the file and underlying algorithms inherent to the data stored in the file.**

- **5.0.3 Compression algorithms and levels of compression for digital images will be appropriate to the clinical use of the image. Clinical trials will be used to demonstrate the compressed images satisfy the diagnostic needs of the clinicians.**

- **5.0.4 Telehealth systems are encouraged to adopt ANSI standard file formats, such as HL7 and the XML variant of HL7, for the transmission of character-based data.**

The workgroup recognizes that the majority of telehealth data consists of electronic images, and a wealth of image file formats exist. A significant problem arises when manufacturers develop powerful compression algorithms (e.g. proprietary wavelet techniques) to reduce the size of the image file, but cannot publish the techniques or the final file format. In these cases, future access to the images depends on the software from the manufacturer; access to these images will fail when the software product fails to work. The problem is removed if the manufacturer provides the capability to export the images to a standard file format (and a potentially much larger file size) which may be viewed by other software.

In those cases where the manufacturer utilizes a "lousy" compression algorithm to reduce file size, the vendor must demonstrate through clinical trials that the resultant image provides diagnostic quality images for the end user.

Some data has no "well accepted" standard file format. Examples include EEG and EKG data. In this case, the above standards require manufacturers to provide a complete specification of the file format to ensure future compatibility with other software products, or at least the ability to write programs to access the internal data in the file.

The workgroup agrees that a standard should be determined regarding the file format for transmitting data between systems. These file formats may be considered "metafile" formats or "complex" file formats. For character-based data (i.e., text rather than binary data), an emerging international standard is the HL7 file format [12]. HL7 is becoming a standard for interchanging data between telehealth systems. Another exciting prospect is the emerging support for an XML (eXtensible Markup Language) variant of HL7, expected to be supported in the upcoming HL7 v3.0 specification [12]. XML v1.0 is a subset of SGML (Standard Generalized Markup Language) that has been endorsed by the World Wide Web Consortium [13].

It is reasonable to expect HL7 and XML to have finite lifetimes as international standards for data exchange. This is one example of the caveat expressed earlier in this document, that technical standards are only viable for a finite length of time and this document must undergo change with time.

6.0 Software

The workgroup reviewed issues critical to the software design of a telehealth system. Software issues mostly focused on components that affect security, and operating systems. The workgroup did not feel it was appropriate to restrict telehealth systems to a specific platform or technology. The following issues were raised:

- Security policies at the U.S. Air Force bases are generally the most restrictive of all partners in the Alaska Federal Health Care Partnership. Generally, Air Force rules are stricter than Department of Defense rules.

- Software using ActiveX technologies is generally "not allowed" in Air Force software due to security concerns, and Java is to be avoided. A waiver can be obtained in some cases to relax these rules.

- Microsoft operating systems dominate the market as expected. Windows 2000 is not projected to be an operating system at Air Force bases for about 18 months – it is currently considered "too new." Air Force requires Windows NT v4.0. ANMC has a similar policy, and Bartlett Hospital is migrating to this also. Questions remain about driver support for Windows NT (e.g. USB, biometric devices), but drivers seem to becoming available.

- Email at Air Force is restricted to 2 Meg limit. FTP is better option for larger file transfer. Air Force can accept encrypted email, but must be able to get at the header of the email.

- A web-based interface is better for the Air Force – only have to open port 80 and it is easier to pass traffic. Software must be capable of working through a proxy server. SSL is allowed at Air Force.

The following standards were accepted:

- **6.0.1 All potentially harmful software components (e.g., ActiveX and JAVA controls) in the software will be licensed controls.**

- **6.0.2 Telehealth vendors will be aware of security concerns and restrictions placed on the transport of data when promoting telehealth solutions in Alaska.**

Telehealth, especially in Alaska, often crosses political boundaries and involves parties from a variety of organizations. The examples obtained by the workgroup indicate that security concerns at the Air Force bases would prohibit those sites from adopting software solutions that may be acceptable to other organizations. A system that was acceptable to all sites may still fail to work due to limitations imposed by the Air Force on file sizes passing through their email system. A telehealth vendor must be responsible and not promote a product when the product may fail to work, or fail to be accepted, in the various technical environments.

7.0 Videoconferencing

Videoconferencing (VtC) is a dominant vehicle for providing telehealth solutions, especially over wide bandwidth connections that are becoming more available in Alaska. The workgroup felt that interoperability is becoming less of an issue between VtC units as more manufacturers adhere to standards set by the International Telecommunications Union [14]. The dominant standards that apply to current technology are:

- ITU-T H.320 for circuit switched [15]
- ITU-T H.323 for packet switched [16]
- ITU-T H.324 for POTS bandwidth [17]

The following standard was adopted by the workgroup:

- **7.0.1 All videoconferencing equipment deployed for telehealth systems will satisfy the appropriate H.3xx standard for the transmission technology used to connect to remote sites.**

Satisfying the ITU-T standards promotes interoperability, but does not guarantee successful connectivity or end user satisfaction. A significant issue that must be faced by any telehealth system that relies on videoconferencing is the limited bandwidth, satellite delays, and poor connectivity that often exist between remote locations. The above ITU-T standards may be "tweaked" for improved performance over such poor connections. For example, Alaska is the only environment on earth where AT&T uses satellite connectivity for voice signals, but local corporations use H.323 teamstations from Intel that are tweaked to satellite communication. Such technical improvements may still not be capable of producing a "clinically acceptable" videoconferencing system. Consequently, the following standard was adopted:

- **7.0.2 Telehealth systems will involve clinicians throughout the design and testing phase of a videoconferencing system over the expected connectivity to assure clinical acceptance of the system.**

Multicasting, the process of broadcasting live video to more than one end user, will become a target of telehealth systems especially for delivering distance education. In these cases, caching video locally within an organization can improve performance and provide later replay of the video. Multicasting often requires a different client software program, which may be proprietary and costly for bulk licenses. The following standards were adopted for multicasting and caching of videoconferencing systems:

- **7.0.3 Organizations should be encouraged to cache video data locally, to improve performance.**

- **7.0.4 Multicasting client software will be nonproprietary and free.**

8.0 Support and Maintenance

Telemedicine systems are expected to have 24 hour per day, 7 day per week uptime and access. However, because a telemedicine system is composed of many disparate parts connecting remote providers, the integrity of the entire system may not be under the control of a single vendor. Typically, a vendor that supplies the software and possibly the hardware has no control over the reliability of the network connection (WAN or POTS). It is reasonable to set expectations on the reliability of the vendor-supplied components and to expect support and minimum levels of quality of service.

The following standards were adopted by the workgroup:

- **8.0.1 Telemedicine systems will be expected to meet 24 hour per day/7 day per week uptime and access for users. Vendors will identify their capability and/or limitations of reaching this goal by identifying those portions of the system within their scope and, within this scope, identify anticipated uptime.**

- **8.0.2 Vendors will identify all support mechanisms (e.g., 24 hour telephone support) to attain maximal uptime of the telemedicine system, and identify all time constraints that may reduce the uptime. This includes identifying delays in providing consumables, turnaround time on repairs, and time to provide replacement parts where applicable.**

- **8.0.3 Vendors will identify all potential future costs to the customer, including costs for continued licensing fees, warranty costs, consumables, support options, anticipated recurring costs, upgrade options, and maintenance fees. Vendors will also identify expected lifetime and replacement costs for all hardware components.**

The workgroup also encourages potential customers to aggressively examine the capability of a vendor to provide a *sustainable* telehealth solution. Recognizing that selecting a telemedicine vendor is both a "business" and a "technical decision," this decision should be made by reviewing the long-term viability of the vendor. In addition to the business criteria that would be used to select a vendor (including corporate history), customers should consider the technical history of the product being marketed by the vendor.

The following standard was adopted by the workgroup:

- **8.0.4 Vendors will provide customers with information describing the current installed customer base for the telemedicine product, a technical history including planned and actual release dates of product releases / upgrades / features, future product plans and planned release dates, reports of currently identified problems and unresolved issues, and a description of the product's technical quality assurance and testing procedures.**

9.0 Telecommunications

Telehealth vendors often claim to be able to provide telehealth solutions in Alaska, without specific knowledge about telecommunications systems in Alaska. The telecommunications structure in Alaska is constantly evolving, and represents the highest and lowest technology systems available. Vendor assumptions about the availability of high speed connectivity ("just get an ISDN line") and land-based lines (rather than satellite connectivity) are fairly common. Even

modem-based solutions have proven to be ineffective over poor POTS connections that suffer from high noise, low bandwidth, and dropped connections.

The following standard was adopted by the workgroup:

- **9.0.1 Vendors offering telemedicine systems will be familiar with the telecommunications systems in Alaska, and demonstrate the efficacy of using their solutions *in situ*.**

10.0 References

[1]   State of Alaska, Department of Health & Social Services, "Alaska Telehealth Advisory Commission: Final Report," June 1999 (http://www.hss.state.ak.us/atac).

[2]   Federal Standard 1037C, "Telecommunications: Glossary of Telecommunication terms," (http://www.its.bldrdoc.gov/fs-1037/)

[3]   National Research Council, *For the Record. Protecting Electronic Health Information*, Washington: National Academy Press, 1997.

[4]   Federal Privacy Act of 1974, 5 U.S.C. § 552a (1994 & Supp. II 1996) (amended 1997, 5 U.S.C.A. § 552a) became effective on September 27, 1975 (http://www.usdoj.gov/04foia/04_7_1.html).

[5]   HCFA Internet Security Policy (http://www.hcfa.gov/security/isecplcy.htm).

