

**OFFICE FOR THE ADVANCEMENT OF TELEHEALTH**

# **GRANTEE PROFILES**

**2007 - 2008**

## Acknowledgements

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The editors would like to acknowledge the contributions of all OAT grantees, whose project descriptions serve as a valuable resource for others working in the field of telehealth.

***Note:*** For the user of these profiles, definitions of some of the more commonly used acronyms and terms found throughout this material are provided.

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## Overview

### Background

The Office for the Advancement of Telehealth (OAT) promotes the use of telehealth technologies for health care delivery, education, and health information services. Telehealth is defined as the use of telecommunications and information technologies to share information, and to provide clinical care, education, public health, and administrative services at a distance. The office is part of the Health Resources and Services Administration (HRSA) at the U.S. Department of Health and Human Services. HRSA's mission is to assure quality health care for underserved, vulnerable, and special needs populations.

### Grants Overview

These profiles contain information about grant projects administered by OAT from October 1, 2006 through September 30, 2008. During this period, OAT administered 93 telehealth/telemedicine projects. Of those, 24 were awarded funds totaling more than \$6.1 million.

Projects administered by OAT receive funds in one of six ways:

1. The Telehealth Licensure Grant Program (TLGP): The TLGP is a competitive grant program that provides support for State professional licensing boards to carry out programs under which licensing boards of various States cooperate to develop and implement State policies that will reduce statutory and regulatory barriers to telemedicine. In 2006, two projects were funded through the TLGP as part of a 3-year award.
2. The Telehealth Network Grant Program (TNGP): This program replaced the Rural Telemedicine Grant Program (RTGP). The TNGP is a competitive grant program that funds projects that demonstrate the use of telehealth networks to improve healthcare services for medically underserved populations in urban, rural, and frontier communities. More specifically, the networks can be used to: (a) expand access to, coordinate, and improve the quality of health care services; (b) improve and expand the training of health care providers; and/or (c) expand and improve the quality of health information available to health care providers, patients, and their families. The primary objective of the Telehealth Network Grant Program (TNGP) is to help communities build the human, technical, and financial capacity to develop sustainable telehealth programs and networks. In 2006, thirteen projects were funded through the TNGP as part of a 3-year award.
3. The Telehealth Resource Center Grant Program (TRC): The TRC is a competitive grant program that provides support for the establishment and development of Telehealth Resource Centers (TRCs). These centers are to assist health care organizations, health care networks, and health care providers in the implementation of cost-effective telehealth programs to serve rural and medically underserved areas and populations. In 2006, six projects were funded through the TRC as part of a 3-year award.
4. The Telehomecare Grant Program (THC): The THC is a competitive grant program within the Telehealth Network Grant Program that focuses on demonstrating how telehealth networks can improve healthcare through provision of clinical care and remote monitoring of patients in their place of residence using telehealth technologies. These projects provide a mechanism to evaluate the cost-effectiveness of telehomecare services and may include, but are not limited to, case management by physicians, hospitals, medical clinics, home health agencies, or other health care providers who supervise the care of patients in their homes. In 2006, three projects were funded through the THC as part of a 3-year award.

5. Congressionally Mandated Projects (CMP): OAT also administers funds specially earmarked by Congress. The goals of these projects vary widely, but all include the use of telehealth technologies to improve access to health care. In 2007, OAT administered 69 CMP projects, all of which were in an extension period.

# OAT Grantee Organizations

**The Office for the Advancement of Telehealth's (OAT) "Grantee Profiles 2007-2008" provides information about Grantee Organizations whose grants are administered by OAT. Projects included are those in an active status and/or ongoing projects receiving funding.**

**\*FY 2007 is the period October 1, 2006 through September 30, 2007.**

**\*FY 2008 is the period October 1, 2007 through September 30, 2008.**

**This section contains a list of 2007–2008 OAT Grantee Organizations and their project names (descriptions).**

<b>State</b>	<b>Grantee</b>	<b>State</b>	<b>Grantee</b>
<b>AK</b>	<b>Alaska Native Tribal Health Consortium</b>	<b>GA</b>	<b>Ware County Health Department</b>
	<ul style="list-style-type: none"> <li>Continued Advancement of Telehealth Capacity in Alaska</li> <li>The Summative Telemedicine Evaluation Project</li> </ul>		<ul style="list-style-type: none"> <li>Rural Health Telemedicine Grant Program</li> <li>Southeast Telehealth Network Program</li> </ul>
<b>AK</b>	<b>Alaska Psychiatric Institute (API)</b>	<b>HI</b>	<b>Hawai'i Primary Care Association (HPCA)</b>
	<ul style="list-style-type: none"> <li>API TeleBehavioral Health Project</li> </ul>		<ul style="list-style-type: none"> <li>The Hawai'i CHC Telehealth Network Project</li> </ul>
<b>AL</b>	<b>University of South Alabama</b>	<b>HI</b>	<b>The Queen's Medical Center</b>
	<ul style="list-style-type: none"> <li>Center for Strategic Health Innovation (CSHI) RMEDE/BioTrac Project</li> <li>Center for Strategic Health Innovation (CSHI) Traditional Telemedicine</li> </ul>		<ul style="list-style-type: none"> <li>Hawaii Neuroscience Telehealth Network</li> </ul>
<b>AR</b>	<b>University of Arkansas for Medical Sciences</b>	<b>IA</b>	<b>Iowa Chronic Care Consortium</b>
	<ul style="list-style-type: none"> <li>South Arkansas Integrated Telehealth Oncology Program</li> <li>Telehealth for KIDS( Kids in Delta Schools)</li> </ul>		<ul style="list-style-type: none"> <li>Iowa Medicaid Population Disease Management Demonstration</li> </ul>
<b>AZ</b>	<b>Arizona Board of Regents, University of Arizona</b>	<b>IA</b>	<b>Mercy Foundation</b>
	<ul style="list-style-type: none"> <li>Arizona Diabetes Virtual Center for Excellence (ADVICE)</li> <li>Institute for Advanced Telemedicine and Telehealth (THealth)</li> </ul>		<ul style="list-style-type: none"> <li>Midwest Rural Telemedicine Consortium</li> </ul>
<b>AZ</b>	<b>Maricopa County, Arizona</b>	<b>ID</b>	<b>Clearwater Valley Hospital and Clinics, Inc.</b>
	<ul style="list-style-type: none"> <li>Correctional Health Services Telemedicine Initiative</li> </ul>		<ul style="list-style-type: none"> <li>Clearwater Valley Hospital: Electronic Medical Records</li> </ul>
<b>CA</b>	<b>California Telemedicine and eHealth Center</b>	<b>ID</b>	<b>Idaho State University, Institute of Rural Health</b>
	<ul style="list-style-type: none"> <li>Western Regional Telehealth Resource Center</li> </ul>		<ul style="list-style-type: none"> <li>Telehealth Idaho</li> </ul>
<b>CA</b>	<b>Multi-Dimensional Imaging, Inc.</b>	<b>ID</b>	<b>North Idaho Rural Health Consortium (NIRHC)</b>
	<ul style="list-style-type: none"> <li>Telemedicine for Improved Health Care and Education</li> </ul>		<ul style="list-style-type: none"> <li>Expanding Telehealth to North Idaho Districts (EXTEND)</li> </ul>
<b>CA</b>	<b>Northern Sierra Rural Health Network</b>	<b>ID</b>	<b>Public Hospital Cooperative, Inc.</b>
	<ul style="list-style-type: none"> <li>Telehealth Network Grant Program</li> </ul>		<ul style="list-style-type: none"> <li>Cooperative Telehealth Network (CTN)</li> </ul>
<b>CO</b>	<b>Avista Adventist Hospital</b>	<b>IL</b>	<b>Illinois Department of Human Services</b>
	<ul style="list-style-type: none"> <li>Clinical Integration Through Health Informatics</li> </ul>		<ul style="list-style-type: none"> <li>Illinois Developmental Disabilities Telehealth Network and Services: A Program Dedicated to Optimizing Health and Support of Community Living</li> </ul>
<b>DC</b>	<b>Center for Telehealth and E-Health Law</b>	<b>IL</b>	<b>The National Council of State Boards of Nursing</b>
	<ul style="list-style-type: none"> <li>National Telehealth Resource Center</li> </ul>		<ul style="list-style-type: none"> <li>Moving Toward Portability: Uniform Core Licensure Standards for Nursing</li> </ul>
<b>DC</b>	<b>Foundation for eHealth Initiative</b>	<b>IN</b>	<b>Health &amp; Hospital Corporation of Marion County</b>
	<ul style="list-style-type: none"> <li>Connecting Communities for Better Health Program</li> </ul>		<ul style="list-style-type: none"> <li>Congressionally-Mandated Telehealth Grants</li> </ul>
<b>FL</b>	<b>University of Florida College of Dentistry (UFCD)</b>	<b>KS</b>	<b>University of Kansas Medical Center</b>
	<ul style="list-style-type: none"> <li>University of Florida College of Dentistry (UFCD)</li> </ul>		<ul style="list-style-type: none"> <li>Sustainability and Cost Benefit Evaluation of the Kansas Telehealth Network</li> <li>Telehealth Access and Cost Benefit in Kansas</li> </ul>

<b>State</b>	<b>Grantee</b>
<b>KY</b>	<b>Marcum &amp; Wallace Memorial Hospital</b>
	<ul style="list-style-type: none"> <li>• <i>Teleradiology Enhancement Project</i></li> </ul>
<b>KY</b>	<b>University of Kentucky Research Foundation—Kentucky TeleCare</b>
	<ul style="list-style-type: none"> <li>• <i>Improving Health Outcomes for Children in Rural Kentucky Schools</i></li> </ul>
<b>ME</b>	<b>Eastern Maine Healthcare Systems</b>
	<ul style="list-style-type: none"> <li>• <i>Improving Rural Maine’s Critical Access to Emergency &amp; Chronic Disease Care Through Telehealth/Monitoring</i></li> </ul>
<b>ME</b>	<b>Regional Medical Center at Lubec</b>
	<ul style="list-style-type: none"> <li>• <i>Maine Nursing Home Telehealth Network</i></li> <li>• <i>Northeast Telehealth Resource Center</i></li> </ul>
<b>MI</b>	<b>Altarum Institute</b>
	<ul style="list-style-type: none"> <li>• <i>Concepts for a Michigan Health Information Network (MiHIN)</i></li> </ul>
<b>MI</b>	<b>Hurley Medical Center</b>
	<ul style="list-style-type: none"> <li>• <i>Clinical Information System Replacement Project</i></li> </ul>
<b>MI</b>	<b>Marquette General Hospital</b>
	<ul style="list-style-type: none"> <li>• <i>Midwest Alliance for Telehealth and Technologies Resources</i></li> </ul>
<b>MI</b>	<b>Michigan State University</b>
	<ul style="list-style-type: none"> <li>• <i>Telehospice in Mid-Michigan</i></li> </ul>
<b>MI</b>	<b>Western Michigan University</b>
	<ul style="list-style-type: none"> <li>• <i>The Application of Tele-Allied Health in Rural Counties in Southwest Lower Michigan</i></li> </ul>
<b>MN</b>	<b>Fairview Health Services</b>
	<ul style="list-style-type: none"> <li>• <i>Ambulatory Electronic Medical Record System—Twin Cities Metropolitan Care Systems</i></li> </ul>
<b>MN</b>	<b>Tri-County Hospital</b>
	<ul style="list-style-type: none"> <li>• <i>Telehealth Network Grant Program</i></li> </ul>
<b>MN</b>	<b>University of Minnesota</b>
	<ul style="list-style-type: none"> <li>• <i>Fairview—University of Minnesota Telemedicine Network</i></li> </ul>
<b>MO</b>	<b>Citizens Memorial Hospital District</b>
	<ul style="list-style-type: none"> <li>• <i>Project Infocare: In-Home Telemanagement</i></li> </ul>
<b>MT</b>	<b>Benefis Healthcare Foundation</b>
	<ul style="list-style-type: none"> <li>• <i>NMHA/REACH Telehealth Network Development Project</i></li> </ul>

<b>State</b>	<b>Grantee</b>
<b>MT</b>	<b>Deaconness Billings Clinic Foundation</b>
	<ul style="list-style-type: none"> <li>• <i>Revolutionizing Diabetes Care at Billings Clinic: A Model for Chronic Disease Care</i></li> </ul>
<b>MT</b>	<b>Saint Patrick Hospital &amp; Health Foundation</b>
	<ul style="list-style-type: none"> <li>• <i>Bringing Healthcare Home</i></li> <li>• <i>Montana Cardiology Telemedicine Network</i></li> </ul>
<b>MT</b>	<b>Saint Vincent Healthcare Foundation</b>
	<ul style="list-style-type: none"> <li>• <i>Mansfield Health Education Center (MHEC)</i></li> <li>• <i>Northwest Regional Telehealth Resource Center (NRTRC)</i></li> </ul>
<b>NC</b>	<b>Duke University Medical Center</b>
	<ul style="list-style-type: none"> <li>• <i>Patient Inclusion in a Community-Based Telehealth Network</i></li> <li>• <i>Patient Participation in a Rural Community-Based Telehealth Network</i></li> </ul>
<b>ND</b>	<b>North Dakota State University College of Pharmacy, Nursing, and Allied Sciences</b>
	<ul style="list-style-type: none"> <li>• <i>North Dakota Telepharmacy Project</i></li> </ul>
<b>NE</b>	<b>Good Samaritan Hospital Foundation</b>
	<ul style="list-style-type: none"> <li>• <i>Mid-Nebraska Telemedicine Network (MNTN)</i></li> </ul>
<b>NJ</b>	<b>Saint Peter’s University Hospital</b>
	<ul style="list-style-type: none"> <li>• <i>Medical Technology Center for Infants and Children</i></li> </ul>
<b>NM</b>	<b>New Mexico Human Services Department</b>
	<ul style="list-style-type: none"> <li>• <i>New Mexico Tele-Behavioral Health Improvement Project</i></li> </ul>
<b>NY</b>	<b>Genesee Gateway Local Development Corporation, Inc.</b>
	<ul style="list-style-type: none"> <li>• <i>Upstate New York Telemedicine Study</i></li> </ul>
<b>NY</b>	<b>Long Island Association for Millenium Center for Convergent Technologies</b>
	<ul style="list-style-type: none"> <li>• <i>An Electronic Clinical Trial System to Reduce Drug Development Costs</i></li> </ul>
<b>NY</b>	<b>New York Presbyterian Hospital</b>
	<ul style="list-style-type: none"> <li>• <i>Systems Technology Interfacing Teaching and Community Hospitals (STITCH)</i></li> </ul>

<b>State</b>	<b>Grantee</b>	<b>State</b>	<b>Grantee</b>
<b>NY</b>	<b>The Rosalind and Joseph Gurwin Jewish Geriatric Center of Long Island</b>	<b>PA</b>	<b>Thomas Jefferson University</b>
	<ul style="list-style-type: none"> <li>• <i>Demonstration of Implementation of Electronic Medical Record in Skilled Nursing Facility</i></li> </ul>		<ul style="list-style-type: none"> <li>• <i>Integrative Medicine Informatics Feasibility Project</i></li> </ul>
<b>OH</b>	<b>Case Western Reserve University</b>	<b>PA</b>	<b>Tyrone Hospital</b>
	<ul style="list-style-type: none"> <li>• <i>NetWellness</i></li> </ul>		<ul style="list-style-type: none"> <li>• <i>The Tyrone Hospital Health Information Network</i></li> </ul>
<b>OH</b>	<b>Children’s Hospital Medical Center of Akron</b>	<b>PA</b>	<b>Wayne Memorial Hospital</b>
	<ul style="list-style-type: none"> <li>• <i>Tele-Health-Kids</i></li> </ul>		<ul style="list-style-type: none"> <li>• <i>Improving Medication and Patient Safety</i></li> </ul>
<b>OH</b>	<b>Ohio Board of Regents</b>	<b>SC</b>	<b>Advanced Technology Institute (ATI)</b>
	<ul style="list-style-type: none"> <li>• <i>Medical Collaboration Network</i></li> </ul>		<ul style="list-style-type: none"> <li>• <i>Healthcare and Emergency Awareness Response for Telehealth (HEART) Phase II</i></li> </ul>
<b>OH</b>	<b>Ohio State University Research Foundation (for the Ohio Supercomputer Center)</b>	<b>SC</b>	<b>Voorhees College</b>
	<ul style="list-style-type: none"> <li>• <i>Computational Approaches to Research on Cancer in Children and Others</i></li> </ul>		<ul style="list-style-type: none"> <li>• <i>Developing a Telehealth Infrastructure to Address Health Disparities Through Education and Training</i></li> </ul>
<b>OK</b>	<b>OSU Center for Rural Health</b>	<b>SD</b>	<b>Avera Rural Health Institute</b>
	<ul style="list-style-type: none"> <li>• <i>Rural Oklahoma Telemedicine Service Expansion</i></li> </ul>		<ul style="list-style-type: none"> <li>• <i>Great Plains Telehealth Resource and Assistance Center (TRAC)</i></li> </ul>
<b>PA</b>	<b>Geisinger Clinic</b>	<b>TN</b>	<b>University Health System, Inc.</b>
	<ul style="list-style-type: none"> <li>• <i>Developing a Stoke Care Educational Program for Rural Pennsylvania</i></li> </ul>		<ul style="list-style-type: none"> <li>• <i>High-Risk Newborn Services Project</i></li> </ul>
<b>PA</b>	<b>Home Nursing Agency &amp; Visiting Nurse Association</b>	<b>TN</b>	<b>University of Tennessee Health Science Center</b>
	<ul style="list-style-type: none"> <li>• <i>Telehealth Network Grant</i></li> </ul>		<ul style="list-style-type: none"> <li>• <i>Delta Health Partnership</i></li> <li>• <i>Telehealth for Diabetic Patients in Hispanic and Underserved Rural Communities</i></li> </ul>
<b>PA</b>	<b>Jewish Healthcare Foundation</b>	<b>TX</b>	<b>Federation of State Medical Boards of the United States, Inc.</b>
	<ul style="list-style-type: none"> <li>• <i>Reinventing Healthcare: the Application of the Pittsburgh Regional Healthcare Initiative’s Perfecting Patient Care (PPC) System to Chronic Medical Conditions</i></li> </ul>		<ul style="list-style-type: none"> <li>• <i>Medical Licensure Portability to Facilitate Multi-State Telehealth Practice</i></li> </ul>
<b>PA</b>	<b>Mercy Health Partners</b>	<b>TX</b>	<b>Harris County Hospital District</b>
	<ul style="list-style-type: none"> <li>• <i>Using Information Technology to Enhance Patient Safety</i></li> </ul>		<ul style="list-style-type: none"> <li>• <i>Specialty Access Through Telemedicine (SA++)</i></li> </ul>
<b>PA</b>	<b>Mercy Hospital of Pittsburgh</b>	<b>TX</b>	<b>University of Texas Health Science Center at San Antonio</b>
	<ul style="list-style-type: none"> <li>• <i>Mobile Clinician Project</i></li> </ul>		<ul style="list-style-type: none"> <li>• <i>Diabetes Risk Reduction via Community-Based Telemedicine (DiRRReCT)</i></li> </ul>
<b>PA</b>	<b>Oil Region Alliance of Business, Industry &amp; Tourism</b>	<b>TX</b>	<b>University of Texas Medical Branch Center to Eliminate Health Disparities</b>
	<ul style="list-style-type: none"> <li>• <i>The Venango Center for Healthcare Careers (VCHC)</i></li> </ul>		<ul style="list-style-type: none"> <li>• <i>The Texas Telehealth Disparities Network</i></li> </ul>
<b>PA</b>	<b>Penn State University</b>		
	<ul style="list-style-type: none"> <li>• <i>Digital Informatics and Communications System</i></li> </ul>		
<b>PA</b>	<b>Pinnacle Health System</b>		
	<ul style="list-style-type: none"> <li>• <i>Reducing Variability to Deliver Safe Care</i></li> </ul>		

**State    Grantee**

- UT    Association for Utah Community Health (AUCH)**
  - *Association for Utah Community Health Telehealth Program*
- UT    Intermountain Healthcare**
  - *HRSA Telemedicine Pilot Program for Interpreting Services for the Deaf*
- UT    University of Utah**
  - *Utah Telehealth Network Comprehensive Telehealth Services*
- WA    Inland Northwest Health Services**
  - *Northwest Telehealth—TeleER*
  - *Northwest Telehealth—Telepharmacy*
- WA    University of Washington**
  - *Native People for Cancer Control Telehealth Network (NPCCTN)*
- WI    La Crosse Medical Health Science Consortium**
  - *Virtual Population Health Centers in the Rural Midwest*
- WI    Marshfield Clinic Telehealth Network**
  - *Marshfield Clinic Telehealth Network 2006*
- WV    Robert C. Byrd Center for Rural Health**
  - *Marshall University Southern West Virginia Rural Outreach Project*
- WY    Memorial Hospital of Laramie County d.b.a. Cheyenne Regional Medical Center**
  - *Regional Expansion of Telehealth and Distance Learning*
- WY    Wyoming Department of Health**
  - *Wyoming Network for Telehealth (WyNETT)*

# Types Of Grants

This section contains a background of the types of grants administered through OAT.

Grantee organizations and their projects are delineated by the Telehealth Licensure Grant Program (TLGP), Telehomecare Grant Program (THC), Telehealth Network Grant Program (TNGP), Telehealth Resource Center Grant Program (TRC), Congressionally Mandated Projects, and Special Projects.

Funding years for current grantees are also provided.

## Types of Grants

### Telehealth Licensure Grant Program (TLGP)

#### FY 2006-08 Grantees

State	Name	Previously Funded
IL	The National Council of State Boards of Nursing	-
TX	Federation of State Medical Boards of the United States, Inc.	-

### Telehomecare Grant Program (THC)

#### FY 2006-08 Grantees

State	Name	Previously Funded
MO	Citizens Memorial Hospital District	-
MT	Saint Patrick Hospital & Health Foundation	-
PA	Home Nursing Agency & Visiting Nurse Association	-

### Telehealth Network Grant Program (TNGP)

#### FY 2003-05 Grantees

State	Name	Previously Funded
AZ	Arizona Board of Regents, University of Arizona	RTGP 97-99, TNGP 03-05
GA	Ware County Health Department	RTGP 00-02, TNGP 03-05
KS	University of Kansas Medical Center	RTGP 00-02, TNGP 03-05
KY	University of Kentucky Research Foundation	RTGP 94-96, RTGP 97-99
ME	Regional Medical Center at Lubec	RTGP 97-99, RTGP 00-02
MN	University of Minnesota	RTGP 94-96, RTGP 00-02
MT	Benefis Healthcare Foundation	-
NC	Duke University Medical Center	-
NM	University of New Mexico Health Sciences Center	RTGP 97-99
OH	Southern Consortium for Children	-
SD	Avera Health	RTGP 94-96, RTGP 97-99
TN	University of Tennessee Health Science Center	RTGP 97-99, RTGP 00-02
TX	University of Texas Health Science Center at San Antonio	-
WI	Marshfield Clinic Telehealth Network	RTGP 97-99, RTGP 00-02

### Telehealth Network Grant Program (TNGP)

#### FY 2006-08 Grantees

State	Name	Previously Funded
AR	University of Arkansas for Medical Sciences	RTGP 97-99
CA	Northern Sierra Rural Health Network	-
GA	Ware County Board of Health	RTGP 00-02, TNGP 03-05
HI	The Queen's Medical Center	-
ID	Public Hospital Cooperative, Inc.	-
IL	Illinois Department of Human Services	-
KS	University of Kansas Medical Center	RTGP 00-02, TNGP 03-05
ME	Eastern Maine Healthcare Systems	-
MN	Tri-County Hospital, Inc.	-
NC	Duke University Medical Center	TNGP 03-05

## Types of Grants

OH	Children's Hospital Medical Center of Akron	-
WA	University of Washington	-
WI	Marshfield Clinic Telehealth Network	RTGP 97-99, RTGP 00-02, TNGP 03-05

## Telehealth Resource Center Grant Program (TRC)

### FY 2006-08 Grantees

State	Name	Previously Funded
CA	California Telemedicine & eHealth Center	-
DC	Center for Telehealth & E-Health Law	-
ME	Regional Medical Center at Lubec	RTGP 97-99, RTGP 00-02, TNGP 03-05
MI	Marquette General Hospital, Inc.	-
MT	Saint Vincent Healthcare Foundation	CMP FY 01, 02, 03
SD	Avera Health	RTGP 94-96, RTGP 97-99, TNGP 03-05

## Rural Telemedicine Grant Program (RTGP)

### FY 2000-02 Grantees

State	Name	Previously Funded
AR	University of Arkansas for Medical Sciences	RTGP 97-99
GA	Ware County Health Department	-
ME	Regional Medical Center at Lubec	RTGP 97-99
MN	University of Minnesota	RTGP 94-96
MT	St. Vincent Healthcare Foundation	-
NE	Good Samaritan Hospital Foundation	RTGP 94-96, 97-99
OK	INTEGRIS Health, Inc.	RTGP 97-99
WI	Marshfield Clinic Telehealth Network	RTGP 97-99

## Rural Telemedicine Grant Program (RTGP)

### FY 1997-99 Grantees

Seventeen projects were originally funded in this cycle.

## Rural Telemedicine Grant Program (RTGP)

### FY 1994-96 Grantees

Eleven projects were originally funded in this cycle.

## Congressionally Mandated Grantee Organizations

The following projects have carryover dollars or a no-cost extension from a previous award.

State	Name	Year Funded
AL	<b>University of South Alabama (USA)</b>	
	• <i>Center for Strategic Health Innovation Traditional Telemedicine</i>	FY 02, 03, 04, 05
	• <i>Realtime Medical Electronic Data Exchange (RMEDE) Project</i>	FY 00, 04
AK	<b>Alaska Native Tribal Health Consortium</b>	
	• <i>Continued Advancement of Telehealth Capacity in Alaska</i>	FY 05
	• <i>The Summative Telemedicine Evaluation Project</i>	FY 02, 03
AK	<b>Alaska Psychiatric Institute (API)</b>	
	• <i>API TeleBehavioral Health Project</i>	FY 05
AZ	<b>Arizona Board of Regents, University of Arizona</b>	
	• <i>Institute for Advanced Telemedicine and Telehealth (THealth)</i>	FY 05

## Types of Grants

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State	Name	Year Funded
AZ	<b>Maricopa County, Arizona</b>	
	• <i>Correctional Health Services Telemedicine Initiative</i>	FY 02, 05
CA	<b>Multi-Dimensional Imaging, Inc.</b>	
	• <i>Telemedicine for Improved Health Care and Education</i>	FY 05
CO	<b>Avista Adventist Hospital</b>	
	• <i>Clinical Integration Through Health Informatics</i>	FY 05
FL	<b>Florida Cancer Research Cooperative, University of South Florida</b>	
	• <i>Clinical Trial Patient/Physician Information &amp; Education Program</i>	FY 04, 05
HI	<b>Hawai'i Primary Care Association (HPCA)</b>	
	• <i>The Hawai'i CHC Telehealth Network Project</i>	FY 02, 03, 04, 05
IA	<b>Iowa Chronic Care Consortium</b>	
	• <i>Iowa Medicaid Population Disease Management Demonstration</i>	FY 05
IA	<b>Mercy Foundation</b>	
	• <i>Midwest Rural Telemedicine Consortium</i>	FY 03, 04, 05
ID	<b>Idaho State University, Institute of Rural Health</b>	
	• <i>Telehealth Idaho</i>	FY 01, 02, 03, 04, 05
ID	<b>North Idaho Rural Health Consortium (NIRHC)</b>	
	• <i>Expanding Telehealth to North Idaho Districts (EXTEND)</i>	FY 02, 03, 04, 05
IN	<b>Health &amp; Hospital Corporation of Marion County</b>	
	• <i>Congressionally-Mandated Telehealth Grants</i>	FY 05
KY	<b>Marcum &amp; Wallace Memorial Hospital</b>	
	• <i>Teleradiology Enhancement Project</i>	FY 05
MI	<b>Altarum Institute</b>	
	• <i>Concepts for a Michigan Health Information Network (MiHIN)</i>	FY 05
MI	<b>Hurley Medical Center</b>	
	• <i>Clinical Information System Replacement Project</i>	FY 05
MI	<b>Michigan State University</b>	
	• <i>Telehospice in Mid-Michigan</i>	FY 05
MI	<b>Western Michigan University</b>	
	• <i>The Application of Tele-Allied Health in Rural Counties in Southwest Lower Michigan</i>	FY 04
MN	<b>Fairview Health Services</b>	
	• <i>Ambulatory Electronic Medical Record System— Twin Cities Metropolitan Care Systems</i>	FY 02, 04, 05
MT	<b>Deaconess Billings Clinic Foundation</b>	
	• <i>Revolutionizing Diabetes Care at Billings Clinic: A Model for Chronic Disease Care</i>	FY 05
MT	<b>Saint Vincent Healthcare Foundation</b>	
	• <i>Montana Cardiology Telemedicine Network</i>	FY 05
ND	<b>North Dakota State University College of Pharmacy, Nursing, and Allied Sciences</b>	
	• <i>North Dakota Telepharmacy Project</i>	FY 02, 03, 04, 05
NE	<b>Good Samaritan Hospital Foundation</b>	
	• <i>Mid-Nebraska Telemedicine Network (MNTN)</i>	FY 04, 05
NJ	<b>Saint Peter's University Hospital</b>	
	• <i>Medical Technology Center for Infants and Children</i>	FY 05
NM	<b>New Mexico Human Services Department</b>	
	• <i>New Mexico Tele-Behavioral Health Improvement Project</i>	FY 05