[6]   Security and Electronic Signature Standards (http://aspe.os.dhhs.gov/admnsimp/nprm/seclist.htm).

[7]   B. Schneier, *Applied Cryptography 2nd Ed.*, New York: John Wiley & Sons, 1996.

[8]   Internet Engineering Task Force (http://www.ietf.org).

[9]   B. Schneier, *E-Mail Security*, New York: John Wiley & Sons, 1995.

[10]   A. Croll and B. Rothke, "Crypto Accelerators: Fast … & Secure," Information Security, Jan 2000 (http://www.infosecuritymag.com/jan2000/cover.htm).

[11]   Federal Information Processing Standards Publication 140-1 (http://www.itl.nist.gov/fipspubs/fip140-1.htm).

[12]   Health Level 7 (http://www.hl7.org).

[13]   World Wide Web Consortium: XML home page (http://www.w3.org/XML).

[14]   International Telecommunications Union (http://www.itu.int/ITU-T/index.html).

[15]   International Telecommunications Union: Recommendation H.323 (02/98) - Packet-based multimedia communications systems (http://www.itu.int/itudoc/itu-t/rec/h/h320.html).

[16]   International Telecommunications Union: Recommendation H.323 (02/98) - Packet-based multimedia communications systems (http://www.itu.int/itudoc/itu-t/rec/h/h323.html).

[17]   International Telecommunications Union: Recommendation H.324 (02/98) - Terminal for low bit-rate multimedia communication (http://www.itu.int/itudoc/itu-t/rec/h/h324.html).

Appendix C

Telehealth Assessment Survey

**Daniels, Tschannen &
Associates**

Daniels, Tschannen & Associates   Phone 907-274-3169

P.O. Box 142846   Fax 907-274-3167

Anchorage, AK 99514-2846

Telehealth Assessment Survey

Readiness Assessment of Rural Health Care
Providers to Participate in Telehealth Programs

Telehealth Readiness Survey
Readiness Assessment of Rural Health Care Providers

Preface

The primary purpose for the creation of the Alaska Telehealth Advisory Council (ATAC) was expressed in the charge that was made to the Council during its first meeting in January. The Council's Charge was offered by its Chairperson, Ms. Karen Perdue, Commissioner of Health and Social Services for Alaska[1]:

1. Explore and document the potential and challenges to Telehealth development and delivery in Alaska, using the best professional information available.
2. Propose a framework for rational development and deployment of statewide capacity for telehealth/telemedicine systems.
3. Establish core principles to ensure a coordinated, cost-effective, and integrated approach to telemedicine in Alaska.
4. Consider ways to assess the effectiveness, efficiency, and whether or not telemedicine is improving equity of access to health services for all Alaskans.
5. Recommend a long-term process for addressing issues as they emerge with changing technologies and practice patterns.

In 1996, the Alaska Federal Health Care Partnership (AFHCP) was created with a goal of improving federal health care in Alaska. The partnership proposed to develop and install a comprehensive telemedicine and telehealth system called the Alaska Federal Health Care Access Network (AFHCAN) to revolutionize the way federal health care is delivered in Alaska. This project, which is currently underway, addresses healthcare delivery for nearly 40% of the state's entire population.[2]

The co-chairs of ATAC, Commissioner Karen Perdue and Dr. Richard Mandsager, requested that a survey be conducted to assess the state of readiness for telehealth from the private sector. Coordinated information was scarce concerning the readiness of non-federal rural health care providers for participation in telehealth programs.

Daniels, Tschannen and Associates (DTA) submitted a successful proposal in December 1999 to conduct the survey described above. This proposal was accepted by the Alaska Native Tribal Health Consortium and Purchase Order Number ANTHC-00-P-0194 was assigned for the project.

---

[1] Alaska Telehealth Advisory Commission, Final Report, June 30, 1999
[2] Alaska Federal Health Care Access Network, March 1998

Project Approach

The proposal was developed to create, mail and build a data repository based on the survey responses to determine the preparedness of the non-federal health care providers in the business of telemedicine. The original audience for the survey was projected to be 100 to 150 medical centers/ clinics. The major tasks of the proposal are as follows:

1. *Create a survey questionnaire.* A sample questionnaire was provided by Dr. Tom Nighswander and was reviewed and modified by a panel of subject matter experts.

2. *Mail copies of the survey questionnaire to all non-federal health care providers.* DTA mailed copies of the final survey to all survey participants in early January 2000. Respondents were asked to respond to the survey within 10 days. Follow-up phone calls were made to survey participants who did not respond in the requested time frame. Subsequent surveys were mailed or faxed as requested.

3. *Design and coordinate data repository for questionnaire results.* DTA designed a data repository in Access 2000 for collecting and tracking the information received in response to the survey. A copy of the database will be given to ATAC and a copy will be retained by DTA for future use at the request of ATAC. No copies of the database will be distributed without the express written consent of ATAC.

4. *Develop a summary report for results of the survey.* DTA created a summary report for all sites that responded to the survey. This report constitutes said summary report. All the original responses to the survey are included with this report.

DTA wishes to acknowledge the following people for their assistance in the preparation of the survey: Dr. Tom Nighswander, ATAC; Alice Rarig, State of Alaska; Marilyn Kasmar, Primary Care Association; Rich Hall, ANTHC; Dr. Fred Pearce, University of Alaska Anchorage.

The survey was divided in three basic sections. The first section was designed to validate the name and address of the facility being surveyed. Respondents were also asked to identify the name, title and phone number of the person responsible for supporting the computer systems. Section two was designed to ascertain information regarding consult patterns that the respondent utilizes. A grid was provided for respondents to complete asking for information on consults requested and received. This section included questions on the use of home or office computers for consultations or continuing medical education. The third section asked questions regarding the use of new technologies in the office, i.e., Internet, digital cameras, etc. It also asked if they would use telehealth for consultations if given proper precautions and safeguards were in place. The survey participants were asked to identify and barriers/obstacles from their perspective to a successful telehealth program.

Following the ATAC meeting January 2000, the scope of the survey audience was expanded from rural health clinics and hospitals to include community mental health centers, Pioneer Homes, and a sampling of rural physicians. This increased the audience size to 132 participants.

The following table shows the breakdown of the surveys mailed out and those that were received back:

Participant Type	Number surveys sent	Number surveys returned
Rural Health Clinic	20	15
Rural Hospitals	6	3
Community Mental Health Centers	28	11
Pioneer Homes	6	3
Rural Physicians	72	21
Total	132	53

Findings

There were several common threads that appeared in the responses. These threads serve to provide further validation of many findings to date in telehealth direction and issues.

1. A high percentage of the healthcare providers are already connected to the Internet. The most frequent usage of the Internet is for sending and receiving e-mail. Second, is the use of the Internet for research purposes. This validates the decision that an Internet based solution would have the broadest reach to the healthcare providers and is a tool whose basic usage is familiar to the audience members. An Internet based solution can take advantage of bandwidth constraints and offers store and forward technologies.

2. A significant number of the survey participants expressed an interest in participating in a telehealth program, if the proper safeguards and security measures are in place to protect the confidentiality of the medical record. The audience group that showed the most resistance to a telehealth program was the physicians. Some of the physicians admitted their shortcomings in the acceptance of computer technology into their offices.

3. Few of the respondents indicated that they had received any training on using computers for handling medical information. The primary use of computers is for billing, e-mail and research. One of the big concerns is not only having the training available, but also having time available in their busy schedules to schedule and receive the training.

4. The use of newer digital technologies; i.e., digital camera, digital otoscope, digital stethoscope, is very limited. A limited number of offices are using any digital technology in their offices. The most used item in this small group is a digital camera.

In listing the perceived obstacles and barriers for a successful telehealth program, there were many obstacles that were mentioned repeatedly. These items may need to be explicitly addressed in order to overcome them. The items were mentioned in each of the survey type groups:

1. Time – Busy schedules, time for training, time to enter data, scheduling etc. It appears that many physicians see telehealth as additional workload for their practices.

2. Equipment – Purchasing new hardware and software, technical support, systems administration.

3. Reimbursement – Need a method of being reimbursed for services offered. This applies to staff providing and receiving consultation.

4. Confidentiality – Providing the proper security for patient information.

5. Communications – A few respondents expressed concern over communication costs.

The following section will look at each of the survey groups individually:

Rural Clinics –
Number of survey sent   20   Returned: 15

Do you have access to the Internet?   Yes: 13   No: 1

Given proper precautions and safeguards are in place, would you use a secure system for patient consultations?

Yes: 12   No: 1

Have you had any training in using computers for handling medical information?

Yes: 3   No: 12

Obstacles/Barriers –
Equipment (6)*, Access to physicians (4), Training (4), Time (3), Costs (3), Capability, Lack of technical support, Not needed, Getting more involved and networking, High cost of telephone lines and long distance, Absence of reimbursements, Confidentiality, Space limitations, Overcoming mindset of practitioners.

- indicates the number of times this item was mentioned in this survey group

Rural Hospitals –
Number of surveys sent   6   Returned: 3

Do you have access to the Internet?   Yes: 3   No: 0

Given proper precautions and safeguards are in place, would you use a secure system for patient consultations?

Yes: 3   No: 0

Have you had any training in using computers for handling medical information?

Yes: 2   No: 1

Obstacles/Barriers –

Needing someone to take lead in scheduling, confidentiality and reimbursement, Physicians aren't interested, Method of being paid for services

Community Mental Health Centers –
Number of surveys sent   28   Returned: 11

Do you have access to the Internet?   Yes: 9   No: 2

Given proper precautions and safeguards are in place, would you use a secure system for patient consultations?

Yes: 9   No: 1

Have you had any training in using computers for handling medical information?

Yes: 0   No: 11

Obstacles/Barriers –

Phone lines (2), Training (2), Additional staff, Additional hardware & software, Bandwidth, Cost of equipment, More psychology resources, No visiting psychiatrist for needs, Would this program count as individual consult for prescriptive purposes, Mental health less likely to use, Located on island/ no access to technology in outlying areas, Commitment to have ongoing services

Pioneer Homes –
Number of surveys sent   6   Returned: 3

Do you have access to the Internet?   Yes: 1   No: 0

Given proper precautions and safeguards are in place, would you use a secure system for patient consultations?

Yes: 0   No: 1

Have you had any training in using computers for handling medical information?

Yes: 1   No: 0

Obstacles/Barriers –

Expense, Initial Cost, Part of State system, Residents have own physicians

Rural Physicians –
Number of surveys sent   72   Returned: 21

Do you have access to the Internet?   Yes: 15   No: 5

Given proper precautions and safeguards are in place, would you use a secure system for patient consultations?

Yes: 14   No: 3

Have you had any training in using computers for handling medical information?

Yes: 3   No: 17

Obstacles/Barriers –

Time (7), Training (4), Confidentiality (3), Experience (3), Cost (3), Equipment, Lack of clear cut need, Small practice, Demonstrated value, Time consuming without reimbursement, Doctor's ignorance of computers, Lack of faith in computers and abilities, Space, Payment from third parties, Patient acceptance of this form of treatment

Recommendations

DTA proposes the following recommendations to ATAC to advance the telehealth program to the next level of performance. The recommendations are listed in priority order.

1. Sponsor/promote the passage of legislation at the State level to address the reimbursement. Without reimbursement, it will be difficult to enlist the support of the physicians in a telehealth program.

2. Fund development of a working prototype model to demonstrate how this technology can be used in a medical practice on a daily basis. From many of the responses, it appears that many of the participants view a telehealth program as an additional workload. While is not an incorrect opinion, some aspects of telehealth could offer a paradigm shift on how information is collected on a patient. For example, use of digital otosope could replace current practices and the images could be stored as a permanent part of the patient record. This working model could also be used to demonstrate the value of a telehealth program. Physicians such as Dr. List and Dr. Burger should be enlisted as telehealth champions and present on their use of basic technologies for telehealth.

3. Sponsor development of training programs on use of digital technologies for patient care and telehealth. Again, from the responses it is clear that training is one of the biggest obstacles that must be overcome. The training program must be modularized so that it can be delivered for initial training, but also follow-up training for personnel as they are hired in existing offices.

4. Support funding proposals to secure required hardware and software for non-federal rural health care providers. An AFHCN-type funding source should be sought to purchase the necessary equipment for installation in the private offices.

5. Request reports from the major health care providers in Alaska on their telehealth plans and progress. Successful telehealth programs with facilities on both ends of the consult chain be ready for a telehealth program. Plans for rural health care providers must be coordinated with plans by the major providers. A program will must assuredly fail if only one side of the team is ready.

6. In cooperation with others, i.e., Alaska Science and Technology Foundation, Alaska Hi-Tech Business Council, establish and develop an organization to provide telehealth technical support for end customers. A support organization must be in place to quickly respond to customers' questions and problems as a telehealth program is put in place. Again, support for a telehealth program will fade quickly if the customers feel they have no way to address their issues. DTA suggests that this organization could deliver the required training, so the customers have a single source for information.

Appendix D

Telepsychiatry Standards

Telepsychiatry Guidelines In Alaska

6TH DRAFT- 4/10/00

Prepared by the Telepsychiatry Workgroup from the Alaska Telehealth Advisory Council

Overview of Factors Pertaining to Medical Necessity of Telepsychiatry

The process of setting up guidelines for appropriate use of videoconferencing as a method of providing a psychiatric service involves balancing several factors. Factors 1 and 2 are the most critical.

1) The medical necessity for timely access to a psychiatrist
   a) Severity of illness
   b) Degree of urgency that treatment be provided (acuity)

2) The availability of onsite psychiatric services in the community
   a) Proximity
   b) Frequency
   c) Waiting time to get an appointment
   d) Appropriate specialty/subspecialty

3) Type of psychiatric service needed
   a) Suitability of videoconferencing to support a given service

4) Quality of videoconferencing equipment and connectivity
   a) Bandwidth (higher bandwidth produces better frame rates with clear video)
   b) Audio

Medical Necessity Factor

Psychiatric acuity is related to potential for dangerousness, severity of functional impairment, severity of suffering, and the potential for rapid deterioration if untreated. In children and adolescents SED (severely emotionally disturbed) status is an indication of severity. Most managed care companies have psychiatric utilization review criteria that uses a rating system or a system of categories of acuity. Such utilization review criteria could be borrowed to determine when a patient has sufficient acuity to warrant use of telepsychiatry if onsite psychiatric services are not available in a timely manner. An acute condition requires more immediate treatment. If immediate treatment is not available onsite, then it is medically necessary that it be provided by telepsychiatry.

Availability and Accessibility of Onsite Psychiatric Services Factor

In addition to the acuity, access to a local onsite psychiatrist in a timely fashion is a major factor in determining the appropriateness of utilizing telepsychiatry. It is inappropriate to use telepsychiatry to replace an onsite provider, or to compete with an onsite provider. If an onsite provider, or a provider in reasonably close proximity (less than an hour travel time) can not provide the service within the time frame indicated by the acuity (emergent, urgent, soon or routine) then it is appropriate to provide that service via telepsychiatry.

Type of Psychiatric Services Factor

Telepsychiatry is generally suitable for medication management, brief crisis oriented psychiatric evaluations, and to a lesser extent comprehensive psychiatric evaluations. There are numerous published articles demonstrating the effectiveness of telepsychiatry in accurately diagnosing mental illnesses.

Most situations with high acuity are treated with medication management at least initially, and when medication is not indicated based upon a psychiatric evaluation, crisis management counseling can be provided by the psychiatrist as part of that psychiatric evaluation service. Group and individual psychotherapies benefit considerably from direct person to person contact and are less suitable for telepsychiatry. While there are some situations in which these psychotherapies would appropriately use videoconferencing, they are unusual enough that a special authorization for medical necessity should be required for each service. Family therapy may require use of videoconferencing when the family members are geographically separated and it is medically necessary that family therapy be provided.

Videoconferencing is also appropriate for discharge planning and pre-admission screening for inpatient and residential treatment facilities.

Assessment of abnormal movements (such as Tardive Dyskinesia) requires 384 kbps in order to properly observe such movements. Since the AIMS (Abnormal Involuntary Movement Scale) test for Tardive Dyskinesia is standardized and is often done by trained nursing staff, it is not usually necessary that this be done by the psychiatrist. In cases where the psychiatrist does need to personally assess abnormal movements via videoconferencing 384 kbps connectivity is needed. For purposes of AIMS examination store and forward technology may be appropriate.

Psychotic patients with paranoid delusions that may be exacerbated by videoconferencing will need special preparation and staff assistance, and in some cases it may be contraindicated to use videoconferencing.

Another aspect of type of service concerns whether the patient is being seen for the first time by the telepsychiatric provider. As a general rule, an established patient is more appropriately followed via telepsychiatry than a new patient. This of course is not a crucial factor when the medical necessity requires a prompt consultation.

With the patient's consent, it is recommended that a health care staff member be present with the patient to assist and support the telepsychiatric examination. When possible the local case manager should be included in the examination.

Quality of Videoconferencing Equipment and Connectivity

Live video should be used for telepsychiatry rather than "store and forward" technology.

Dr. B. Hudnall Stamm at the Institute for Rural Health Studies at Idaho State University writes "…slower frame rates might be a better application in an underserved rural or frontier clinic where the choice is between no VTC (videoteleconferencing) and slower VTC" (Professional Psychology: Research and Practice 12/1998 Vol.29, No.6, 536-542). A relatively low quality live videoconferencing system for telepsychiatry is better than none at all in a situation where an acute patient has no access to a psychiatrist. The combination of verbal interaction with support of video provides a "connection" between provider and patient that adds

quality to the service. This cannot be accomplished as well with audio only, nor with an onsite intermediary staff member communicating to the psychiatrist. Obviously better video enhances the service and adds value to the service, but low quality video also adds significant quality to the service compared to the option of either no service, or service through an intermediary staff member (consultation model). The higher the bandwidth the better, but in a crisis a low bandwidth is enough.

The other option, absent onsite psychiatric services, is for a person with an acute psychiatric condition to travel outside of his/her community during a time of stress. This option takes an unstable person on a journey to find psychiatric care while leaving behind his/her family and support system. A person leaving a community to seek urgent psychiatric care usually ends up hospitalized in a restrictive setting, sometimes only because no immediate psychiatric service was available in the local community. If telepsychiatric services, even utilizing low bandwidth telepsychiatry, can stabilize such a person in his/her own community while remaining with family and support system then he/she is more likely to recover quickly and to stay integrated with his/her community.