## Types of Grants

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State	Name	Year Funded
NY	<b>Genesee Gateway Local Development Corporation, Inc.</b> <ul style="list-style-type: none"> <li><i>Upstate New York Telemedicine Study</i></li> </ul>	FY 05
NY	<b>Long Island Association for Millenium Center for Convergent Technologies</b> <ul style="list-style-type: none"> <li><i>An Electronic Clinical Trial System to Reduce Drug Development Costs</i></li> </ul>	FY 05
NY	<b>New York Presbyterian Hospital</b> <ul style="list-style-type: none"> <li><i>Systems Technology Interfacing Teaching and Community Hospitals (STITCH)</i></li> </ul>	FY 03, 05
NY	<b>The Rosalind and Joseph Gurwin Jewish Geriatric Center of Long Island</b> <ul style="list-style-type: none"> <li><i>Demonstration of Implemetnation of Electronic Medical Record in Skilled Nursing Facility</i></li> </ul>	FY 05
OH	<b>Case Western Reserve University</b> <ul style="list-style-type: none"> <li><i>NetWellness</i></li> </ul>	FY 02, 03, 04
OH	<b>Ohio Board of Regents</b> <ul style="list-style-type: none"> <li><i>Medical Collaboration Network</i></li> </ul>	FY 04
OH	<b>Ohio State University Research Foundation (for the Ohio Supercomputer Center)</b> <ul style="list-style-type: none"> <li><i>Computational Approaches to Research on Cancer in Children and Others</i></li> </ul>	FY 04
OK	<b>OSU Center for Rural Health</b> <ul style="list-style-type: none"> <li><i>Rural Oklahoma Telemedicine Service Expansion</i></li> </ul>	FY 05
PA	<b>Geisinger Clinic</b> <ul style="list-style-type: none"> <li><i>Developing a Stoke Care Educational Program for Rural Pennsylvania</i></li> </ul>	FY 03
PA	<b>Good Samaritan Hospital Regional Medical Center</b> <ul style="list-style-type: none"> <li><i>Schuylkill Alliance for Health Care Access</i></li> </ul>	FY 05
PA	<b>Jewish Healthcare Foundation</b> <ul style="list-style-type: none"> <li><i>Reinventing Healthcare: the Application of the Pittsburgh Regional Healthcare Initiative's Perfecting Patient Care (PPC) System to Chronic Medical Conditions</i></li> </ul>	FY 05
PA	<b>Mercy Health Partners</b> <ul style="list-style-type: none"> <li><i>Using Information Technology to Enhance Patient Safety</i></li> </ul>	FY 04, 05
PA	<b>Mercy Hospital of Pittsburgh</b>	FY 05
PA	<b>Oil Region Alliance of Business, Industry, &amp; Tourism</b> <ul style="list-style-type: none"> <li><i>The Venango Center for Healthcare Careers (VCHC)</i></li> </ul>	FY 04
PA	<b>Pennsylvania State University College of Medicine</b> <ul style="list-style-type: none"> <li><i>Physician-Scientist Initiative</i></li> </ul>	FY 02, 05
PA	<b>Pinnacle Health System</b> <ul style="list-style-type: none"> <li><i>Reducing Variability to Deliver Safe Care</i></li> </ul>	FY 05
PA	<b>Thomas Jefferson University</b> <ul style="list-style-type: none"> <li><i>Integrative Medicine Informatics Feasibility Project</i></li> </ul>	FY 04, 05
PA	<b>Tyrone Hospital</b> <ul style="list-style-type: none"> <li><i>The Tyrone Hospital Health Information Network</i></li> </ul>	FY 05
PA	<b>Wayne Memorial Hospital</b> <ul style="list-style-type: none"> <li><i>Improving Medication and Patient Safety</i></li> </ul>	FY 05
SC	<b>Advanced Technology Institute (ATI)</b> <ul style="list-style-type: none"> <li><i>Healthcare and Emergency Awareness Response for Telehealth (HEART) Phase II</i></li> </ul>	FY 03, 04, 05

## Types of Grants

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State	Name	Year Funded
SC	<b>Voorhees College</b>	
	• <i>Developing a Telehealth Infrastructure to Address Health Disparities Through Education and Training</i>	FY 05
TN	<b>University Health System, Inc.</b>	
	• <i>High-Risk Newborn Services Project</i>	FY 05
TN	<b>University of Tennessee Health Science Center</b>	
	• <i>Delta Health Partnership</i>	FY 05
	• <i>Telehealth for Diabetic Patients in Hispanic and Underserved Rural Communities</i>	FY 04
TX	<b>Harris County Hospital District</b>	
	• <i>Specialty Access Through Telemedicine (SA++)</i>	FY 05
TX	<b>University of Texas Medical Branch Center to Eliminate Health Disparities</b>	
	• <i>The Texas Telehealth Disparities Network</i>	FY 05
UT	<b>Association for Utah Community Health (AUCH)</b>	
	• <i>Association for Utah Community Health Telehealth Program</i>	FY 04, 05
UT	<b>Dr. Ezekiel R. Dumke College of Health Professions</b>	
	• <i>Health Opportunity Professional Exploration (HOPE)</i>	FY 05
UT	<b>Intermountain Healthcare</b>	
	• <i>HRSA Telemedicine Pilot Program for Interpreting Services for the Deaf</i>	FY 05
UT	<b>University of Utah</b>	
	• <i>Utah Telehealth Network Comprehensive Telehealth Services</i>	FY 04
WA	<b>Inland Northwest Health Services</b>	
	• <i>Northwest Telehealth—TeleER</i>	FY 05
	• <i>Northwest Telehealth—Telepharmacy</i>	FY 04
WI	<b>La Crosse Medical Health Science Consortium</b>	
	• <i>Virtual Population Health Centers in the Rural Midwest</i>	FY 01, 03, 04
WV	<b>Robert C. Byrd Center for Rural Health</b>	
	• <i>Marshall University Southern West Virginia Rural Outreach Project</i>	FY 05
WY	<b>Memorial Hospital of Laramie County dba Cheyenne Regional Medical Center</b>	
	• <i>Regional Expansion of Telehealth and Distance Learning</i>	FY 04
WY	<b>Wyoming Department of Health,</b>	
	• <i>Wyoming Network for Telehealth (WyNETTE)</i>	FY 04

# Components of the Project

**All OAT grantees were asked whether their project(s) were involved in clinical telemedicine, distance learning, or electronic health records (or a combination of the three).**

**Grantees' specific responses are indicated in this section.**

**N/A = Not Applicable/Not Available**

## Components of Project

ST	Grantee	Distance Learning			Information Systems/Electronic Health Records (*See Category Definitions Below)							Health Information Exchange Network / Other (please specify)	
		Clinical Telemedicine Services	Professional Development – Non-Credit	Professional Development – Credit (e.g. CME)	Academic – Degree Granting	Key Data	Results Reporting	Computerized Provider Order Entry	Electronic Integrated Medical Record	Reporting and Population Health Management	Scheduling Management		Electronic Billing
	<b>Alaska Native Tribal Health Consortium</b>												
AK	<i>Continued Advancement of Telehealth Capacity in Alaska</i>	•	•			•	•		•	•			This project supports development of an Alaska RHIO
	<i>The Summative Telemedicine Evaluation Project</i>												N/A
	<b>Alaska Psychiatric Institute (API)</b> <i>API TeleBehavioral Health Project</i>	•	•									•	No.
	<b>University of South Alabama</b>												
AL	<i>Center for Strategic Health Innovation (CSHI) RMEDE/ BioTrac Project</i>								•	•			Patient-centric data exchange platform capability.
	<i>Center for Strategic Health Innovation (CSHI) Traditional Telemedicine</i>	•	•	•									No.
	<b>University of Arkansas for Medical Sciences</b>												
AR	<i>South Arkansas Integrated Telehealth Oncology Program</i>	•	•	•	•	•	•	•	•	•	•	•	No.
	<i>Telehealth for KIDS (Kids in Delta Schools)</i>	•	•	•	•	•	•	•	•	•	•	•	No.
	<b>Arizona Board of Regents, University of Arizona</b>												
AZ	<i>Arizona Diabetes Virtual Center for Excellence (ADVANCE)</i>	•	•	•									No.
	<i>Institute for Advanced Telemedicine and Telehealth (THealth)</i>		•	•									No.
	<b>Maricopa County, Arizona</b> <i>Correctional Health Services Telemedicine Initiative</i>	•	•	•									No.
	<b>California Telemedicine and eHealth Center</b>												
CA	<i>Western Regional Telehealth Resource Center</i>												N/A
	<b>Multi-Dimensional Imaging, Inc.</b> <i>Telemedicine for Improved Health Care and Education</i>	•				•	•	•			•	•	No.
	<b>Northern Sierra Rural Health Network</b> <i>Telehealth Network Grant Program</i>	•	•	•									No.
	<b>Avista Adventist Hospital</b>												
CO	<i>Clinical Integration Through Health Informatics</i>					•	•	•	•	•	•	•	Yes: health disparities and planned care consortium.
	<b>Center for Telehealth and E-Health Law</b>												
DC	<i>National Telehealth Resource Center</i>												N/A
	<b>Foundation For eHealth Initiative</b> <i>Connecting Communities for Better Health Program</i>					•	•	•	•	•	•	•	Yes.
FL	<b>University of Florida College of Dentistry (UFCD)</b>												

## Components of Project

ST	Grantee	Distance Learning			Information Systems/Electronic Health Records (*See Category Definitions Below)							Health Information Exchange Network / Other (please specify)	
		Clinical Telemedicine Services	Professional Development – Non-Credit	Professional Development – Credit (e.g. CME)	Academic – Degree Granting	Key Data	Results Reporting	Computerized Provider Order Entry	Electronic Integrated Medical Record	Reporting and Population Health Management	Scheduling Management		Electronic Billing
	<i>University of Florida College of Dentistry (UFCD)</i>		•	•				•					No.
GA	<b>Ware County Health Department</b>												
	<i>Southeast Telehealth Network Program</i>	•	•	•									No.
HI	<b>Hawaii Primary Care Association (HPCA)</b>												
	<i>The Hawai'i CHC Telehealth Network Project</i>	•	•			•		•	•	•	•	•	Yes.
	<b>The Queen's Medical Center</b>												
	<i>Hawaii Neuroscience Telehealth Network</i>	•	•			•							
IA	<b>Iowa Chronic Care Consortium</b>												
	<i>Iowa Medicaid Population Disease Management Demonstration</i>	•				•	•			•			No.
	<b>Mercy Foundation</b>												
	<i>Midwest Rural Telemedicine Consortium</i>	•	•	•									No.
ID	<b>Idaho State University, Institute of Rural Health</b>												
	<i>Telehealth Idaho</i>	•	•	•	•	•	•	•	•	•	•	•	Yes.
	<b>North Idaho Rural Health Consortium (NIRHC)</b>												
	<i>Expanding Telehealth to North Idaho Districts (EXTEND)</i>	•	•	•		•	•	•	•		•	•	Yes. Working with regional and local RHIOs.
	<b>Public Hospital Cooperative, Inc.</b>												
	<i>Cooperative Telehealth Network</i>	•	•	•									No.
IL	<b>Illinois Department of Human Services</b>												
	<i>Illinois Developmental Disabilities Telehealth Network and Services: A Program Dedicated to Optimizing Health and Support of Community Living</i>	•	•	•									Yes. Community Agency Enhancement
	<b>The National Council of State Boards of Nursing</b>												
	<i>Moving Toward Portability: Uniform Core Licensure Standards for Nursing</i>												N/A
IN	<b>Health &amp; Hospital Corporation of Marion County</b>												
	<i>Congressionally-Mandated Telehealth Grants</i>	•				•	•						Yes. Local Health Information Exchange Organization.
KS	<b>University of Kansas Medical Center</b>												
	<i>Sustainability and Cost Benefit Evaluation of the Kansas Telehealth Network</i>	•	•	•									No.
	<i>Telehealth Access and Cost Benefit in Kansas</i>	•	•	•							•	•	No.
KY	<b>Marcum &amp; Wallace Memorial Hospital</b>												
	<i>Teleradiology Enhancement Project</i>	•					•						Yes/radiology procedures and reports access to physicians and radiologists.

## Components of Project

ST	Grantee	Distance Learning			Information Systems/Electronic Health Records (*See Category Definitions Below)							Health Information Exchange Network / Other (please specify)	
		Clinical Telemedicine Services	Professional Development – Non-Credit	Professional Development – Credit (e.g. CME)	Academic – Degree Granting	Key Data	Results Reporting	Computerized Provider Order Entry	Electronic Integrated Medical Record	Reporting and Population Health Management	Scheduling Management		Electronic Billing
	<b>University of Kentucky Research Foundation—Kentucky TeleCare</b>												
	<i>Improving Health Outcomes for Children in Rural Kentucky Schools</i>	•	•	•	•	•	•	•	•		•	•	Yes. Diabetes collaborative study, Heart Disease collaborative study
	<b>Eastern Maine Healthcare Systems</b>												
	<i>Improving Rural Maine’s Critical Access to Emergency &amp; Chronic Disease Care Through Telehealth/Monitoring</i>	•		•				•					Yes/Maine InfoNet in development, EMHS Together Project with shared EMR
	<b>Regional Medical Center at Lubec</b>												
	<i>Northeast Telehealth Resource Center</i>												N/A
	<b>Altarum Institute</b>												
	<i>Concepts for a Michigan Health Information Network (MiHIN)</i>												No, but planned for the future.
	<b>Hurley Medical Center</b>												
	<i>Clinical Information System Replacement Project</i>					•	•	•	•		•		No.
	<b>Marquette General Hospital</b>												
	<i>Midwest Alliance for Telehealth and Technologies Resources</i>		•	•									No.
	<b>Michigan State University</b>												
	<i>Telehospice in Mid-Michigan</i>	•	•										No.
	<b>Western Michigan University</b>												
	<i>The Application of Tele-Allied Health in Rural Counties in Southwest Lower Michigan</i>		•	•	•								No.
	<b>Fairview Health Services</b>												
	<i>Ambulatory Electronic Medical Record System – Twin Cities Metropolitan Care Systems</i>					•	•	•	•	•	•	•	Yes/Local record sharing with hospitals and independent physician practices.
	<b>University of Minnesota</b>												
	<i>Fairview – University of Minnesota Telemedicine Network</i>	•							•		•		Yes, Sisunet.
	<b>Tri-County Hospital, Inc.</b>												
	<i>Telehealth Network Grant Program</i>	•	•	•							•		Yes. SISU Medical Systems
	<b>Citizen’s Memorial Hospital District</b>												
	<i>Project Infocare: In-Home Telemanagement</i>								•				
	<b>Benefis Healthcare Foundation</b>												
	<i>NMHA/REACH Telehealth Network Development Project</i>	•	•	•									No.
	<b>Deaconess Billings Clinic Foundation</b>												

## Components of Project

ST	Grantee	Distance Learning			Information Systems/Electronic Health Records (*See Category Definitions Below)							Health Information Exchange Network / Other (please specify)	
		Clinical Telemedicine Services	Professional Development – Non-Credit	Professional Development – Credit (e.g. CME)	Academic – Degree Granting	Key Data	Results Reporting	Computerized Provider Order Entry	Electronic Integrated Medical Record	Reporting and Population Health Management	Scheduling Management		Electronic Billing
ST	<i>Revolutionizing Diabetes Care at Billings Clinic: A Model for Chronic Disease Care</i>					•	•		•	•			Yes/diabetes collaborative research study.
	<b>Saint Patrick Hospital &amp; Health Foundation</b>												
	<i>Montana Cardiology Telemedicine Network</i>	•		•			•		•				No.
	<b>Saint Patrick Hospital &amp; Health Foundation</b>												
ST	<i>Bringing Healthcare Home</i>	•		•			•		•				No
	<b>Saint Vincent Healthcare Foundation</b>												
MT	<i>Northwest Regional Telehealth Resource Center</i>		•										No, but members engaged in RHIOs in specific states
NC	<b>Duke University Medical Center</b>												
	<i>Improving Care Quality and Coordination through Patient Inclusion in a Community-Based Telehealth Network</i>						•		•	•			Yes. Collaborative research study with exchange between primary care providers, care managers and government agencies.
	<i>Augmenting Healthcare through Patient Participation in a Rural Community-Based Telehealth Network</i>					•		•	•				Yes. Collaborative research study with exchange between primary care providers, care managers and government agencies.
ND	<b>North Dakota State University College of Pharmacy, Nursing, and Allied Sciences</b>												
	<i>North Dakota Telepharmacy Project</i>												No.
NE	<b>Good Samaritan Hospital Foundation</b>												
	<i>Mid-Nebraska Telemedicine Network(MNTN)</i>	•	•	•		•	•	•	•	•	•	•	No.
NJ	<b>Saint Peter's University Hospital</b>												
	<i>Medical Technology Center for Infants and Children</i>												N/A
NM	<b>New Mexico Human Services Department</b>												
	<i>New Mexico Tele-Behavioral Health Improvement Project</i>	•		•									No.
NY	<b>Genesee Gateway Local Development Corporation, Inc.</b>												
	<i>Upstate New York Telemedicine Study</i>	•				•	•		•				No.
	<b>Long Island Association for Millennium Center for Convergent Technologies</b>												
	<i>An Electronic Clinical Trial System to Reduce Drug Development Costs</i>					•			•				Yes. Project partners use available existing communications.
	<b>New York Presbyterian Hospital</b>												
	<i>Systems Technology Interfacing Teaching and Community Hospitals (STITCH)</i>												Yes. RHIO among 4 hospital sites and 14 ambulatory care clinics.
	<b>The Rosalind and Joseph Gurwin Jewish Geriatric Center of Long Island</b>												

## Components of Project

ST	Grantee	Distance Learning			Information Systems/Electronic Health Records (*See Category Definitions Below)							Health Information Exchange Network / Other (please specify)		
		Clinical Telemedicine Services	Professional Development – Non-Credit	Professional Development – Credit (e.g. CME)	Academic – Degree Granting	Key Data	Results Reporting	Computerized Provider Order Entry	Electronic Integrated Medical Record	Reporting and Population Health Management	Scheduling Management		Electronic Billing	
	<i>Demonstration of Implementation of Electronic Medical Record in Skilled Nursing Facility</i>					•	•	•	•				No, but currently in development.	
OH	<b>Case Western Reserve University</b>													
	<i>NetWellness</i>												N/A	
	<b>Children’s Hospital Medical Center of Akron</b>													
	<i>Tele-Health-Kids</i>	•											No.	
	<b>Ohio State University Research Foundation (for the Ohio Supercomputer Center)</b>						•		•				No.	
	<i>Computational Approaches to Research on Cancer in Children and Others</i>					•		•					No.	
OK	<b>OSU Center for Rural Health</b>													
	<i>Rural Oklahoma Telemedicine Service Expansion</i>	•		•									No, though we do have plans to develop.	
PA	<b>Geisinger Clinic</b>													
	<i>Developing a Stoke Care Educational Program for Rural Pennsylvania</i>	•		•				•					Yes. Working with an AHRQ grant to develop.	
	<b>Good Samaritan Hospital Regional Medical Center</b>													
	<i>Schuylkill Alliance for Health Care Access</i>												N/A	
	<b>Home Nursing Agency &amp; Visiting Nurse Association</b>													
	<i>Telehealth Network Grant</i>	•											No.	
	<b>Jewish Healthcare Foundation</b>													
	<i>Reinventing Healthcare: The Application of the Pittsburgh Regional Healthcare Initiative’s Perfecting Patient Care (PPC) System to Chronic Medical Conditions</i>		•	•					•	•				No.
	<b>Mercy Health Partners</b>													
	<i>Using Information Technology to Enhance Patient Safety</i>						•	•	•				Yes—Available to physicians & clinicians in office or home.	
	<b>Mercy Hospital of Pittsburgh</b>						•						No.	
	<i>Mobile Clinician Project</i>						•						No.	
	<b>Millcreek Community Hospital</b>													
	<i>Millcreek Health System Informatics Project</i>						•	•	•	•	•	•	Yes.	
	<b>Oil Region Alliance of Business, Industry, &amp; Tourism</b>													
<i>The Venango Center for Healthcare Careers (VCHC)</i>		•											No.	
<b>Penn State University</b>														
<i>Digital Informatics and Communications System</i>	•		•										No.	
<b>Pennsylvania State University College of Medicine</b>														
<i>Physician-Scientist Initiative</i>		•	•	•									Clinical Trials Network	
<b>Pinnacle Health System</b>														

## Components of Project

ST	Grantee	Distance Learning			Information Systems/Electronic Health Records (*See Category Definitions Below)							Health Information Exchange Network / Other (please specify)	
		Clinical Telemedicine Services	Professional Development – Non-Credit	Professional Development – Credit (e.g. CME)	Academic – Degree Granting	Key Data	Results Reporting	Computerized Provider Order Entry	Electronic Integrated Medical Record	Reporting and Population Health Management	Scheduling Management		Electronic Billing
ST	<i>Reducing Variability to Deliver Safe Care</i>					•	•	•	•	•	•	•	Yes. Dauphin County Health Collaborative.
	<b>Thomas Jefferson University</b>												
	<i>Integrative Medicine Informatics Feasibility Project</i>		•										No.
	<b>Tyrone Hospital</b>												
	<i>The Tyrone Hospital Health Information Network</i>					•	•	•	•				No.
	<b>Wayne Memorial Hospital</b>									•	•	•	•
SC	<b>Advanced Technology Institute (ATI)</b>												
	<i>Healthcare and Emergency Awareness Response for Telehealth (HEART) Phase II</i>					•					•		No.
	<b>Voorhees College</b>												
SD	<b>Avera Health</b>												
	<i>Avera Rural and Frontier Disease Management Telehealth Network</i>	•	•	•									No.
TN	<i>Great Plains Telehealth Resource and Assistance Center (TRAC)</i>		•										No.
	<b>University of Tennessee Health Science Center</b>												
	<i>Delta Health Partnership</i>	•	•	•		•							Yes.
	<i>Mid-Appalachia Telehealth Project</i>	•	•	•									Yes.
	<i>Mid-South Telehealth Consortium</i>	•	•	•									Yes.
TX	<i>Telehealth for Diabetic Patients in Hispanic and Underserved Rural Communities</i>		•	•									Yes.
	<b>Federation of State Medical Boards of the United States, Inc.</b>												
	<i>Medical Licensure Portability to Facilitate Multi-State Telehealth Practice</i>												N/A
	<b>Harris County Hospital District</b>												
	<i>Specialty Access Through Telemedicine (SA++)</i>	•											No.
	<b>University of Texas Health Science Center at San Antonio</b>												
UT	<i>Diabetes Risk Reduction via Community Based Telemedicine (DiRReCT)</i>	•		•		•				•			No.
	<b>University of Texas Medical Branch Center To Eliminate Health Disparities</b>												
	<i>The Texas Telehealth Disparities Network</i>	•		•		•			•	•			Yes.
UT	<b>Association for Utah Community Health (AUCH)</b>												

## Components of Project

ST	Grantee	Distance Learning				Information Systems/Electronic Health Records (**See Category Definitions Below)						Health Information Exchange Network / Other (please specify)	
		Clinical Telemedicine Services	Professional Development – Non-Credit	Professional Development – Credit (e.g. CME)	Academic – Degree Granting	Key Data	Results Reporting	Computerized Provider Order Entry	Electronic Integrated Medical Record	Reporting and Population Health Management	Scheduling Management		Electronic Billing
	<i>Association for Utah Community Health Telehealth Program</i>	•	•										No.
	<b>Intermountain Healthcare</b>												
	<i>HRSA Telemedicine Pilot Program for Interpreting Services for the Deaf</i>	•											Yes. Intermountain Healthcare is a fully integrated delivery system, which includes doctors, hospitals, clinics, and a health plan.
	<b>University of Utah</b>												
	<i>Utah Telehealth Network Comprehensive Telehealth Services</i>	•	•	•	•	•	•					•	No.
	<b>Inland Northwest Health Services</b>												
	<i>Northwest Telehealth--TeleER</i>	•	•			•	•	•	•	•	•	•	Yes (RHIO).
	<i>Northwest Telehealth--Telepharmacy</i>	•											Yes (RHIO).
	<b>University of Washington</b>												
	<i>Native People for Cancer Control Telehealth Network (NPCCTN)</i>	•	•	•		•	•						No.
	<b>La Crosse Medical Health Science Consortium</b>												
	<i>Virtual Population Health Centers in the Rural Midwest</i>	•		•									Yes. Diabetes collaborative research study.
	<b>Marshfield Clinic Telehealth Network</b>												
	<i>Marshfield Clinic Telehealth Network</i>	•				•	•	•	•	•	•	•	Yes. Provides EMR to other organizations that support outreach, telepathology, and other clinical applications.
	<b>Robert C. Byrd Center for Rural Health</b>												
	<i>Marshall University Southern West Virginia Rural Outreach Project</i>	•											Yes, participating in development of network.
	<b>Memorial Hospital of Laramie County dba Cheyenne Regional Medical Center</b>												
	<i>Regional Expansion of Telehealth and Distance Learning</i>	•	•	•									No.
	<b>Wyoming Department of Health</b>												
	<i>Wyoming Network for Telehealth (WyNETTE)</i>	•	•	•									Yes. Tumor board beginning with participation in Montana group.

## Components of Project

### \*\* Electronic Health Records Definitions

<b><u>Key Data</u></b>	Includes any of the following: Problem List, Procedures, Diagnoses, Medication List, Allergies, Demographics, Diagnostic Test Results, Radiology Results, Health Maintenance, Advance Directives, Disposition, and/or Level of Service.
<b><u>Results Reporting</u></b>	Includes Laboratory, Microbiology, Pathology, Radiology Reports, and Consults.
<b><u>Computerized Provider Order Entry</u></b>	Includes availability of Electronic Prescribing, Laboratory, Microbiology, Pathology, Radiology, Nursing, Supplies, Consults, and Ancillary.
<b><u>Electronic Integrated Medical Record</u></b>	Defined as the extent to which a single record integrates data from different sources within an institution for each patient.
<b><u>Reporting and Population Health Management</u></b>	Includes Patient Safety and Quality Reporting ( <i>Routine reporting of key quality indicators to clinicians, External accountability reporting, and Ad hoc reporting</i> ), Public Health Reporting ( <i>Reportable diseases and Immunization</i> ), De-Identifying Data, and Disease Registries.
<b><u>Scheduling Management</u></b>	Includes Appointments, Admissions, Surgery/procedure scheduling.
<b><u>Electronic Billing</u></b>	Using computerized systems for submission of paperless medical and related claims to insurers and other payers.

# Major Services

**OAT Grantees were asked to identify the major clinical services delivered by their project(s), if applicable.**

**For the category “Rehabilitation,” grantees were instructed to use a key of abbreviations (provided at the end of this section) to indicate their specific service.**

**This section covers only those projects providing clinical telemedicine services.**

**For a complete listing of all services, see the individual project descriptions.**

**I = Number of sites where service is implemented      P = Number of sites where service is planned**

# Major Services

ST	Grantee	Allergy	Asthma Control	Cardiology	Diabetes Care and Management	Dermatology	Endocrinology (not diabetes)	ENT	Infectious Disease	Intensivist/Remote ICU Monitoring	Mental Health	Neonatology	Nutrition	Ob/Gyn	Oncology	Orthopedics	Pain Management	Pediatrics	Pharmacy	Pulmonology	Radiology	Rehabilitation (see key at bottom of chart)	Remote Patient Monitoring	Rheumatology	Surgery (all types)	Trauma/Emergency Medicine	Other Services (please specify)
AK	<b>Alaska Native Tribal Health Consortium</b>																										
	<i>Continued Advancement of Telehealth Capacity in Alaska</i>			P/3		P/3		I/1, P/3																			Audiology: I/1, P/3
	<i>The Summative Telemedicine Evaluation Project</i>																										N/A
	<b>Alaska Psychiatric Institute (API)</b>																										
	<i>API TeleBehavioral Health Project</i>										I/7, P/4																
AL	<b>University of South Alabama</b>																										
	<i>Center for Strategic Health Innovation (CSHI) RMEDE/BioTrac Project</i>				I/78																		I/78				
	<i>Center for Strategic Health Innovation (CSHI) Traditional Telemedicine</i>	I/1		I/1						I/5	P/1		I/23	I/1				I/2			I/9		I/1			HIV/AIDS I/2	



Major Services

ST	Grantee	Allergy	Asthma Control	Cardiology	Diabetes Care and Management	Dermatology	Endocrinology (not diabetes)	ENT	Infectious Disease	Intensivist/Remote ICU Monitoring	Mental Health	Neonatology	Nutrition	Ob/Gyn	Oncology	Orthopedics	Pain Management	Pediatrics	Pharmacy	Pulmonology	Radiology	Rehabilitation (see key at bottom of chart)	Remote Patient Monitoring	Rheumatology	Surgery (all types)	Trauma/Emergency Medicine	Other Services (please specify)	
	<i>Western Regional Telehealth Resource Center</i>																										N/A	
	<b>Multi-Dimensional Imaging, Inc.</b>																											
	<i>Telemedicine for Improved Health Care and Education</i>																				I/6							Behavioral Medicine: P/6
	<b>Northern Sierra Rural Health Network</b>																											
	<i>Telehealth Network Grant Program</i>				I/7					P/7, I/35		P/7, I/35																
CO	<b>Avista Adventist Hospital</b>																											
	<i>Clinical Integration Through Health Informatics</i>	P/9, I/3	P/9, I/3		P/9, I/3						P/3		P/9, I/3	P/2		P/2		P/4	P/3		P/1	P/2				P/1	Acute Hospital: P/1; Dental: P/1	
DC	<b>Center for Telehealth and E-Health Law</b>																											
	<i>National Telehealth Resource Center</i>																											N/A
	<b>Foundation For eHealth Initiative</b>																											
	<i>Connecting Communities for Better Health Program</i>																											N/A

Major Services

ST	Grantee	Allergy	Asthma Control	Cardiology	Diabetes Care and Management	Dermatology	Endocrinology (not diabetes)	ENT	Infectious Disease	Intensivist/Remote ICU Monitoring	Mental Health	Neonatology	Nutrition	Ob/Gyn	Oncology	Orthopedics	Pain Management	Pediatrics	Pharmacy	Pulmonology	Radiology	Rehabilitation (see key at bottom of chart)	Remote Patient Monitoring	Rheumatology	Surgery (all types)	Trauma/Emergency Medicine	Other Services (please specify)
FL	<b>University of Florida College of Dentistry (UFCD)</b>																										
	<i>University of Florida College of Dentistry (UFCD)</i>																										N/A
GA	<b>Ware County Health Department</b>																										
	<i>Rural Health Telemedicine Grant Program</i>	I/2	I/1			P/1			I/6					I/1													HIV/AIDS: I/5, P/1 Genetics: I/2
	<i>Southeast Telehealth Network Program</i>	I/1	I/1						I/5					I/1													I/1 Adult Sickle Cell I/2 Genetics
HI	<b>Hawai'i Primary Care Association (HPCA)</b>																										
	<i>The Hawai'i CHC Telehealth Network Project</i>					I/3																					
	<b>The Queen's Medical Center</b>																										
	<i>Hawaii Neuroscience Telehealth Network</i>																									P/2	Emergency Neurology P/2