Other Guidelines:
1) *Should the psychiatrist doing telepsychiatry be required at some point to provide onsite services to each patient?* No. Ideally, there should be some follow up at some point with a psychiatrist that is onsite, but it does not have to be the same psychiatrist. The medical necessity of any given telepsychiatric service is driven primarily by acuity and lack of availability of timely onsite psychiatric services.
2) *What qualifications should there be for the provider of telepsychiatric services?* Those who can legally provide face to face services currently should be eligible to do so via telepsychiatry. Persons authorized to do Title-47 evaluations should also be eligible.
3) *Is telepsychiatry appropriate for children?* Yes, but the service should be supplemented by collateral contacts just as in onsite child psychiatric services, and the quality of the equipment and connectivity needs to be able to keep up with the higher motor activity of children. When possible, telepsychiatric evaluations of children should be limited to more advanced technology and equipment that is sufficient to observe tics, affective range, eye contact and hyperactivity. Zoom and tracking capability is also suggested. Telepsychiatry is best suited by ongoing medication management in children.
4) *Should a patient be referred by a local medical or mental health provider for telepsychiatric services?* Yes. The local Village Health Aide, CMHC, or local medical provider should initiate all referrals for telepsychiatric services because:
   a) they may be able to resolve the problem
   b) they would best know about local availability of onsite psychiatric services
   c) they may be needed to help support the provision of the telepsychiatric service
5) *What documentation should be involved in the provision of telepsychiatric services?*
   a) Referral request should be filled out by the provider making the referral including their statement certifying that it is medically necessary because the condition is acute and no psychiatric provider is available to provide timely service
   b) Release of Information/Consent for telepsychiatric services
   c) Any relevant onsite medical records should be faxed along with the above to the telepsychiatry provider
   d) The telepsychiatry provider should document in a clinical record the reason for the referral, the

referring provider, the clinical assessment data, the diagnosis, and the treatment plan.

     e) The telepsychiatry provider should submit copies of the referral request with the bill for services to the payer documenting diagnosis, service provided, duration of service in minutes, bandwidth, and type of connection use for videoconferencing. The telepsychiatry provider must certify that:

        i) it was medically necessary that telepsychiatry service be provided

        ii) that no onsite provider was available to provide timely service

        iii) and that the technical quality of the equipment and connection was adequate for the service provided

6)   *Factors to consider in setting reimbursement rates.*

The value of a psychiatric service is related to the intensity of services including: complexity of assessment, decision process and intervention as well as time involved in the service. Not all CPT codes define a time factor for service criteria. Most state Medicaid programs that do reimburse for telepsychiatry do so at 100% of the face to face reimbursement rate. However, most states pay only about 1/3 what Alaska Medicaid pays for psychiatric services.

     a) Telepsychiatric services, compared with traditional psychiatric services provided in person, have limitations that affect the "intensity" of service. A substantial amount of the available data normally processed by the psychiatric provider is unavailable using telepsychiatry because of the inherently slow data flow rate for visual data (resolution and undistorted frame rate), and a reduction in the quality of voice data (frequency response). Additionally, the "relationship factor" in psychiatric assessment and treatment is limited using telepsychiatry. All of these factors combine to reduce the value of the service provided using telepsychiatry. These "intensity of service" factors affect the value of service, but should be weighed against the need to motivate providers to deliver services to select populations in under-served areas. At the same time, consideration should be given to the possibility that reimbursement for telepsychiatry might reduce the motivation of providers to travel to a remote community and provide onsite services.

     b) Reimbursement should value the provision of the type of services most needed to the patients most in need of those services (for example child/adolescent evaluations and medication management as well as the evaluation and management of the chronically mentally ill).

     c) As noted above, psychotherapy services generally should not be reimbursed.

References from: Stamm, BH: Professional Psychology: Research and Practice 12/1998 Vol.29, No.6, 536-542

Baigent, M. F., Bond, M. J., Kalucy, R. S., Yellowlees, P. M., Ben-Tovim, D. I., Kavanagh, S. J. & Lloyd, C. J. (1997). Telepsychiatry: 'Tele' yes, but what about the 'psychiatry'? *Journal of Telemedicine and Telecare, 3* (Supplement 1), 3-5.

Baldwin, D. (1997). Peering into the Internet's future: Part 2. *Traumatic Stress Points, 11* (2), 7-8.

Ball, C. J., McLaren, P. M., Summerfield, A. B., Lipsedge, M. S. & Watson, J. P. (1995). A comparison of communication modes in adult psychiatry. *Journal of Telemedicine and Telecare, 1,* 22-26.

Ball, C. J., Scott, N., McLaren, P. M. & Watson, J. P. (1993). Preliminary evaluation of a low-cost videoconferencing (LCVC) system for remote cognitive testing of adult psychiatric patients. *British Journal of Clinical Psychology, 32,* 303-307.

Bauer, L., Cuker, P., Jenike, M. & Leahy, L. (1995). Pilot studies of telemedicine for patients with obsessive-compulsive disorder. *American Journal of Psychiatry, 152,* 1383-1385.

Blackman, L. A., Ranseen, J. & Kaak, H. O. (1997). Consumer satisfaction with telemedicine child psychiatry consultation in rural Kentucky. *Psychiatric Services, 48,* 1464-1466.

Burton, D. C. (1997). *Report of an active telehealth project: Kentucky advances mental health services through Kentucky Telecare and the state mental health network.* Telehealth News [Online Serial], *1* (2), 1-2. Available: http://www.cybertowers.com

Caldera, D. (1988). *Alaska community health aide program in crisis.* Anchorage: Alaska Area Native Health Board.

Clark, J. (1997). A referrer and patient evaluation of a telepsychiatry consultation-liaison service in South Australia. *Journal of Telemedicine and Telecare, 3* (Suppl. 1), 12-14.

Cobble, N. (1998). [VideoLink of St. Peters]. Unpublished raw data.

Cukor, P. & Bauer, L. (1994). Human factors issues in telemedicine: A practical guide with particular attention to psychiatry. *Telemedicine Today, 2* (2), 9-18.

Cukor, P., O'Laughlen, J. & Bauer, L. (1995). Gazing in the crystal ball: Trends in video conferencing R & D. *Telemedicine Today, 3* (3), 9-18.

Dankins, D. H. (1995). Plugging into success: Clinical applications from around the globe. *Telemedicine and Telehealth Networks, 12,* 19-21.

Dayhoff, R., Kuzmak, P. M. & Kirin, G. (1994). Integrated clinical workstations for image and text data capture, display, and teleconsultation. *Proceedings-The Annual Symposium on Computer Applications in Medical Care: Journal of American Medical Informatics Association, 1,* (symposium suppl.) 1060-1064.

Dayhoff, R. E. & Maloney, D. L. (1992). Exchange of veterans affairs medical data using national and local networks. *Annals of New York Academy of Science, 670,* 50-66.

Delaplain, C. B., Lindborg, C. E., Norton, S. A. & Hastings, J. E. (1993). Tripler pioneers telemedicine across the Pacific. *Hawaii Medical Journal, 52,* 338-339.

DeLeon, P. H., Folen, R. A., Jennings, F. L. & Willis, D. J. (1991). The case for prescription privileges: A logical evolution of professional practice [Special issue: Child psychopharmacology]. *Journal of Clinical Child Psychology, 20,* 254-267.

DeLeon, P. H. & Wiggins, J. G. (1996). Prescription privileges for psychologists. *American Psychologist, 51,* 225-229.

Forkner, M. E., Reardon, T. & Carson, G. D. (1996). Experimenting with feasibility of telemedicine in Alaska: Successes and lessons learned. *Telemedicine Journal, 2,* 233-240.

Friedman, M. J., Schnurr, P. P. & Hsieh, F. (1998). [Veterans Affairs Cooperative Studies Program #420, Group Treatment of Post Traumatic Stress Disorder]. Unpublished raw data.

Ghosh, G. J., McLaren, P. M. & Watson, J. P. (1997). Evaluating the alliance in video-link teletherapy. *Journal of Telemedicine and Telecare, 3* (Suppl. 1), 33-35.

Grigsby, B. (1997). *ATSP report on U. S. telemedicine activity* [On-line]. Portland, OR: Association of Telemedicine Service Providers. Available: http://www.atsp.org

Haung, M. P. & Alessi, N. E. (1996). The Internet and the future of psychiatry. *American Journal of Psychiatry, 53,* 861-869.

Jerome, L. (1986). Telepsychiatry. *Canadian Journal of Psychiatry, 31,* 489.

Jerome, L. (1993). Assessment by telemedicine. *Hospital and Community Psychiatry, 44,* 81-83.

Kavanaugh, S. J. & Wellowlees, P. M. (1995). Telemedicine-clinical applications in mental health. *Australian Family Physician, 24,* 1242-1247.

Lim, R. F. (1996). The Internet: Approaches for mental health clinicians in clinical settings, training and research. *Psychiatric Services, 47,* 597-599.

Lloyd, M. (1996). Have you had a long-distance therapeutic relationship? You will. *Ethics and Behavior, 6,* 169-172.

Magaletta, P. R., Fagan, T. J. & Ax, R. K. (1998). Advancing psychology services through telehealth in the Federal Bureau of Prisons. *Professional Psychology: Research and Practice, 29,* 541-546.

Maheu, M., Callan, J. E. & Nagy, T. F.in press In S. F. Buckey (Ed.), *Comprehensive textbook of ethics and law in the practice of psychology.* New York: Plenum Press.

McCarthy, P., Kulakowski, D. & Kenfield, J. A. (1994). Clinical supervision practices of licensed psychologists. *Professional Psychology: Research & Practice, 25,* 177-181.

McLaren, P. M. & Ball, C. J. (1997). Interpersonal communications and telemedicine: Hypotheses and methods. *Journal of Telemedicine and Telecare, 3* (Suppl. 1), 5-7.

McLaren, P. M., Ball, C. J., Summerfield, A. B., Lipsedge, M. & Watson, J. P. (1992). Preliminary evaluation of a low cost videoconferencing system for teaching in clinical psychiatry. *Medical Teacher, 14,* 43-47.