Major Services

ST	Grantee	Allergy	Asthma Control	Cardiology	Diabetes Care and Management	Dermatology	Endocrinology (not diabetes)	ENT	Infectious Disease	Intensivist/Remote ICU Monitoring	Mental Health	Neonatology	Nutrition	Ob/Gyn	Oncology	Orthopedics	Pain Management	Pediatrics	Pharmacy	Pulmonology	Radiology	Rehabilitation (see key at bottom of chart)	Remote Patient Monitoring	Rheumatology	Surgery (all types)	Trauma/Emergency Medicine	Other Services (please specify)	
IA	Iowa Chronic Care Consortium																											
	Iowa Medicaid Population Disease Management Demonstration			I/6																								Depression screening/referral
IA	Mercy Foundation																											
	Midwest Rural Telemedicine Consortium			I/3		I/1, P/3				P/4											I/1, P/2		I/1					Nephrology: I/3, P/3
ID	Idaho State University, Institute of Rural Health																											
	Telehealth Idaho																											EHR
	North Idaho Rural Health Consortium (NIRHC)																											
	Expanding Telehealth to North Idaho Districts (EXTEND)										I/6										I/3		I/5					Pathology: I/6

Major Services

ST	Grantee	Allergy	Asthma Control	Cardiology	Diabetes Care and Management	Dermatology	Endocrinology (not diabetes)	ENT	Infectious Disease	Intensivist/Remote ICU Monitoring	Mental Health	Neonatology	Nutrition	Ob/Gyn	Oncology	Orthopedics	Pain Management	Pediatrics	Pharmacy	Pulmonology	Radiology	Rehabilitation (see key at bottom of chart)	Remote Patient Monitoring	Rheumatology	Surgery (all types)	Trauma/Emergency Medicine	Other Services (please specify)
ID	Public Hospital Cooperative, Inc.																										
	Cooperative Telehealth Network (CTN)									P/9											I/4						
IL	Illinois Department of Human Services																										
	Illinois Developmental Disabilities Telehealth Network and Services: A Program Dedicated to Optimizing Health and Support of Community Living				I/4					I/4																	HIV/AIDS – P/S Wound Care – 1 Neurology I/1; P/1
	The National Council of State Boards of Nursing Moving Toward Portability: Uniform Core Licensure Standards for Nursing																										N/A
IN	Health & Hospital Corporation of Marion County																										
	Congressionally-Mandated Telehealth Grants																				I/7						
KS	University of Kansas Medical Center																										
	Sustainability and Cost Benefit Evaluation of the Kansas Telehealth Network			I/2	I/3						I/7				I/2	P/1	I/2	I/6									Wound Care: I/1



Major Services

ST	Grantee	Allergy	Asthma Control	Cardiology	Diabetes Care and Management	Dermatology	Endocrinology (not diabetes)	ENT	Infectious Disease	Intensivist/Remote ICU Monitoring	Mental Health	Neonatology	Nutrition	Ob/Gyn	Oncology	Orthopedics	Pain Management	Pediatrics	Pharmacy	Pulmonology	Radiology	Rehabilitation (see key at bottom of chart)	Remote Patient Monitoring	Rheumatology	Surgery (all types)	Trauma/Emergency Medicine	Other Services (please specify)	
	<b>Hurley Medical Center</b>																											
	<i>Clinical Information System Replacement Project</i>																											N/A
	<b>Marquette General Hospital</b>																											
	<i>Midwest Alliance for Telehealth and Technologies Resources</i>																											N/A
	<b>Michigan State University</b>																											
	<i>Telehospice in Mid-Michigan</i>																P/18							P/18				Palliative Care: P/18 Bereavement Care: P/18 Caregivers support: P/18
MI	<b>Western Michigan University</b>																											
	<i>The Application of Tele-Allied Health in Rural Counties in Southwest Lower Michigan</i>																											N/A
MN	<b>Fairview Health Services</b>																											
	<i>Ambulatory Electronic Medical Record System – Twin Cities Metropolitan Care Systems</i>																											N/A
	<b>Tri-County Hospital</b>																											
	<i>Telehealth Network Grant Program</i>					P/1					P/1		P/1		P/1	P/1											Wound Care: P/1 Gastroenterology: P/1 Community Behavioral Health Hospital: P/1	





Major Services

35

ST	Grantee	Allergy	Asthma Control	Cardiology	Diabetes Care and Management	Dermatology	Endocrinology (not diabetes)	ENT	Infectious Disease	Intensivist/Remote ICU Monitoring	Mental Health	Neonatology	Nutrition	Ob/Gyn	Oncology	Orthopedics	Pain Management	Pediatrics	Pharmacy	Pulmonology	Radiology	Rehabilitation (see key at bottom of chart)	Remote Patient Monitoring	Rheumatology	Surgery (all types)	Trauma/Emergency Medicine	Other Services (please specify)
NE	<b>Good Samaritan Hospital Foundation</b>																										
	<i>Mid-Nebraska Telemedicine Network (MNTN)</i>			1/18	1/18			1/18	1/18		P/3, 1/18		1/18		1/18	1/18					1/18	SLP & OT: 1/18				P/4, 1/12	Wound Care: 1/18 Geriatrics: 1/18
NJ	<b>Saint Peter's University Hospital</b>																										
	<i>Medical Technology Center for Infants and Children</i>																										N/A
NM	<b>New Mexico Human Services Department</b>																										
	<i>New Mexico Tele-Behavioral Health Improvement Project</i>										P/5																
NY	<b>Genesee Gateway Local Development Corporation, Inc.</b>																										
	<i>Upstate New York Telemedicine Study</i>																										Neurological and Radiological Consultations for Stroke Treatment 1/3











Major Services

ST	Grantee	Allergy	Asthma Control	Cardiology	Diabetes Care and Management	Dermatology	Endocrinology (not diabetes)	ENT	Infectious Disease	Intensivist/Remote ICU Monitoring	Mental Health	Neonatology	Nutrition	Ob/Gyn	Oncology	Orthopedics	Pain Management	Pediatrics	Pharmacy	Pulmonology	Radiology	Rehabilitation (see key at bottom of chart)	Remote Patient Monitoring	Rheumatology	Surgery (all types)	Trauma/Emergency Medicine	Other Services (please specify)
TX	<b>Federation of State Medical Boards of the United States, Inc.</b>																										
	<i>Medical Licensure Portability to Facilitate Multi-State Telehealth Practice</i>																										N/A
	<b>Harris County Hospital District</b>																										
	<i>Specialty Access Through Telemedicine (SA++)</i>				1/2					1/2																	
TX	<b>University of Texas Health Science Center at San Antonio (UTHSCSA)</b>																										
	<i>Diabetes Risk Reduction via Community Based Telemedicine (DiRReCT)</i>											1/9						1/9									
	<b>University of Texas Medical Branch Center to Eliminate Health Disparities</b>																										
	<i>The Texas Telehealth Disparities Network</i>		P/1	P/2					P/1		P/1				P/1												Primary Care P/2 Disease and/or access issues to be addressed in pilot projects have not yet been defined.

Major Services

ST	Grantee	Allergy	Asthma Control	Cardiology	Diabetes Care and Management	Dermatology	Endocrinology (not diabetes)	ENT	Infectious Disease	Intensivist/Remote ICU Monitoring	Mental Health	Neonatology	Nutrition	Ob/Gyn	Oncology	Orthopedics	Pain Management	Pediatrics	Pharmacy	Pulmonology	Radiology	Rehabilitation (see key at bottom of chart)	Remote Patient Monitoring	Rheumatology	Surgery (all types)	Trauma/Emergency Medicine	Other Services (please specify)
UT	<b>Association for Utah Community Health (AUCH)</b>																										
	<i>Association for Utah Community Health Telehealth Program</i>				I/16																I/5						
	<b>Intermountain Healthcare</b>																										
	<i>HRSA Telemedicine Pilot Program for Interpreting Services for the Deaf</i>																										Video interpretation for the deaf: P/12
	<b>University of Utah</b>																										
	<i>Utah Telehealth Network Comprehensive Telehealth Services</i>			I/3	P/4	I/1			I/1		I/2					I/1		I/3	I/4		I/10	PM:P/1					Neurology: I/6, P/2 Burn: I/3
WA	<b>Inland Northwest Health Services</b>																										
	<i>Northwest Telehealth—TeleER</i>									I/1								I/2							i/15	Wound Care: I/1	

Major Services

ST	Grantee	Allergy	Asthma Control	Cardiology	Diabetes Care and Management	Dermatology	Endocrinology (not diabetes)	ENT	Infectious Disease	Intensivist/Remote ICU Monitoring	Mental Health	Neonatology	Nutrition	Ob/Gyn	Oncology	Orthopedics	Pain Management	Pediatrics	Pharmacy	Pulmonology	Radiology	Rehabilitation (see key at bottom of chart)	Remote Patient Monitoring	Rheumatology	Surgery (all types)	Trauma/Emergency Medicine	Other Services (please specify)
	<i>Northwest Telehealth—Telepharmacy</i>																		I/10, P/13								
	<b>University of Washington</b>																										
	<i>Native People for Cancer Control Telehealth Network (NPCCTN)</i>						P/1+				P/7+					P/7+		P/7+	P/7+								End-of-Life issues specific to AIANs – P/7+
WI	<b>La Crosse Medical Health Science Consortium</b>																										
	<i>Virtual Population Health Centers in the Rural Midwest</i>																										N/A
WI	<b>Marshfield Clinic Telehealth Network</b>																										
	<i>Marshfield Clinic Telehealth Network 2006</i>	I/17, P/2		I/17, P/2	I/5, P/2	I/2, P/4	I/5, P/4	I/17, P/2	I/17, P/2		I/17, P/4	I/17, P/2		I/2, P/4	I/3, P/4	I/4, P/2	I/1, P/10	I/4, P/10	I/17, P/2	I/35					I/17, P/2	I/1, P/1	Wound Care I/17, P/2
WV	<b>Robert C. Byrd Center for Rural Health</b>																										
	<i>Marshall University Southern West Virginia Rural Outreach Project</i>																			I/1 Virtual Colonoscopy							

Major Services

ST	Grantee	Allergy	Asthma Control	Cardiology	Diabetes Care and Management	Dermatology	Endocrinology (not diabetes)	ENT	Infectious Disease	Intensivist/Remote ICU Monitoring	Mental Health	Neonatology	Nutrition	Ob/Gyn	Oncology	Orthopedics	Pain Management	Pediatrics	Pharmacy	Pulmonology	Radiology	Rehabilitation (see key at bottom of chart)	Remote Patient Monitoring	Rheumatology	Surgery (all types)	Trauma/Emergency Medicine	Other Services (please specify)			
WY	Memorial Hospital of Laramie County dba Cheyenne Regional Medical Center																													
	<i>Regional Expansion of Telehealth and Distance Learning</i>			P/5																		P/2					Wound Care: P/2 Surgery Follow-Up: P/1			
	Wyoming Department of Health																													
	<i>Wyoming Network for Telehealth (WyNETTE)</i>				I/23						I/10					P/8, I/4		P/2		P/1							I/23			HIV/AIDS P/5 Wound Care-I

Rehabilitation

Key to Abbreviations	
A	Audiology
OT	Occupational Therapy/medicine
PT	Physical Therapy
SLP	Speech Language Therapy/Pathology
PM	Physical Medicine/Physiatry
OTH	Other (Please Specify)

# Sources of Reimbursement

**OAT grantee organizations were asked to identify major sources of reimbursement for their projects available in their respective states. Their responses are indicated in this section.**

**N/A = Not Applicable/Not Available**



State	Organization	Medicare	Medicaid	Private Payor (Please Specify)	Other Contract (Please Specify)	Other Source
AK	Alaska Native Tribal Health Consortium	•	•	Blue Cross Aetna	IHS Contract Health	
	Alaska Psychiatric Institute (API)	•	•			
AL	University of South Alabama		•			
AR	University of Arkansas for Medical Sciences	•	•	Health Advantage Medicaid of Arkansas Medicaid of Texas AMCO Prudential Co of America Arkansas Blue Shield Qualchoice First Source United Healthcare Texnet Wadley Regional, Coresource Cigna Blue Advantage Aetna Tricare Premiercare Hlth Systems, Novasys Select Municipal Health Benefit Healthlink, Choicecare,		
AZ	Arizona Board of Regents, University of Arizona	•	•	Although almost all private payors in Arizona reimburse telemedicine services, the patients seen for clinical services in the ADVICE program have been uninsured to date.	Tobacco Tax Funding Indian Health Services	
	Maricopa County, Arizona					N/A
CA	California Telemedicine and eHealth Center					N/A
	Multi-Dimensional Imaging, Inc.					N/A
	Northern Sierra Rural Health Network	•	•	Blue Cross of California Blue Cross Healthy Families	Far Northern Regional Center	County Mental Health CMSP
CO	Avista Adventist Hospital					N/A
DC	Center for Telehealth and E-Health Law					N/A
	Foundation For eHealth Initiative					N/A
FL	University of Florida College of Dentistry (UFCD)					N/A
GA	Ware County Health Department					Specialty provider sites bill for their services and their facilities bill for facility fees but the public health presenters can not bill.