McLaren, P. M., Blunden, J., Lipsedge, M. L. & Summerfield, A. B. (1996). Telepsychiatry in an inner-city community psychiatric service. *Journal of Telemedicine and Telecare, 2,* 57-59.

Montani, C., Billaud, N., Couturier, P., Fluchaire, I. & Lemarie, R. (1996). "Telepsychometry": A remote psychometry consultation in clinical gerontology: Preliminary study. *Telemedicine Journal, 2,* 145-150.

Montani, C., Billaud, N., Tyrrell, J. & Fluchaire, I. (1997). Psychological impact of a remote psychometric consultation with hospitalized elderly people. *Journal of Telemedicine and Telecare, 3,* 140-145.

Nickelson, D. (1998). Telehealth and the evolving health care system: Strategic opportunities for professional psychology. *Professional Psychology: Research and Practice, 29,* 000-000.

Norton, S. A., Burdick, A. E., Phillips, C. M. & Berman, B. (1997). Teledermatology and underserved populations. *Archives of Dermatology, 133,* 197-200.

Preston, J., Brown, F. W. & Hartley, M. (1992). Using telemedicine to improve health care in distant areas. *Hospital and Community Psychiatry, 43,* 25-32.

Rosen, L. D. & Weil, M. M. (1996). Psychologists and technology: A look at the future. *Professional Psychology: Research and Practice, 27,* 635-638.

Rudolph, J. M. (1996). *Compassion fatigue, mental health care providers, and mental health care policy.* Unpublished master's thesis, University of Alaska Anchorage.

Rudolph, J. M., Stamm, B. H. & Stamm, H. E. (1997, November). *Compassion fatigue: A concern for mental health policy, providers and administration.* Poster presented at the 13th Annual Conference of the International Society for Traumatic Stress Studies, Montreal, Ontario, Canada. Available, http://www.dartmouth.edu/~bhstamm/istss97cf.PDF

Rusovick, R. M. & Warner, D. J. (1998). The globalization of interventional informatics through Internet mediated distributed medical intelligence. *New Medicine, 2,* 155-161.

Salzman, C., Orvin, D., Hanson, A. & Kalinowski, A. (1996). Patient evaluation through live video transmission [Letter to the editor]. *American Journal of Psychiatry, 153,* 968.

Schlosser, B. (1996). Transmitter v. hedonia. *Ethics and Behavior, 6,* 169, 172-174.

Shapiro, D. E. & Schulman, C. E. (1996). Ethic and legal issues in e-mail therapy. *Ethics and Behavior, 6,* 107-124.

Skorupa, J. & Agresti, A. A. (1993). Ethical beliefs about burnout and continued professional practice. *Professional Psychology: Research & Practice, 24,* 281-285.

Stamm, B. H. (1995). *Secondary traumatic stress: Self-care issues for clinicians, researchers and educators.* Lutherville, MD: Sidran Press.

Stamm, B. (1998, August). Telehealth in a clinical trial: Remote clinical and administrative supervision. In R. Gleuckauf (Chair), *Telehealth for persons with chronic medical conditions-program evaluation developments.* Presented at the 106th Annual Convention of the American Psychological Association, San Francisco.

Stamm, B. H. (1997, April). *Mental health research in telehealth: Prevention of traumatic stress in patients and providers.* Paper presented at "From Research to Practice: A Conference on Rural Mental Health Research. National Institutes of Mental Health, Oxford, MS.

Stamm, B. H., Friedman, M. J., Schnurr, P., Hsieh, F., Rudolph, J. M. & Millman, A. (1998, April). *Using telemedicine tools for the administration of a multi-site clinical trial.* Poster presented at the annual conference of the American Telemedicine Association, Orlando, FL.

Stamm, B. H. & Pearce, F. (1995). Creating virtual community: Telemedicine and self care. In B. H. Stamm (Ed.), *Secondary traumatic stress: Self-care issues for clinicians, researchers and educators* (pp. 179-207). Lutherville, MD: Sidran Press.

Stamm, B. H. & Perednia, D. A. (1998). *Evaluating telehealth systems: Questions, frameworks, and templates.* Manuscript in preparation.

Stamm, B. H., Rudolph, J. M., Sojkova, J. & Stamm, H. E. (1997, November). *Remote clinical and administrative supervision in a PTSD clinical trial.* Poster presented at the 13th Annual Conference of the International Society for Traumatic Stress Studies, Montreal, Ontario, Canada.

Stein, D. J. (1997). Psychiatry on the Internet: Survey of an OCD mailing list. *Psychiatric Bulletin, 21,* 95-98.

Stricker, G. (1996). Psychotherapy in cyberspace. *Ethics and Behavior, 6,* 169, 175-177.

Telemedicine Information Exchange [On-Line]. Available: http://www.telemed.org.

Terry, M. J. (1995). Kelengakutelleghpat: An Arctic community-based approach to trauma. In B. H. Stamm (Ed.), *Secondary traumatic stress: Self-care issues for clinicians, researchers and educators* (pp. 149-178). Lutherville, MD: Sidran Press.

U.S. Department of Commerce. (1997). *Telemedicine report to congress* [Online]. Available: http://www.ntia.doc.gov/reports/telemed/cover1.htm

U.S. Department of Health and Human Services. (1997). *Exploratory evaluation of rural applications of telemedicine* [On-line]. Available: http://www.ntia.doc.gov/reports/telemed/evaluation.htm

Zarate, C. A., Weinstock, L., Cukor, P. & Morabito, C. (1997). Applicability of telemedicine for assessing patients with schizophrenia: Acceptance and reliability. *Journal of Clinical Psychiatry, 58,* 22-25.

Appendix E

ATAC
Newsletters

ALASKA TELEHEALTH ADVISORY COUNCIL

"Promoting Telehealth Efforts in Alaska"

NEWSLETTER

UPCOMING EVENTS

- The **Clinical Providers Workgroup** meets on the second and fourth Thursday of each month at 12:45 p.m. The workgroup will meet again on December 23rd.

- The **Reimbursement Workgroup** meets on the second and fourth Monday of each month at 9:30 a.m. The workgroup will meet again on December 27th.

- The **Technical Standards Workgroup** meets on the first and third Wednesday of each month at 1 p.m. The workgroup will meet again on December 15th.

- The **Telepsychiatry Workgroup** meets on the first and third Thursday of each month at 12:30 p.m. The workgroup will meet again on December 16th.

- The **ATAC quarterly meeting** is scheduled to be held on January 7th, 2000, from 9:45 a.m. to 3 p.m., at GCI in the Denali Towers building, 2550 Denali Street, 16th Floor.

Next Council Meeting

Report from Facilitator Tom Nighswander, MD, MPH

Since the Alaska Telehealth Advisory Council (ATAC) meetings have been spaced farther apart (the next meeting is scheduled to be held on Friday, January 7th, 2000, at GCI in the Denali Towers building), council staff decided to give members, participants, and interested parties a brief update of what has been happening with the suggestions expressed at the October 10-11, 1999 meeting. The workgroups have been meeting regularly and workgroup membership is listed on page two of this newsletter. The meetings are open and everyone is welcome to attend either in person or via the telephone.

A future potential project is a survey of the non-federal parts of the state to evaluate what is available locally for telehealth applications and what would be needed to make it possible for a community to be connected to a telehealth system. Before pursuing this idea, which was first suggested at the last council meeting, Dr. Thomas Nighswander contacted Senator Ted Stevens' office. Senator Steven's office indicated that they would be interested in such information. During the week of November 29th, Dr. Nighswander met with a potential local contractor and a staff person with the Alaska Federal Health Care Access Network (AFHCAN) project who conceived the original survey for the federal sites.

Council staff have been very busy since the last meeting and good progress has been made. For any questions, please feel free to contact:

Dr. Thomas Nighswander
Facilitator
(907) 729-3682
tnighswa@anthc.org

Karen M. Mitchell
ANTHC Support Staff
(907) 729-1915
kmmitchell@anthc.org

For more information, visit the website:
www.hss.state.ak.us/atac

ALASKA TELEHEALTH ADVISORY COUNCIL
Workgroup Updates

WORKGROUP MEMBERSHIP

Clinical Providers:
Dr. Jerome List, Alaska State Medical Association, 261-3096
Dr. Leslie Bryant, 261-3162
Debbie Kiley, NP, 261-3096
Annette Siemens, Chugachmiut-North Star Health Clinic, 224-3076
Dr. Peter Ehrnstrom, Elmendorf Hospital, 580-2520
Dr. Owen Hanley, Fairbanks, 456-3750
Dr. Richard Burger, Fairbanks, 452-6610
William Applebee, Community Health Foundation, 360-1461
Dr. Kevin Stange, ANMC, 729-2701
Joe Klejka, YKHC, 543-6028

Legal:
Tim Schuerch, ANTHC, 729-1908

Reimbursement:
Carrie Irwin, AFHCAN, 729-2264
Teri Keklak, State of Alaska, Div. of Medical Assistance, 561-2171
Gwen Obermiller, ANMC, 729-1964
Destyne Taft, Providence Health Systems, 261-5652
Marijo Toner, Bartlett Memorial Hospital, 586-8488
Dr. Peter West, Premera Blue Cross, (425) 670-4760

Technical:
William Applebee, Community Health Foundation, 360-1461
Terry Daniels, Providence Health Systems, 261-5066
Kathy Fanning, Technology Management Service, 257-5426
Stewart Ferguson, AFHCAN, 729-2262
Doug LaMarche, AT&T Alascom, 264-7316
Steven Menzies, DOD, 580-3094
Leigh Thurston, Fairbanks Memorial Hospital, 458-5465
Marijo Toner, Bartlett Memorial Hospital, 586-8488

Telepsychiatry:
Commissioner Karen Perdue, State of Alaska, 465-3030
Jeff Jessee, Alaska Mental Health Trust, 269-7963
Dr. Vern Stillner, Bartlett Outpatient Services, 586-8498
William Worrall, Department of Corrections, 269-7319
Dr. Ron Adler, Gateway Mental Health, 225-4135, ext. 33
Wandal Winn, Priv. Prac., 562-0794
Roger Schaeffer, 257-4857
Dr. John Battaglia, API, 269-7100
Dr. Jay Collier, ANMC, 729-2500
Mike Terry, AFHCAN, 729-2263
Karl Brimner

The **Technical Standards** workgroup, representing all the major players in the state, has been meeting every two weeks and will prepare a draft set of statewide standards for presentation at the January meeting. This workgroup has made very good progress with relatively easy agreement after some lively and interesting debate. The workgroup members have used common sense and looked to the future to anticipate needs.

The **Reimbursement** workgroup, which includes both a Medicaid and private insurance carrier, have had productive meetings. Current work in progress includes: the state Medicaid office will request from ATAC staff, support to research nationally the Medicaid standards for reimbursement around the country, and the required changes in regulation and policy in Alaska to allow for telehealth reimbursement. The state Medicaid leadership is committed to reimbursement for this service when it adds value to providing health care. To obtain more information on value-added clinical encounters using telehealth applications, a proposed evaluation focused on reimbursement is being developed for the communities of Kodiak, Seward, and Talkeetna. This is being done in cooperation with Premera Blue Cross/Blue Shield, with advice from the state Medicaid office. The proposal will evaluate questions such as increased availability to access to care, the effect on transportation costs, and patient and provider satisfaction.

The **Clinical Provider** workgroup consists of both public and private clinical providers, which includes physicians and mid-level practitioners. The focus of the workgroup is to promote the use of telehealth applications in the clinical community. To date there have been two meetings and several projects have been discussed, but no action has been taken yet.

The **Telepsychiatry** workgroup is a newly formed subcommittee due to the expressed interest by the State Department of Health & Human Services, Alaska Mental Health Trust, and several active telehealth psychiatrists who are currently utilizing this technology. The workgroup has been addressing standards for telepsychiatry use in our state, including evaluation of several ongoing projects. There is a working draft paper of both the background for some of the issues unique to this clinical specialty and proposed recommendations for its use and reimbursement services.

ALASKA TELEHEALTH ADVISORY COUNCIL

NEWSLETTER

Fairbanks - Telehealth Issues and Meeting Invitation

by Facilitator Tom Nighswander, MD, MPH

On December 16, 1999, Facilitator Tom Nighswander traveled to Fairbanks with Karen Perdue, Commissioner for the State of Alaska, and Liz Connell, Health Policy Analyst with Senator Ted Stevens' office, to meet with hospital and telecommunications providers from this community. The group discussed Telehealth concerns in Fairbanks, and the current status of telemedicine initiatives from both the state and federal perspective.

The Fairbanks community has recently had an increase in their telecommunications capacity that will greatly enhance their ability to move forward with Telemedicine applications. Fairbanks Memorial Hospital hopes to establish electronic links within the local clinical community and in the surrounding catchment area. Dr. Richard Burger and Dr. Owen Hanley, Fairbanks Memorial Hospital, are telemedicine champions for this community. Both have used several Telehealth applications to consult with outside specialists on patient care.

At the invitation of Fairbanks providers, the next Alaska Telehealth Advisory Council meeting will be held in Fairbanks on Friday, March 3, at Fairbanks Memorial Hospital, from 9 a.m. to 1:30 p.m. The goal for the March meeting is to become more familiar with Interior Telehealth issues, review progress made by the various workgroups and pilot project work products, and make financial commitments for pilot projects not yet approved by the Council. In addition, Leigh Thurston from Fairbanks Memorial Hospital will present an overview of this community's interest and current plans for Telemedicine.

Hear Ye, Hear Ye

Do you have an article, concern, or event you would like included in the next newsletter? If so, e-mail to:

kmmitchell@anthc.org

UPCOMING EVENTS

- The **Clinical Providers Workgroup** meets on the second and fourth Thursday of each month at 12:45 p.m.

- The **Reimbursement Workgroup** meets on the second and fourth Monday of each month at 9:30 a.m.

- The **Technical Standards Workgroup** meets on the first and third Wednesday of each month at 1 p.m.

- The **Telepsychiatry Workgroup** meets on the first and third Thursday of each month at 12:30 p.m.

For any questions or comments, please contact:

Dr. Tom Nighswander
Facilitator
(907) 729-3682
FAX (907) 729-1901

tnighswander@anthc.org
or
kmmitchell@anthc.org

For more information, visit the website:
www.hss.state.ak.us/atac

ALASKA TELEHEALTH ADVISORY COUNCIL
Workgroup Updates

CHAIRS
Commissioner Karen Perdue
Richard Mandsager, MD

WORKGROUP MEMBERSHIP

Clinical Providers:

Jerome List, MD, Alaska State Medical
  Association, 261-3096
Leslie Bryant, MD, 261-3162
Debbie Kiley, NP, 261-3096
Annette Siemens, NP, Chugachmiut-
  North Star Health Clinic, 224-3076
Peter Ehrnstrom, MD, Elmendorf Hospital,
  580-2520
Owen Hanley, MD, Frbks, 456-3750
Richard Burger, MD, Frbks, 452-6610
William Applebee, Consultant, 486-4017
Kevin Stange, MD, ANMC, 729-2701
Joe Klejka, MD, YKHC, 543-6028

Legal:

Tim Schuerch, ANTHC, 729-1908

Reimbursement:

Carrie Irwin, AFHCAN, 729-2264
Teri Keklak, State of Alaska, Div. of Medical
  Assistance, 561-2171
Gwen Obermiller, ANMC, 729-1964
Kathe Boucha, Providence Health
  Systems, 261-4955
Marijo Toner, Bartlett Memorial Hospital,
  586-8488
Peter West, MD, Premera Blue Cross,
  (425) 670-4760

Technical:

William Applebee, Consultant, 486-4017
Terry Daniels, Consultant, 230-3475
Kathy Fanning, Technology Management
  Service, 257-5426
Stewart Ferguson, PhD, AFHCAN, 729-2262
Doug LaMarche, AT&T Alascom, 264-7316
Steven Menzies, DOD, 580-3094
Leigh Thurston, Fairbanks Memorial
  Hospital, 458-5465
Marijo Toner, Bartlett Memorial Hospital,
  586-8488

Telepsychiatry:

Comm. Karen Perdue, SOA, 465-3030
Jeff Jessee, Alaska Mental Health Trust,
  269-7963
Vern Stillner, MD, Bartlett Outpatient
  Services, 586-8498
William Worrall, MD, Department of
  Corrections, 269-7319
Ron Adler, MD, Gateway Mental Health,
  225-4135, ext. 33
Wandal Winn, MD, Priv. Prac., 562-0794
Roger Schaeffer, MD, 257-4857
John Battaglia, MD, API, 269-7100
Jay Collier, MD, ANMC, 729-2500
Mike Terry, CHP, AFHCAN, 729-2263
Karl Brimner, MD

WORKGROUP and PILOT PROJECTS

Non-Federal Sites Survey - Pilot Project

Terry Daniels of Daniels, Tschannen & Associates has been contracted to conduct an in-state survey of non-federal health care providers to determine the existing information infrastructure as related to the development of Telemedicine applications. An initial mail-out to 25 clinics and community hospitals was conducted the beginning of January. A request from the January 7 Council meeting resulted in the survey being expanded to include rural providers and community mental health centers, with an additional 100 surveys mailed mid-January. Currently, many of the mental health centers within the state do not have on-site psychiatry support. The Telepsychiatry application could prove very useful to this field when combined with on-site visits. A status report will be presented at the March 3 meeting.

Technical Standards Workgroup

The Technical Standards Workgroup will present final recommendations at the March 3 meeting. Much thought and flexibility has gone into the Technical Standards development, with exemplary cooperation from both Alaska's public and private sectors. The workgroup recognizes the "living document" nature of these recommendations. They will need periodic revisiting as technology changes. The workgroup expects the draft final recommendations to be widely distributed for additional comments and suggestions for improvement.

Reimbursement Workgroup - Pilot Projects

A scope of work has been prepared for providing consultation to the Alaska Medicaid office to review the policy and regulatory changes necessary for reimbursement of Telemedicine in Alaska. The scope of work developed by the workgroup will be converted to a Request for Proposal (RFP) and will be issued by the Alaska Native Tribal Health Consortium's (ANTHC) Procurement & Contracting Department. The RFP should be announced by the March Council meeting.

A Reimbursement pilot scope of work is currently being developed in detail and will be reviewed at the March meeting. In such a small state as Alaska, many of the best people available to develop project ideas often are the same ones who could successfully execute the work. This is especially true with this project. Now that the project's conceptual framework has been completed, and to avoid conflict of interest, potential bidders participating in the initial development have been requested to take a leave of absence until the bidding process has been completed. It is anticipated that the RFP will be announced after the March 3 meeting.

Telepsychiatry Workgroup - Pilot Project

Current work efforts by the Telepsychiatry workgroup members include developing Telepsychiatry guidelines in Alaska focused on what is medically necessary for timely access to care, availability of on-site services, type of service being sought, and quality of equipment and connectivity.