State	Organization	Medicare	Medicaid	Private Payor (Please Specify)	Other Contract (Please Specify)	Other Source
HI	Hawai'i Primary Care Association (HPCA)	•		HMSA AlohaCare Quest		
	The Queen's Medical Center					N/A
IA	Iowa Chronic Care Consortium					State of Iowa
IA	Mercy Foundation	•	•	Blue Cross/Blue Shield Midlands Choice Medipass American Republic Coventry Mail Handlers Corporate Systems Admin		
ID	Idaho State University, Institute of Rural Health		•			
	North Idaho Rural Health Consortium (NIRHC)		•			
	Public Hospital Cooperative, Inc.	•	•	Self-Pay Commercial		
IL	Illinois Department of Human Services					N/A
	The National Council of State Boards of Nursing					N/A
IN	Health & Hospital Corporation of Marion County					N/A
KS	University of Kansas Medical Center	•	•	Blue Cross/Blue Shield	Contract for service between Crawford County Mental Health Center and KUMC Child-Adolescent Psychiatry.	State-wide Telekidcare dollars
KY	Marcum & Wallace Memorial Hospital					N/A
	University of Kentucky Research Foundation—Kentucky TeleCare	•	•	Aetna, Anthem Blue Cross Blue Shield, Beechstreet PPO, UKHMO, CHA Health, Bluegrass Health Network, C&O Employee's Hospital Association, CCN PPO, CHAMPVA/Tricare, Cigna, Cooperative Care-Bluegrass Care Alliance, Community Health Partnership, Cumberland Health Care, Inc., Direct Care America, Evolution Healthcare Systems, General American, Harrod Community Health Plan, Hospice of the Bluegrass, Humana, National Provider Network PPO, One Health Plan, PPO Next/Healthstar/PHN, United Healthcare	Federal Prison, State Prison, State Public Health Dept. for TB Clinic Consultation	Medicare/Medicaid reimbursement only for certain CPT codes.  All private payor/commercial insurance companies are mandated by State of KY to reimburse for telehealth consultations in same manner as face-to-face consultations
ME	Eastern Maine Healthcare Systems	•	•	CIGNA/ETNA		
	Regional Medical Center at Lubec					N/A
MI	Altarum Institute					N/A
	Hurley Medical Center					N/A
	Marquette General Hospital					N/A

State	Organization	Medicare	Medicaid	Private Payor (Please Specify)	Other Contract (Please Specify)	Other Source
	Michigan State University					N/A
	Western Michigan University					N/A
MN	Fairview Health Services					N/A
	Tri-County Hospital	•	•	Blue Cross/Blue Shield of MN & Blue Plus Health Partners Medica & Medica Choice Preferred One Workers Compensation Select Care Ucare of MN		
	University of Minnesota	•	•	Blue Cross/Blue Shield of MN Health Partners Medica Preferred One Workers Compensation Select Care Ucare of Minnesota		
MO	Citizen's Memorial Hospital District					N/A
MT	Benefis Healthcare Foundation					N/A
	Billings Clinic Foundation					N/A
	Deaconess Billings Clinic Foundation					N/A
	Saint Patrick Hospital & Health Foundation					N/A
	Saint Vincent Healthcare Foundation	•	•	Blue Cross/Blue Shield of Montana/EBMS Paid by other insurances on case by case basis		Patient self pay
NC	Duke University Medical Center					N/A
ND	North Dakota State University College of Pharmacy, Nursing, and Allied Sciences					N/A

State	Organization	Medicare	Medicaid	Private Payor (Please Specify)	Other Contract (Please Specify)	Other Source
NE	Good Samaritan Hospital Foundation	•	•	Blue Cross/Blue Shield Mega Health State Farm Tri-Care American Republic Standard Life United Healthcare Physicians Mutual Avera Health Continental Life CBCA AARP Midlands Choice American Family State Mutual Equitable Life NY Life Cappe Union Bankers Aetna US Healthcare Tri-Care for Life Star Mark Federated Insurance Assurant GE Life & Annuity Principal Mutual of Omaha		
NJ	Saint Peter's University Hospital					N/A
NM	New Mexico Human Services Department					N/A
NY	Genesee Gateway Local Development Corporation, Inc.		•			N/A
	Long Island Association for Millennium Center for Convergent Technologies					N/A
	New York Presbyterian Hospital					N/A
	The Rosalind and Joseph Gurwin Jewish Geriatric Center of Long Island					N/A

State	Organization	Medicare	Medicaid	Private Payor (Please Specify)	Other Contract (Please Specify)	Other Source
OH	Case Western Reserve University					N/A
	Children's Hospital Medical Center of Akron					N/A
	Cincinnati Children's Hospital Medical Center					N/A
	Ohio Board of Regents					N/A
	Ohio State University Research Foundation (for the Ohio Supercomputer Center )					N/A
OK	INTEGRIS Health, Inc.		•		Fee for Service Contracts for Tele-speech services	
	OSU Center for Rural Health	•	•	Blue Cross/Blue Shield		
PA	Community Nurses Home Health and Hospice, Inc.					N/A
	Geisinger Clinic					N/A
	Good Samaritan Hospital Regional Medical Center					N/A
	Home Nursing Agency & Visiting Nurse Association					N/A
	Jewish Healthcare Foundation					N/A
	Mercy Health Partners					N/A
	Mercy Hospital of Pittsburgh					N/A
	Oil Region Alliance of Business, Industry, & Tourism					N/A
	Pennsylvania College of Optometry					N/A
	Penn State University					N/A
	Pennsylvania State University College of Medicine					N/A
	Pinnacle Health System					N/A
	Thomas Jefferson University					N/A
Tyrone Hospital					N/A	
Wayne Memorial Hospital					N/A	
SC	Advanced Technology Institute (ATI)	•	•			
SC	Voorhees College					N/A
SD	Avera Health	•	•	Uncertain		
TN	University Health System, Inc.					N/A
	University of Tennessee Health Science Center	•	•			
TX	Federation of State Medical Boards of the United States, Inc.					N/A
	Harris County Hospital District	•	•			
	University of Texas Health Science Center at San Antonio					N/A
	University of Texas Medical Branch Center to Eliminate Health Disparities	•	•		Counties, Dept. of Criminal Justice, other correctional systems.	
UT	Association for Utah Community Health					N/A

State	Organization	Medicare	Medicaid	Private Payor (Please Specify)	Other Contract (Please Specify)	Other Source
	Intermountain Healthcare					N/A
	University of Utah	•	•	Utah payers in general.	Department of Corrections.	
WA	Inland Northwest Health Services	•	•	Asuris Premera L&I Uniform Medical Plan PHCO	Contracts with hospitals receiving telepharmacy services	
	University of Washington	•	•	Plan to approach numerous payors as part of grant activities		Plan to approach IHS
	Yakima Valley Memorial Hospital					N/A

State	Organization	Medicare	Medicaid	Private Payor (Please Specify)	Other Contract (Please Specify)	Other Source
WI	La Crosse Medical Health Science Consortium					N/A
	Marshfield Clinic Telehealth Network	•	•	Security Health Plan Wisconsin Physicians Services General American JELD—Wen Benefits Midwest Security Adm. Family Health Center Workers Comp—Lineco. Group Health Aetna US Healthcare WEA Ins Trust SHP Medicaid Weathershield Corestar Insurance Co. United Healthcare Claim Management Services Select Benefits Ins. Medicare Veterans Administration Cigna Operating Engineers Corp Benefits Services of America NCHPP Wausau Insurance		
WV	Appalachian Pain Foundation					N/A
	Robert C. Byrd Center for Rural Health					N/A
	West Virginia University, Mountaineer Doctor TeleVision (MDTV)	•	•	Blue Cross/Blue Shield		
WY	Memorial Hospital of Laramie County dba Cheyenne Regional Medical Center	•				
	Wyoming Department of Health					N/A

# Program Settings

**For their respective projects, OAT grantee projects providing clinical telemedicine services were asked to identify the number of sites, the population of Health Professional Shortage Areas (HPSAs)/Medically Underserved Areas (MUAs) that those sites serve, and the number of sites their project has in the Program Settings categories given.**

**Program Settings categories include Assisted Living Facility, Federally Funded or Federally Qualified Community Health Center, Other Clinics, Correctional Institution, Home Care/Home Monitoring, Hospital, Hospice, Licensed Skilled Nursing Facility, Other Skilled Nursing Facility, Public Health Department, Physician Office, Schools, Non-health Institution (housing complex, workspace, community center), and Other.**

**Grantee responses are indicated in the following section.**

**N/A = Not Applicable / Not Available**

State	Program(s) Name	Number of Sites	# of HPSAs/MUAs / Approximate Population	Settings													
				Assisted Living Facility	Federally Funded or Federally Qualified Community Health Center	Other Clinics	Correctional Institution	Home Care/Home Monitoring (# of agencies in network/# of homes served)	Hospital	Hospice	Licensed Skilled Nursing Facility	Other Skilled Nursing Facilities	Public Health Department	Physician Office	Schools	Non-health Institution (housing complex, workplace, community center)	Other Settings (Please Specify)
AK	<b>Alaska Native Tribal Health Consortium</b>																
	<i>Continued Advancement of Telehealth Capacity in Alaska</i>	25	3 POP: 7,373				3				1				20		1 Indian Health Center
	<i>The Summative Telemedicine Evaluation Project</i>																N/A
	<b>Alaska Psychiatric Institute (API)</b>																
	<i>API TeleBehavioral Health Project</i>	9	7 POP: 85,001		5	1				3							Native Regional Health Corporations, Behavioral Health Providers (State of Alaska Only), Tribal Clinics.
AL	<b>University of South Alabama</b>																
	<i>Center for Strategic Health Innovation (CSHI) RMEDE/BioTrac Project</i>																N/A

State	Program(s) Name	Number of Sites	# of HPSAs/MUAs / Approximate Population	Settings														
				Assisted Living Facility	Federally Funded or Federally Qualified Community Health Center	Other Clinics	Correctional Institution	Home Care/Home Monitoring (# of agencies in network/# of homes served)	Hospital	Hospice	Licensed Skilled Nursing Facility	Other Skilled Nursing Facilities	Public Health Department	Physician Office	Schools	Non-health Institution (housing complex, workplace, community center)	Other Settings (Please Specify)	
	<i>Center for Strategic Health Innovation (CSHI) Traditional Telemedicine</i>	14	6 POP: 130,000						10					2			2	

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AR	University of Arkansas for Medical Sciences																
	South Arkansas Integrated Telehealth Oncology Program	140 State OAT 12	OAT GRANT SITES ONLY: 8 PC HPSA: 3 Mental: 11 Dental: 4 MUA/200,000		1	2					8			1			12 of the 140 statewide sites are specific for oncology
	Telehealth for KIDS (Kids in Delta Schools)	37	MUA/12 Pop 500,000		6	7	1			20				1		2	
AZ	Arizona Board of Regents,, University of Arizona																
	Arizona Diabetes Virtual Center for Excellence (ADVICE)	12	5 POP: 53,385		1	1		2	3						3	1	1-Mobile Clinic
	Institute for Advanced Telemedicine and Telehealth (THealth)																N/A
	Maricopa County, Arizona																
	Correctional Health Services Telemedicine Initiative	10					9										1 Administration Office
CA	California Telemedicine and eHealth Center																

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	<i>Western Regional Telehealth Resource Center</i>																	N/A
CA	<b>Multi-Dimensional Imaging, Inc.</b>																	
	<i>Telemedicine for Improved Health Care and Education</i>	6																6-Telemedicine Mobile services are taken offsite to service Non-health institutions
	<b>Northern Sierra Rural Health Network</b>																	
	<i>Telehealth Network Grant Program</i>	35	39 HPSAs 20 MUAs POP: 283,208		10	12				13								
CO	<b>Avista Adventist Hospital</b>																	
	<i>Clinical Integration Through Health Informatics</i>																	N/A

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DC	<b>Center for Telehealth and E-Health Law</b>															
	<i>National Telehealth Resource Center</i>															N/A
	<b>Foundation for eHealth Initiative</b>															
	<i>Connecting Communities for Better Health Program</i>															N/A

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FL	<b>University of Florida College of Dentistry (UFCD)</b>															
	<i>University of Florida College of Dentistry (UFCD)</i>	5	80 POP: 4,000,000													1(P) dental clinic 4 dental clinics
GA	<b>Ware County Health Department</b>															
	<i>Southeast Telehealth Network Program</i>	4	4 POP: 140,000						1				3			N/A
HI	<b>Hawai'i Primary Care Association (HPCA)</b>															
	<i>The Hawai'i CHC Telehealth Network Project</i>	18	HPCA = 12 MUA = 4 MUP = 13 POP: 1,257,608		18											
	<b>The Queen's Medical Center</b>															
	<i>Hawaii Neuroscience Telehealth Network</i>	3	HPSA/MUA: 1 POP: 162,000						3							
IA	<b>Iowa Chronic Care Consortium</b>															
	<i>Iowa Medicaid Population Disease Management Demonstration</i>	>200	56 POP: 3,057,530					>200								
	<b>Mercy Foundation</b>															

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				Assisted Living Facility	Federally Funded or Federally Qualified Community Health Center	Other Clinics	Correctional Institution	Home Care/Home Monitoring (# of agencies in network/# of homes served)	Hospital	Hospice	Licensed Skilled Nursing Facility	Other Skilled Nursing Facilities	Public Health Department	Physician Office	Schools	Non-health Institution (housing complex, workplace, community center)	Other Settings (Please Specify)	
	<i>Midwest Rural Telemedicine Consortium</i>	30	HPSA: 11 MUA: 12 POP: 640,000			1				25		1						3-Administrative/ Educational
ID	<b>Idaho State University</b>																	
	<i>Telehealth Idaho</i>	24	<b>36 HPSAs – POP: 330,424</b> 30 DPSAs – POP: 342,114 44 MPSAs – POP: 1,341,131 28 MUAs – POP: 258,795							17						2		Dental-1 State Assns-4
	<b>North Idaho Rural Health Consortium (NIRHC)</b>																	
	<i>Expanding Telehealth to North Idaho Districts (EXTEND)</i>	28	5 POP: 186,000			1				5						20		1-Behavioral Health 1-Pathology
	<b>Public Hospital Cooperative, Inc.</b>																	
	<i>Cooperative Telehealth Network (CTN)</i>	23	HPSA: 13 (mental health) POP: 150,000		1					13		9						

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				Assisted Living Facility	Federally Funded or Federally Qualified Community Health Center	Other Clinics	Correctional Institution	Home Care/Home Monitoring (# of agencies in network/# of homes served)	Hospital	Hospice	Licensed Skilled Nursing Facility	Other Skilled Nursing Facilities	Public Health Department	Physician Office	Schools	Non-health Institution (housing complex, workplace, community center)	Other Settings (Please Specify)
IL	<b>Illinois Department of Human Services</b>																
	<i>Illinois Developmental Disabilities Telehealth Network and Services: A Program Dedicated to Optimizing Health and Support of Community Living</i>	4	4 POP: 184,903												4		
	<b>The National Council of State Boards of Nursing</b>																
	<i>Moving Toward Portability: Uniform Core Licensure Standards for Nursing</i>																N/A
IN	<b>Health &amp; Hospital Corporation of Marion County</b>																
	<i>Congressionally-Mandated Telehealth Grants</i>	5	12 POP: 104,479			4			1								
KS	<b>University of Kansas Medical Center</b>																
	<i>Sustainability and Cost Benefit Evaluation of the Kansas Telehealth Network</i>	12	7 POP: 233,775			1			4		1		1	1			1 State Hospital 3 AHECs

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				Assisted Living Facility	Federally Funded or Federally Qualified Community Health Center	Other Clinics	Correctional Institution	Home Care/Home Monitoring (# of agencies in network/# of homes served)	Hospital	Hospice	Licensed Skilled Nursing Facility	Other Skilled Nursing Facilities	Public Health Department	Physician Office	Schools	Non-health Institution (housing complex, workplace, community center)	Other Settings (Please Specify)	
	<i>Telehealth Access and Cost Benefit in Kansas</i>	15	HPSA: 12 Counties POP: 237,388		2	1				7								3 AHECs 2 Ed. Coop (80 Schools)
KY	<b>Marcum &amp; Wallace Memorial Hospital</b>																	
	<i>Teleradiology Enhancement Project</i>	3	HPSA: 6 MUA: 7 POP: 78,000								3							
	<b>University of Kentucky Research Foundation—Kentucky TeleCare</b>																	
	<i>Improving Health Outcomes for Children in Rural Kentucky Schools</i>	31	HPSA: 7 POP: 360,884		4	5	5			3						13		Alliance Coal Mobile 1
ME	<b>Eastern Maine Healthcare Systems</b>																	
	<i>Improving Rural Maine's Critical Access to Emergency &amp; Chronic Disease Care Through Telehealth/Monitoring</i>	16	HPSA: 3 POP: 500,000					5/2000	11									