A low-bandwidth Telepsychiatry project RFP, modeled from the work Dr. Bill Worrall has done with the Department of Corrections, should be announced before March 3, and will be directed to in-state rural community mental health centers. The project focus will promote the use of weekly Telepsychiatry sessions as a means to improve access and quality of care at rural mental health centers. It is anticipated that this will be a year-long project, with ongoing evaluation as an integral part of the project. The proposal is being sponsored jointly by the Council and the Alaska Mental Health Trust .
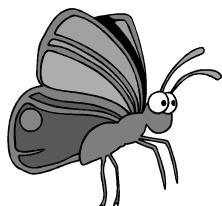
ALASKA TELEHEALTH ADVISORY COUNCIL

"Promoting Telehealth Efforts in Alaska"

NEWSLETTER

Future of the Council

by Facilitator Tom Nighswander, MD, MPH

There is a general consensus that the Alaska Telehealth Advisory Council (ATAC) should continue for at least another year due to a number of ongoing activities and issues:

- Workgroup projects implemented this year will need follow through to completion.
- The Medicaid Policy Analysis project will most likely generate regulatory, and perhaps even legislative recommendations that will require attention.
- Official Council representation, collaboration, and coordination will be needed for the Distance Education Technology Consortium
- Strategy development is needed to promote the use of telemedicine applications in non-federally sponsored settings.

The communication infrastructure for Telemedicine is continuing to improve and is becoming less expensive. Even with the advances made so far, telemedicine within the State is still in its infancy and its use has been on the slow track. It will need continuous nurturing and sponsorship by all involved.

> **Next ATAC Meeting:**
>
> **May 12, 2000**
>
> **UAA Commons Room106**
> **9:45 am -2:15 pm**

As most of you know, Dr. Richard Mandsager is retiring from his current position as the Director of the Alaska Native Medical Center (ANMC). With Dr. Mandsager's upcoming departure, the membership will need to select another Co-Chair for the coming year. Commissioner Karen Perdue has agreed to continue in her role as Co-Chair.

The Council should anticipate the same amount of time commitments for Council activity this next year. Council members will have an opportunity to discuss future activity at the May 12 meeting.

The focus of the next Council meeting will be to review the last nine months of activity, which will include the following: a status report of Council projects and a report on the public/private radiology project; discussion of the Council's work plan for the next year; and a project update by the Alaska Federal Health Care Access Network (AFHCAN) project, with a staff demonstration of the clinic kiosks being deployed statewide later this summer. There will be an update from Commissioner Nan Thompson, Regulatory Commission of Alaska, on the Federal Communications Commission field hearings.

A tremendous amount of work has been accomplished by the Council since the fall of last year. Council members, workgroup participants, and consultants are to be congratulated for all their hard work and efforts!

This spring looks to be quite busy as the Council moves forward with the recommendations developed by the various workgroups and as pilot project activity begins *(see Page 2 for more details)*.

For more information, visit: **www.hss.state.ak.us/atac**

Questions or concerns to:
Dr. Tom Nighswander, (907) 729-3682 / FAX (907) 729-1901
tnighswander@anthc.org **or** kmmitchell@anthc.org

ALASKA TELEHEALTH ADVISORY COUNCIL
General Updates

The Alaska Native Tribal Health Consortium (ANTHC) Procurement & Contracting Department has begun soliciting Requests for Proposals (RFPs) for the following:

Telepsychiatry Pilot Projects

Two telepsychiatry RFPs have been published—a low bandwidth using telephone lines and video, and a high bandwidth using video conferencing. Both proposals are guided by the draft telepsychiatry standards that have been developed by the Telepsychiatry Workgroup.

The low bandwidth proposal is built on the work that Dr. Bill Worrall has done with the State of Alaska Department of Corrections (DOC) in which he used video phones and standard telephone lines to conduct intake interviews and monitor medication use. Dr. Worrall conducted over 1,000 telepsychiatry consultations using this method. This level of technology has its limitations (inability to see rapid movements and modest resolution); however, the price is right. The technology is easy to use, reliable, and might be useful to the numerous statewide rural community mental health centers. The proposal will explore use of the technology in a setting outside of the DOC. The original deadline of April 1 was extended to April 14 at the request of several potential respondents. The Telepsychiatry Workgroup expects to review three proposals and award a contract before the May 12 meeting.

The high bandwidth proposal (>125kps) was advertised the weekend of April 10. This proposal is directed at clinics that have higher bandwidth, but no on-site psychiatrist. The fundamental question is what are the additional diagnostic and treatment possibilities as more bandwidth is used. This project is being supported by the Alaska Mental Health Trust, with the contractual award made through ANTHC.

Medicaid Policy Analysis

This RFP was sent out mid-March to six interested parties, and much to the Reimbursement Workgroup's surprise, none of the parties responded to the proposal. Vonne Mason from the Reimbursement Workgroup contacted all of the interested parties for feedback. The principal reason for the non-response was the short turn-around time and the lack of understanding the RFP focus. Ms. Mason's calls stimulated interest and the RFP is being reissued on April 14 with a revised timeline. The workgroup hopes to award the contract by May 30.

Telemedicine Efficacy Pilot

The Telemedicine Efficacy project has undergone several major revisions to make it simpler and more limited in scope. The RFP has been completed and should be out the week of April 17. The proposal calls for consulting practices or those who use consultants to expand their use of store and forward technology and track their experience using a standard format.

At the March 3 meeting, many of the participants were impressed with the presentation made by Dr. Richard Burger of Fairbanks Memorial Hospital in which he demonstrated his use of telemedicine applications. The Efficacy RFP encourages greater use of store and forward technology in a variety of clinical settings, mostly private, and would expand experiences beyond the cases that Dr. Burger demonstrated. The RFP would also gather enough information to make arguments for reimbursement of store and forward technology.

Technical Standards Workgroup

The Technical Standards were adopted as the "official draft" by the Council at the March 3 meeting. The standards have been shared with key telemedicine players for comment.

Western Regional Field Hearings

Federal Communications Commission representatives will be visiting Alaska to conduct field hearings and site visits the week of April 17. Demonstration of T1 lines are planned at Maniilaq and Tanana Chiefs Conference. Highlights from the visit will be included in the next newsletter.

Appendix F

ATAC
Meeting Agendas

4141 Ambassador Drive
Anchorage, Alaska 99508-5928
(907) 729-3682 / FAX (907) 729-3682

DRAFT AGENDA
ATT-Alascom Board Room

Monday, October 11th
9:30 a.m. - 4:00 p.m.

9:30-9:45 a.m.   Introduction and review of work for the year   Richard Mandsager, MD, Co-Chair
Commissioner Karen Perdue, Co-Chair

- Introduction of new members
- Building on last year
- Developing a road map for the future

9:45-10:00 a.m.   Review of last year's work for new members   Tom Nighswander, MD, MPH

10-10:30 a.m.   The status of telehealth nationally: Dena Puskin, Director, Office for the
"Lessons Learned"   Advancement of Telehealth

10:30 am-1:30 pm Specific project and program reviews:

- Update — Community Health Foundation: William Applebee, Director
Alaska Telemedicine Project

BREAK

- Update — Alaska Federal Health Care Access Rebecca Grandusky, Chairperson
Network (AFHCAN) Steering Committee
- Report on successful projects –   John Midthun, MD
Bristol Bay Radiology
- Report on joint ventures, public/private   Kathe Boucha-Roberts, Director Int'l
partnerships — Seward Radiology   Telemedicine, Providence Health Systems

LUNCH

- Bartlett Regional Hospital and the   Marijo Toner, Reg. Affairs Coordinator
Virginia Mason Hospital

1:30-2:30 p.m.   Workgroups reports:

1:30-1:45 p.m.	• Hospital CEOs	Ernie Meier, CEO, Alaska Regional
1:45-2 p.m.	• Clinicians use of telehealth	Jerome List, MD, President, ASMA
2-2:15 p.m.	• Technical specifications	Stewart Ferguson, PhD, AFHCAN, ANTHC
2:15-2:30 p.m.	• Reimbursement	Marijo Toner, Reg. Affairs Coordinator

Tuesday, October 12th
9:00 a.m. - 4:00 p.m.

Council Work Session for Council Members—Strategic Plan Development
Facilitator: Bill Dann, Professional Growth Associates

Agenda: The focus will be an identified work plan for this year with timelines, utilizing the ATAC Mission and Vision

ALASKA TELEHEALTH ADVISORY COUNCIL

4141 Ambassador Drive
Anchorage, Alaska 99508
(907) 729-3682 / FAX (907) 729-1901

COUNCIL MEMBERS

Commissioner Karen Perdue
Co-Chair
State of Alaska

Richard Mandsager, MD
Co-Chair
Alaska Native Medical Center

Doug Bruce, CEO
Providence Health Care Systems

Representative Gary Davis
Alaska State Legislature

Ron Duncan, CEO
GCI

Mark Hamilton, President
University of Alaska Fairbanks

Jeff Jessee, Executive Director
Alaska Mental Health Trust

Marilyn Kasmar, Executive Director
Alaska Primary Care Association

Jerome List, MD
President
Alaska State Medical Association

Ernie Meier, CEO
Alaska Regional Hospital

Tom Posey, President
AT&T Alascom

Paul Sherry, President/CEO
Alaska Native Tribal Health Consortium

Alex Spector, Director
Director of Veterans Affairs

Commissioner Nanette Thompson
Regulatory Commission of Alaska

Mary Weiss, RN
Alaska Nurses Association Representative

Peter West, MD
Associate Medical Director
Premera Blue Cross

STAFF

Thomas S. Nighswander, MD
Facilitator
Alaska Native Tribal Health Consortium

Edward Deaux
Technical Writer / Facilitator

Alice Rarig
State of Alaska

DRAFT AGENDA
GCI – Denali Towers
January 7th, 2000

Friday, January 7th

Time		
9:45 a.m.	Introductions Goals and Vision of ATAC	Dr. Richard Mandsager, Co-Chair Commissioner Karen Perdue, Co-Chair
10:00 a.m.	Circumpolar Inventory of Arctic Telehealth	Carl Hild, Institute for Circumpolar Health
10:20 a.m.	Facilitator Update of Current Activities	Dr. Thomas Nighswander
10:45 a.m.	Workgroup Reports	

- Technical Standards — Dr. Stewart Ferguson, ANTHC
- Reimbursement — Marijo Toner, Bartlett Memorial Hosp.
- Telepsychiatry — Dr. Bill Worrall, Dept. of Corrections
- Clinical Providers — Dr. Jerome List, Alaska State Medical Assoc.