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ME	<b>Regional Medical Center at Lubec</b>															
	<i>Maine Nursing Home Telehealth Network</i>	12	57 POP: 213,970			3				2		6			1	
	<i>Northeast Telehealth Resource Center</i>															N/A
MI	<b>Altarum Institute</b>															
	<i>Concepts for a Michigan Health Information Network (MIHIN)</i>															N/A
	<b>Hurley Medical Center</b>															
	<i>Clinical Information System Replacement Project</i>															N/A
	<b>Marquette General Hospital</b>															
	<i>Midwest Alliance for Telehealth and Technologies Resources</i>															N/A
	<b>Michigan State University</b>															
<i>Telehospice in Mid-Michigan</i>	20	2 POP: 282,030							20							
<b>Western Michigan University</b>																



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				Assisted Living Facility	Federally Funded or Federally Qualified Community Health Center	Other Clinics	Correctional Institution	Home Care/Home Monitoring (# of agencies in network/# of homes served)	Hospital	Hospice	Licensed Skilled Nursing Facility	Other Skilled Nursing Facilities	Public Health Department	Physician Office	Schools	Non-health Institution (housing complex, workplace, community center)	Other Settings (Please Specify)
MN	<b>Fairview Health Services</b>																
	<i>Ambulatory Electronic Medical Record System—Twin Cities Metropolitan Care Systems</i>																N/A
	<b>Tri-County Hospital</b>																
	<i>Telehealth Network Grant Program</i>	40	HPSA: 14 pHPSA: 9 MUA: 21 pMUA: 10 Mental Health HPSA: 37 Dental Health HPSA: 26 POP: 650,000			4		3	31		1						1 Community Behavioral Health Hospital; Involving 39 MN and 8 ND Counties with 7 American Indian Reservations
	<b>University of Minnesota</b>																
	<i>Fairview – University of Minnesota Telemedicine Network</i>	17	25 POP: 575,000			2		2	11				1				1 Indian Reservation Clinic
MO	<b>Citizen's Memorial Hospital District</b>																

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	<i>Project Infocare: In-Home Telemanagement</i>	6	5/4, 1 dental POP: 80,000	4 homes				1		1								

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MT	<b>Benefis Healthcare Foundation</b>																
	<i>NMHA/REACH Telehealth Network Development Project</i>	108	9 POP:1133,646		1	1		94	1				1				10 Critical Access Hospital/SNF attached
	<b>Billings Clinic Foundation</b>																
	<i>Effect of an Integrated CIS on Inpatient and Post-Discharge Medication Administration Errors and Chronic Disease Management</i>																N/A
	<b>Deaconess Billings Clinic Foundation</b>																
	<i>Revolutionizing Diabetes Care at Billings Clinic: A Model for Chronic Disease Care</i>																N/A
	<b>Saint Patrick Hospital &amp; Health Foundation</b>																
<i>Bringing Healthcare Home</i>	55	4 POP: 10,732					55										

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				Assisted Living Facility	Federally Funded or Federally Qualified Community Health Center	Other Clinics	Correctional Institution	Home Care/Home Monitoring (# of agencies in network/# of homes served)	Hospital	Hospice	Licensed Skilled Nursing Facility	Other Skilled Nursing Facilities	Public Health Department	Physician Office	Schools	Non-health Institution (housing complex, workplace, community center)	Other Settings (Please Specify)	
	Montana Cardiology Telemedicine Network	16	11 POP: 66,061						11						5			

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				Assisted Living Facility	Federally Funded or Federally Qualified Community Health Center	Other Clinics	Correctional Institution	Home Care/Home Monitoring (# of agencies in network/# of homes served)	Hospital	Hospice	Licensed Skilled Nursing Facility	Other Skilled Nursing Facilities	Public Health Department	Physician Office	Schools	Non-health Institution (housing complex, workplace, community center)	Other Settings (Please Specify)
MT	<b>St. Vincent Healthcare Foundation</b>																
	<i>Mansfield Health Education Center (MHEC)</i>																N/A
	<i>Northwest Regional Telehealth Resource Center</i>																N/A
NC	<b>Duke University Medical Center</b>																
	<i>Improving Care Quality and Coordination through Patient Inclusion in a Community-Based Telehealth Network</i>	16	HPSA: 1 MUA: 1 POP: 17,669		1	10				2				1			1 (Department of Social Services)
	<i>Augmenting Healthcare through Patient Participation in a Rural Community-Based Telehealth Network</i>	38	HPSA: 4 MUA: 5 POP: 17,923		2	22				3				5			5 (Department of Social Services)
ND	<b>North Dakota State University College of Pharmacy, Nursing, and Allied Sciences</b>																
	<i>North Dakota Telepharmacy Project</i>	57	29 POP: 40,000							13							Retail Pharmacies 44

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NE	<b>Good Samaritan Hospital Foundation</b>																
	<i>Mid-Nebraska Telemedicine Network (MNTN)</i>	20	20 POP: 187,471						20								
NJ	<b>Saint Peter's University Hospital</b>																
	<i>Medical Technology Center for Infants and Children</i>																N/A
NM	<b>New Mexico Human Services Department</b>																
	<i>New Mexico Tele-Behavioral Health Improvement Project</i>	5	5 POP: 173,150										5				
NY	<b>Genesee County Local Development Corporation, Inc.</b>																
	<i>Upstate New York Telemedicine Study</i>	3	HPSA: 3 POP: 110,209						3								
	<b>Long Island Association for Millennium Center for Convergent Technologies</b>																

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	<i>An Electronic Clinical Trial System to Reduce Drug Development Costs</i>																	N/A
NY	<b>New York Presbyterian Hospital</b>																	
	<i>Systems Technology Interfacing Teaching and Community Hospitals (STITCH)</i>																	N/A
	<b>Research Foundation, State University of New York (SUNY) at Buffalo</b>																	
	<i>Telehealth New York</i>	55	16 Full HPSA 6 MUA POP: 267,029				53			2								
OH	<b>The Rosalind and Joseph Gurwin Jewish Geriatric Center of Long Island</b>																	
	<i>Demonstration of Implementation of Electronic Medical Record in Skilled Nursing Facility</i>																	N/A
	<b>Case Western Reserve University</b>																	

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	<i>NetWellness</i>																	N/A	
OH	<b>Children's Hospital Medical Center of Akron</b>																		
	<i>Tele-Health-Kids</i>	7	HPSA: 1 (partial) POP: 168,000						1					4	2				
	<b>Ohio Board of Regents</b>																		
	<i>Medical Collaboration Network</i>	6								6								Approximately 100 Colleges and Universities across Ohio in addition to their medical schools and associated teaching hospitals.	
	<b>Ohio State University Research Foundation (for the Ohio Supercomputer Center)</b>																		
	<i>Computational Approaches to Research on Cancer in Children and Others</i>																		N/A

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OK	<b>OSU Center for Rural Health</b>																
	<i>Rural Oklahoma Telemedicine Service Expansion</i>	30	10 POP: 600,000			4				26							
	<b>Community Nurses Home Health and Hospice, Inc.</b>																
	<i>Home Telehealth</i>	184	HPSA: 4 POP: 87,000					2 Agencies 182 Homes									
PA	<b>Geisinger Clinic</b>																
	<i>Developing a Stroke Care Educational Program for Rural Pennsylvania</i>	12	0 POP: 1,523,932						5				6			One Mobile Unit	

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PA	<b>Good Samaritan Hospital Regional Medical Center</b>																	
	<i>Schuylkill Alliance for Health Care Access</i>																N/A	
	<b>Home Nursing Agency &amp; Visiting Nurse Association</b>																	
	<i>Telehealth Network Grant</i>	3	HPSA: 94 MUA: 42 POP: 109,831					3/400										
	<b>Jewish Healthcare Foundation</b>																	
	<b>Reinventing Healthcare: the Application of the Pittsburgh Regional Healthcare Initiative's Perfecting Patient Care (PPC) System to Chronic Medical Conditions</b>																	N/A
	<b>Mercy Health Partners</b>																	
	<i>Using Information Technology to Enhance Patient Safety</i>																	N/A
	<b>Mercy Hospital of Pittsburgh</b>																	

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	<i>Mobile Clinician Project</i>																	N/A
	<b>Oil Region Alliance of Business, Industry &amp; Tourism</b>																	
	<i>The Venango Center for Healthcare Careers (VCHC)</i>																	N/A
	<b>Penn State University</b>																	
	<i>Digital Informatics and Communications System</i>	3	N/A						3									
	<b>Pennsylvania State University College of Medicine</b>																	
	<i>Physician-Scientist Initiative</i>																	N/A
	<b>Pinnacle Health System</b>																	
	<i>Reducing Variability to Deliver Safe Care</i>																	N/A

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PA	<b>SUN Home Health Services</b>																
	<i>SUN Home Health Services Network</i>	9	Not Applicable					9/77									
	<b>Susquehanna Health System</b>																
	<i>Regional Electronic Medical Record</i>																N/A
	<b>Thomas Jefferson University</b>																
	<i>Integrative Medicine Informatics Feasibility Project</i>																N/A
	<b>Tyrone Hospital</b>																
	<i>Integrative Medicine Informatics Feasibility Project</i>																N/A
<b>Wayne Memorial Hospital</b>																	
<i>Improving Medication and Patient Safety</i>																	N/A
SC	<b>Advanced Technology Institute (ATI)</b>																
	<i>Healthcare and Emergency Awareness Response for Telehealth (HEART) Phase II</i>	5	4 POP: 193,000		5												
	<b>Voorhees College</b>																

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	<i>Developing a Telehealth Infrastructure to Address Health Disparities Through Education and Training</i>																N/A
SD	<b>Avera Health</b>																
	<i>Avera Rural and Frontier Disease Management Telehealth Network</i>	35	21 POP: 280,000 (31-Mental Health)		1 CHC			1 Agency 12 Homes	15					4			2 (ARHI, Southwest Mental Health)
	<i>Great Plains Telehealth and Resource Center (TRAC)</i>																N/A
	<b>University of Tennessee Health Science Center</b>																
	<i>Delta Health Partnership</i>	7	5 POP: 200,000			4			1								University-2
	<i>Mid-Appalachia Telehealth Project</i>	127	3 POP: 80,000					2 Agency 115 Homes	3				2	1	4		
<i>Mid-South Telehealth Consortium</i>	5	3 POP: 32,000			3			2									

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	<i>Telehealth for Diabetic Patients in Hispanic and Underserved Rural Communities</i>																	N/A
TX	<b>Federation of State Medical Boards of the United States, Inc.</b>																	
	<i>Medical Licensure Portability to Facilitate Multi-State Telehealth Practice</i>																	N/A
	<b>Harris County Hospital District</b>																	
	<i>Specialty Access Through Telmedicine (SA++)</i>	2	HPSA: 4 MUA: 2 POP: 106,575		1	1												

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TX	<b>University of Texas Health Science Center at San Antonio</b>																
	<i>Diabetes Risk Reduction via Community Based Telemedicine (DiRReCT)</i>	9	4 POP: 54,000												9		
	<b>University of Texas Medical Branch Center to Eliminate Health Disparities</b>																
	<i>The Texas Telehealth Disparities Network</i>	3	Galveston Co.: PMSA 12 CSA 79 (POP: 250,000) Cameron Co.: MSA 6 HPSA & MUA (POP: 365,000) Smith Co.: MSA 24 (POP: 174,706)						1			1 P		1			
UT	<b>Association for Utah Community Health (AUCH)</b>																

State	Program(s) Name	Number of Sites	# of HPSAs/MUAs / Approximate Population	Settings													
				Assisted Living Facility	Federally Funded or Federally Qualified Community Health Center	Other Clinics	Correctional Institution	Home Care/Home Monitoring (# of agencies in network/# of homes served)	Hospital	Hospice	Licensed Skilled Nursing Facility	Other Skilled Nursing Facilities	Public Health Department	Physician Office	Schools	Non-health Institution (housing complex, workplace, community center)	Other Settings (Please Specify)
	<i>Association for Utah Community Health Telehealth Program</i>	16	HPSA: 36 MUA: 15 POP: 960,000		16												
	<b>Intermountain Healthcare</b>																
	<i>HRSA Telemedicine Pilot Program for Interpreting Services for the Deaf</i>	10							10								
	<b>University of Utah</b>																
	<i>Utah Telehealth Network Comprehensive Telehealth Services</i>	16	10 POP: 180,000		4	1	1		8				2				

State	Program(s) Name	Number of Sites	# of HPSAs/MUAs / Approximate Population	Settings													
				Assisted Living Facility	Federally Funded or Federally Qualified Community Health Center	Other Clinics	Correctional Institution	Home Care/Home Monitoring (# of agencies in network/# of homes served)	Hospital	Hospice	Licensed Skilled Nursing Facility	Other Skilled Nursing Facilities	Public Health Department	Physician Office	Schools	Non-health Institution (housing complex, workplace, community center)	Other Settings (Please Specify)
WA	<b>Inland Northwest Health Services</b>																
	<i>Northwest Telehealth--TeleER</i>	14	HPSA: 12 MUA: 201 POP: 108,000						14								
	<i>Northwest Telehealth--Telepharmacy</i>	10	HPSA: 9 POP: 492,000						10								
	<b>University of Washington</b>																
	<i>Native People for Cancer Control Telehealth Network</i>	7+	HPSA: 9 MUA: 6 Eligible Service Population: 180,917		6+				1								
WI	<b>La Crosse Medical Health Science Consortium</b>																
	<i>Virtual Population Health Centers in the Rural Midwest</i>																N/A

State	Program(s) Name	Number of Sites	# of HPSAs/MUAs / Approximate Population	Settings													
				Assisted Living Facility	Federally Funded or Federally Qualified Community Health Center	Other Clinics	Correctional Institution	Home Care/Home Monitoring (# of agencies in network/# of homes served)	Hospital	Hospice	Licensed Skilled Nursing Facility	Other Skilled Nursing Facilities	Public Health Department	Physician Office	Schools	Non-health Institution (housing complex, workplace, community center)	Other Settings (Please Specify)
WI	<b>Marshfield Clinic Telehealth Network</b>																
	<i>Marshfield Clinic Telehealth Network</i>	29	22 POP: 1,036,035			16	1	2	1		2			1			4 Dental Clinics 2 Food Safety Labs
	<i>Marshfield Clinic Telehealth Network 2006</i>	38	22 POP: 1,036,035			19	1		1		2				1		4 Dental Clinics 10 Head Start Classrooms-P
WV	<b>Robert C. Byrd Center for Rural Health</b>																
	<i>Marshall University Southern West Virginia Rural Outreach Project</i>	8	18 HPSAs, 16 MUAs POP: 602,882		2				1				1		1		1 Preventive Health Mobile Medical Unit (P)/ 1 Pediatric Mobile Medical Unite
WY	<b>Memorial Hospital of Laramie County dba Cheyenne Regional Medical Center</b>																
	<i>Regional Expansion of Telehealth and Distance Learning</i>	5	5 POP: 35,700						5								
	<b>Wyoming Department of Health</b>																

State	Program(s) Name	Number of Sites	# of HPSAs/MUAs / Approximate Population	Settings												
				Assisted Living Facility	Federally Funded or Federally Qualified Community Health Center	Other Clinics	Correctional Institution	Home Care/Home Monitoring (# of agencies in network/# of homes served)	Hospital	Hospice	Licensed Skilled Nursing Facility	Other Skilled Nursing Facilities	Public Health Department	Physician Office	Schools	Non-health Institution (housing complex, workplace, community center)
	Wyoming Network for Telehealth (WyNETTE)	63	18 POP: 250,000		2	8		23	28				2			