Time		
12:00 p.m.	Working Lunch	
12:15 p.m.	ANTHC Project Sponsorship–Timelines and Work Products	

- Medicaid Telehealth— Policy Development — Teri Keklak, Division of Medial Assistance
- Survey of Non-Federal Sites — Terry Daniels, Daniels, Tschannen & Assoc.
- Reimbursement Project — Kathe Boucha, Director Int'l Telemedicine, Providence Health Systems

Time		
1:30 p.m.	Fairbanks Report AFHCAN Update	Leigh Thurston, Fairbanks Memorial Hosp. Linda Lekness, ANTHC *(new Director of the AFHCAN project)*
2:30 p.m.	Next Meeting—Time and Place (March 3rd or 10th, 2000)	Dr. Richard Mandsager, Co-Chair Commissioner Karen Perdue, Co-Chair

"Are we on tract according to the retreat agenda?"

Time	
3:00 p.m.	Adjournment

47

ALASKA TELEHEALTH ADVISORY COUNCIL
4141 Ambassador Drive
Anchorage, Alaska 99508
(907) 729-3682 / FAX (907) 729-1901

COUNCIL MEMBERS

Commissioner Karen Perdue
Co-Chair
State of Alaska

Richard Mandsager, MD
Co-Chair
Alaska Native Medical Center

Doug Bruce, CEO
Providence Health Care Systems

Representative Gary Davis
Alaska State Legislature

Ron Duncan, CEO
GCI

Mark Hamilton, President
University of Alaska Fairbanks

Jeff Jessee, Executive Director
Alaska Mental Health Trust

Marilyn Kasmar, Executive Director
Alaska Primary Care Association

Jerome List, MD
President
Alaska State Medical Association

Ernie Meier, CEO
Alaska Regional Hospital

Tom Posey, President
AT&T Alascom

Paul Sherry, President/CEO
Alaska Native Tribal Health Consortium

Alex Spector, Director
Director of Veterans Affairs

Commissioner Nanette Thompson
Regulatory Commission of Alaska

Mary Weiss, RN
Alaska Nurses Association Representative

Peter West, MD
Associate Medical Director
Premera Blue Cross

STAFF

Thomas S. Nighswander, MD
Facilitator
Alaska Native Tribal Health Consortium

Edward Deaux
Technical Writer / Facilitator

Alice Rarig
State of Alaska

Agenda

Alaska Telehealth Advisory Council Meeting
Fairbanks Memorial Hospital
March 3, 2000
9 a.m. to 1:30 p.m.

Time	Topic	Speaker
9:00 a.m.	Introductions Goals of the Meeting	Commissioner Karen Perdue, Co-Chair Richard Mandsager, MD, Co-Chair
9:10 a.m.	Overview of the Counicl's Progress	Thomas S. Nighswander, MD, MPH Facilitator
9:25 a.m.	Alaska Tele-Education Commission Progress Report	Mike Sfraga, PhD University of Alaska Fairbanks
9:40 a.m.	FCC and Rural Telecommunication	Nan Thompson, Commissioner Regulatory Commission of Alaska
10:00 a.m.	Fairbanks's Initiatives and Future in Telemedicine	Mike Powers, CEO, Leigh Thurston, ISD, Richard Burger, MD, Fairbanks Memorial J.Kohler/L. Strle, Tanana Chiefs Conference
10:45 a.m.	**Break**	
11 a.m.	Final Technical Standards Recommendations	Stewart Ferguson, PhD, ANTHC Chairman, Technical Standards Wrkgrp
11:20 a.m.	Current Status and Results of the Telehealth Private/Rural Sector Survey	Terry Daniels, Private Consultant Daniels, Tschannen, & Associates
11:40 a.m.	Update on the Medicaid Policy Development – RFP	Teri Keklak , State of Alaska, Division of Medical Assistance
12:00 p.m.	**Working Lunch**	
12:10 p.m.	Telecommunication Industry: "What's Coming"	Ron Duncan, CEO, GCI
12:20 p.m.	Report on the Telepsychiatry Project	Jeff Jessee, Executive Director, Alaska Mental Health Trust
12:40 p.m.	Purposed Reimbursement Pilot RFP	Marijo Toner, Bartlett Memorial Hospital Member, Reimbursement Workgroup
1:05 p.m.	Universal Service Funding Update	Alice Rarig, State of Alaska
1:15 p.m.	Conclusions and Future Work	Commissioner Karen Perdue, Co-Chair Richard Mandsager, MD, Co-Chair

ALASKA TELEHEALTH ADVISORY COUNCIL

4141 Ambassador Drive
Anchorage, Alaska 99508
(907) 729-3682 / FAX (907) 729-1901

COUNCIL MEMBERS

Commissioner Karen Perdue
Co-Chair
State of Alaska

Richard Mandsager, MD
Co-Chair
Alaska Native Medical Center

Doug Bruce, CEO
Providence Health Care Systems

Representative Gary Davis
Alaska State Legislature

Ron Duncan, CEO
GCI

Mark Hamilton, President
University of Alaska Fairbanks

Jeff Jessee, Executive Director
Alaska Mental Health Trust

Marilyn Kasmar, Executive Director
Alaska Primary Care Association

Jerome List, MD
President
Alaska State Medical Association

Ernie Meier, CEO
Alaska Regional Hospital

Tom Posey, President
AT&T Alascom

Paul Sherry, President/CEO
Alaska Native Tribal Health Consortium

Alex Spector, Director
Director of Veterans Affairs

Commissioner Nanette Thompson
Regulatory Commission of Alaska

Mary Weiss, RN
Alaska Nurses Association Representative

Peter West, MD
Associate Medical Director
Premera Blue Cross

STAFF

Thomas S. Nighswander, MD
Facilitator
Alaska Native Tribal Health Consortium

Edward Deaux
Technical Writer / Facilitator

Alice Rarig
State of Alaska

Agenda
UAA Commons, Conference Room 106
May 12, 2000
9:45 a.m. to 2:15 p.m.

Time	Topic	Presenter
9:45 - 10:00	Introductions Goals for the Day	Commissioner Karen Perdue, Co-Chair Richard Mandsager, MD, Co-Chair
10:00-10:15	Council Progress Update	Thomas Nighswander, MD, MPH Facilitator
10:15-11:15	Telemedicine Programs Update	

- YKHC CHAs: Rebecca Grandusky, Technical Director,
  Their Use of Telemedicine   Yukon Kuskokwim Health Corporation
- Seward/Nome/ANMC   Thomas Nighswander, MD, MPH
  Interoperability
- NLM Data Update   Stewart Ferguson, PhD, Assoc. Director/
  Chief Technology Officer, AFHCAN

11:15-12:00   AFHCAN Updates

- Project Status Report   Linda Lekness, Project Director, AFHCAN
- Telemedicine Peripheral   Chris Patricoski, MD, Clinical Director
  Capability Demonstration   AFHCAN

12:00-12:30   **Working Lunch**

       FCC Field Hearings Report   Commissioner Nan Thompson
           Regulatory Commission of Alaska

12:30-12:40   Arctic Telemedicine Projects   Thomas Nighswander, MD, MPH

12:40-1:15   ATAC Sponsored Projects Status Reports

- Telemedicine Efficacy   Thomas Nighswander, MD, MPH
- Telepsychiatry: High and   Jeff Jessee, Executive Director, AMHT
  Low Bandwidth Projects   Craig Cott, Medical Director, EAT
- Medicaid Reimbursement
  Policy Analysis

1:15-2:15   The Future of the Council: Co-Chairs and Facilitator

- What Has Been Done and the Costs Involved
- Unfinished Agendas
- Representative to Distance Education Technology Consortium
- New Co-Chair
- Proposed Schedule for Next Year

Appendix G

Operating Budget

Operating Budget

	FY 2000		Proposed FY 2001
	Actual to 4/30/00	Projected to 9/30/00	
Projects	7,500.00	50,957.00	80,000.00
New Projects			50,000.00
Staff	52,992.00	79,487.00	80,000.00
Travel	5,673.82	9,456.00	10,000.00
Other	1,773.27	3,000.00	3,000.00
TOTAL	67,939.09	142,900.00	$223,000.00

Appendix H

Contact Information

**View/print separate PDF document
for Alaska Telehealth Advisory Council
Contact Information**

For more information, contact:

ALASKA TELEHEALTH ADVISORY COUNCIL
4141 Ambassador Drive
Anchorage, AK 99508
Phone: (907) 729-3682
FAX: (907) 729-1901
E-mail: tnighswander@anthc.org or kmmitchell@anthc.org