# **Technology and Transmission**

**All OAT grantees were asked if they used Store and Forward technology, Internet Protocols (IP), Internet/World Wide Web, Wireless Technology, and/or Broadband Transmission in delivery of their services. (Definitions are provided at the end of the table). Grantees were also asked to give a brief explanation of the purposes for the use of the transmission technology.**

**Their responses are indicated in the following section.**

**N/A = Not Applicable/Not Available**

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
AK	<b>Alaska Native Tribal Health Consortium</b>						
	<i>Continued Advancement of Telehealth Capacity in Alaska</i>	All services except mental health	All network communication relies on IP. No ISDN	Internet used for Store & Forward (S&F) with encryption	All S&F systems use encrypted wireless within clinics	Most clinics have broadband for S&F, video	
	<i>The Summative Telemedicine Evaluation Project</i>			Electronic mail and solicitation of survey responses for Evaluation project			
	<b>Alaska Psychiatric Institute (API)</b>						
	<i>API TeleBehavioral Health Project</i>		TCP/IP, to deliver behavioral health services to remote villages in Alaska			Fiber Optic Terrestrial Links T-1 & Satellite to deliver behavioral health services to remote villages in Alaska	
AL	<b>University of South Alabama</b>						
	<i>Center for Strategic Health Innovation (CSHI) RMEDE/BioTrac Project</i>			Claims Management Physician information portal Training/demos		Required for most applications via web	Biomonitoring via Plain Old Telephone System (POTS)
	<i>Center for Strategic Health Innovation (CSHI) Traditional Telemedicine</i>		Education Programs/Consults			Medical Consults/Education Programs	
AR	<b>University of Arkansas for Medical Sciences</b>						
	<i>South Arkansas Integrated Telehealth Oncology Program</i>	Radiology	T1 lines for compressed video transmission	Continuing education for health care professionals	Angel Eye to view neonates at UAMS from parents' home/work/community	Transmit real-time voice/video to all sites	
	<i>Telehealth for KIDS (Kids in Delta Schools)</i>	Home Telemonitoring	T1 Lines for compressed video transmission	Continuing education for health care professionals		Transmit real-time voice/video to all sites	

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
AZ	<b>Arizona Board of Regents, University of Arizona</b>						
	<i>Arizona Diabetes Virtual Center for Excellence (ADVICE)</i>	Ophthalmology	H.323 Video for Telenutrition, Telepodiatry & Interactive Telehealth	Web Site & Streaming Video archives of diabetes education sessions	Used in Amado, AZ for Telenutrition, Telepodiatry to connect mobile clinic and for Diabetes Education to Saporì School	All connections are broadband at T1 rates	
	<i>Institute for Advanced Telemedicine and Telehealth (THealth)</i>		H.323—education	Web Site & Video Streaming of educational sessions		All connections are broadband at T1 rates for education and training	
CA	<b>California Telemedicine and eHealth Center</b>						
	<i>Western Regional Telehealth Resource Center</i>						N/A

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
CA	<b>Multi-Dimensional Imaging, Inc.</b>						
	<i>Telemedicine for Improved Health Care and Education</i>	Radiology	IP for clinical services and patient education	To be used for Patient Health Education and Behavioral Medicine and administrative services	Satellite to connect Hub to Spoke and vice versa for tele-health consultations with graphic patient image transfer and health education	T1 based land-link to complete connection between satellite, spoke and hub for tele-health consultations and graphic patient education	
	<b>Northern Sierra Rural Health Network</b>						
	<i>Telehealth Network Grant Program</i>	Planned Dermatology	IP for clinical services and for education over T1 lines to rural sites			ISDN for video consults and education. T1 for IP video for consults and education	
CO	<b>Avista Adventist Hospital</b>						
	<i>Clinical Integration Through Health Informatics</i>		Remote Desktop Protocol and Virtual Private Network	e-faxing prescriptions to pharmacies	Laptops in clinics		

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
DC	<b>Center for Telehealth and E-Health Law</b>						
	<i>National Telehealth Resource center</i>						N/A
	<b>Foundation For eHealth Initiative</b>						
	<i>Connecting Communities for Better Health Program</i>						N/A
FL	<b>BayCare Health System</b>						
	<i>Electronic Medication and Clinical Services Ordering Subsystem</i>	Radiology		Physicians have access to patients' results, dictated reports, and financial information on the web through BayCare MD	Within each hospital site. Wireless laptops for ER registration; physicians use handheld devices for patient lists and lab/radiology results		
	<b>Florida Cancer Research Cooperative, University of South Florida</b>						
	<i>Clinical Trial Patient/Physician Information and Education Program</i>	Store of patient profiles for later review and consultation	Extranet call center connectivity	Distribution of clinical trial information			
FL	<b>University of Florida College of Dentistry (UFCD)</b>						

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
	<i>University of Florida College of Dentistry (UFCD)</i>	Distance Learning: Video conferencing & presentation with satellite offices/clinics- Teledentistry Consultation: For capturing, reviewing, manipulation and storing of biopsies. Digital Radiography: For capturing, reviewing, manipulation and storing digital X-ray images.	Distance Learning: Used for eLearning, eTransaction & Video conferencing for consultation. Digital Radiography: For transmitting, retrieving, and storing digital x-ray images.	Distance Learning: eLearning & eTransaction presentation. Teledentistry Consultation: Interactive consultation via Web. Real-time streaming of consultation practices. Digital Radiography: For retrieving & reviewing digital x-ray via QR Web front end system.	Distance Learning: For accessing eLearning & eTransaction modules within dental science building. Can be used for teledentistry consultation from within dental science building. Digital Radiography: Can be used to access digital radiographs stored via QR system.	Distance Learning: T1 (1.5mps) access to some clinics (St. Petersburg and Hialeah) and Ds3/T3 to Jax from Gainesville. Teledentistry Consultation: T1 (1.5mps) access to some clinics (St. Petersburg and Hialeah) and DS3/T3 to Jax from Gainesville. Digital Radiography: Broadband access speed within dental science building is 10/100/1000 mps.	
GA	<b>Ware County Health Department</b>						
	<i>Rural Health Telemedicine Grant Program</i>					Broadband LAN to connect telemedicine and telehealth sites for clinical consultations and distance learning	
	<i>Southeast Telehealth Network Project</i>		All Technology used set to recognize IP-Network made up of direct point to point T1 lines to link sites				
HI	<b>Hawai'i Primary Care Association</b>						
	<i>The Hawai'i CHC Telehealth Network Project</i>	Telederm	ISDN/T1 Video Conferencing	Telderm		ISDN/T1 Video Conferencing	

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
HI	<b>The Queen's Medical Center</b>						
	<i>Hawaii Neuroscience Telehealth Network</i>		IP real-time video for neurologic examination and review of head CT scans	ASP web server for managing video connectivity	Wireless video camera and wireless MESH LAN within rural emergency departments	Broadband terrestrial lines for IP video	
IA	<b>Iowa Chronic Care Consortium</b>						
	<i>Iowa Medicaid Population Disease Management Demonstration</i>			Patient data reports for care management			POTS for AVR system and care management
	<b>Mercy Foundation</b>						
	<i>Midwest Rural Telemedicine Consortium</i>					ISDN-PRI Interactive telemedicine sessions, education and administrative services	
ID	<b>Clearwater Valley Hospital and Clinics, Inc.</b>						
	<i>Clearwater Valley Hospital: Electronic Medical Records</i>		WAN to share software	VPN to share EMR, radiology, digital library	Connect clinics to share EMR	Connect hospitals to share EMR	
	<b>Idaho State University, Institute of Rural Health</b>						
	<i>Telehealth Idaho</i>	Planned wound care, dermatology	The majority of IP applications with partner sites are educational due to limits on bandwidth	Telehealth Idaho Toolbox	We are examining wireless LANs for use within facilities		Educational telecommunications mental health, EHR
	<b>North Idaho Rural Health Consortium (NIRHC)</b>						
	<i>Expanding Telehealth to North Idaho Districts (EXTEND)</i>	Radiology	Pharmacy Education Mental health	Pathology	Electronic Medical Record	Rehab (OT/PT)	
	<b>Public Hospital Cooperative, Inc.</b>						

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
	<i>Cooperative Telehealth Network (CTN)</i>		IP for clinical services and for education over T1 terrestrial lines to rural towns				

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
IL	<b>Illinois Department of Human Services</b>						
	<i>Illinois Developmental Disabilities Telehealth Network and Services A Program Dedicated to Optimizing Health and Support of Community Living</i>		IP for clinical services and for education over T1 terrestrial lines to rural towns				
	<b>The National Council of State Boards of Nursing</b>						
	<i>Moving Toward Portability: Uniform Core Licensure Standards for Nursing</i>						N/A
IN	<b>Health &amp; Hospital Corporation of Marion County</b>						
	<i>Congressionally-Mandated Telehealth Grants</i>	Picture Archive Communication System (PACS)	IP throughout hospital and clinics	Clinics use Web access to PACS		Broadband throughout hospital and clinics	
KS	<b>University of Kansas Medical Center</b>						
	<i>Sustainability and Cost Benefit Evaluation of the Kansas Telehealth Network</i>	Pediatric Echo	IP for clinical services and for education over Kan-ED	Community and patient educational programs		ISDN	
	<i>Telehealth Access and Cost Benefit in Kansas</i>	Pediatric Echo	IP for clinical services and for education over Kan-ED	Community and patient educational programs		ISDN	
KY	<b>Marcum &amp; Wallace Memorial Hospital</b>						

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
	<i>Teleradiology Enhancement Project</i>	Radiology	T1 Line between Lourdes, Marcum & Wallace Memorial Hospital and Radiologist sites for transmission/archival of radiology procedures	Internet/Web access for physician to review procedures/reports			
ME	<b>Eastern Maine Healthcare Systems</b>						
	<i>Improving Rural Maine's Critical Access to Emergency &amp; Chronic Disease Care Through Telehealth/Monitoring</i>	POTS to homes	IP connection for clinical services and for education over T1 terrestrial lines to rural areas			ISDN Connection to rural areas with little or no bandwidth	
	<b>Regional Medical Center at Lubec</b>						
	<i>Maine Nursing Home Telehealth Network</i>						ISDN for video-conferencing for clinical, educational, and administrative services
	<i>Northeast Telehealth Resource Center</i>			For client agency access to information on project services and to telehealth educational resources and protocols	C-band satellite downlink for educational program access		ISDN for project management and for service conferences and trainings with TRC client organizations
MI	<b>Altarum Institute</b>						
	<i>Concepts for a Michigan Health Information Network (MiHIN)</i>						N/A

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
	<b>Hurley Medical Center</b>						
	<i>Clinical Information System Replacement Project</i>		IP for clinical services	Web browser access for remote users of the clinical system; remote users connect using secure VPN access		WAN-remote facilities connected by T1s on a SONET	

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
MI	<b>Marquette General Hospital</b>						
	<i>Midwest Alliance for Telehealth and Technologies Resources</i>		IP for educational programs and administrative meetings				
	<b>Michigan State University</b>						
	<i>Telehospice in Mid-Michigan</i>						POTS-based video phones for hospice patient and nurse communication
	<b>Western Michigan University</b>						
	<i>The Application of Tele-Allied Health in Rural Counties in Southwest Lower Michigan</i>		Allied Health Consults				
MN	<b>Fairview Health Services</b>						
	<i>Ambulatory Electronic Medical Record System – Twin Cities Metropolitan Care Systems</i>		Epic System on PCs with W2003 Citrix Servers, IBM AIX Servers, CACHE DBMS, Hitachi SAN	Physician Internet Portal used to access Epic Electronic Medical Record System		WAN with T1 and OS3 transmission systems	
	<b>Tri-County Hospital</b>						
	<i>Telehealth Network Grant Program</i>		Secure IP protocol with quality of service for clinical consults			T1, DSL, and DS3	
	<b>University of Minnesota</b>						
	<i>Fairview – University of Minnesota Telemedicine Network</i>	Dermatology	Secure IP protocol with quality of service for clinical consults	Secure web site for dermatology and orthopedics		ISDN/2 sites for conducting consults	
MO	<b>Citizen's Memorial Hospital District</b>						

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
	<i>Project Infocare: In-Home Telemanagement</i>	PACS—Digital Radiology	IP Protocols used for transmission of info from public telephone to EMR	Citrix Secure Gateway over public internet for providing viewing of info in EMR	Employed to facilitate access to info within WAN	WAN wide-area network connecting provider and facilities	Public telephone used to transmit data from patient's home to EMR

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
MT	<b>Benefis Healthcare Foundation</b>						
	<i>NMHA/REACH Telehealth Network Development Project</i>		IP for clinical services and for education over T1 terrestrial lines to rural towns				
	<b>Billings Clinic Foundation</b>						
	<i>Effect of an Integrated CIS on Inpatient and Post-Discharge Medication Administration Errors and Chronic Disease Management</i>				Physicians use laptops to manage patients		
	<b>Deaconess Billings Clinic Foundation</b>						
	<i>Revolutionizing Diabetes Care at Billings Clinic: A Model for Chronic Disease Care</i>						N/A
	<b>Saint Patrick Hospital &amp; Health Foundation</b>						
	<i>Montana Cardiology Telemedicine Network</i>	Storing of ECG & Echo images	IP for clinical services over T1 terrestrial lines to rural towns	Cardiology consults			
	<i>Bringing Healthcare Home</i>	Storing of vital signs in EMR	IP for clinical services over POTS to rural towns				
	<b>Saint Vincent Healthcare Foundation</b>						
<i>Mansfield Health Education Center (MHEC)</i>			Connection for Marketing and Educational Services and Telemedicine				

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
	<i>Northwest Regional Telehealth Resource Center</i>	Various members of the NRTRC use these transmission protocols for network service	Various members of the NRTRC use these transmission protocols for network service	Various members of the NRTRC use these transmission protocols for network service	Various members of the NRTRC use these transmission protocols for network service	Various members of the NRTRC use these transmission protocols for network service	Various members of the NRTRC use these transmission protocols for network service
NC	<b>Duke University Medical Center</b>						
	<i>Improving Care Quality and Coordination through Patient Inclusion in a Community-Based Telehealth Network</i>		Health information and notification; system synchronization	Health information and notification	Health information and system synchroniz-ation	Health information and system synchronization	
	<i>Augmenting Healthcare through Patient Participation in a Rural Community-Based Telehealth Network</i>		Health information and notification; system synchronization	Health information and notification	Health information and system synchroniza-tion	Health information and system synchronization	
ND	<b>North Dakota State University College of Pharmacy, Nursing, and Allied Sciences</b>						
	<i>North Dakota Telepharmacy Project</i>			Prescription Services to patients in rural areas			
NE	<b>Good Samaritan Hospital Foundation</b>						
	<i>Mid-Nebraska Telemedicine Network (MNTN)</i>	Radiology	IP for clinical services and education over T1 terrestrial lines to rural towns			Within the hospital for the mobile telemedicine cart for Spanish interpretive services	ISDN for Education and some clinical services
NJ	<b>Saint Peter's University Hospital</b>						
	<i>Medical Technology Center for Infants and Children</i>						N/A

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
NM	<b>New Mexico Human Services Department</b>						
	<i>New Mexico Tele-Behavioral Health Improvement Project</i>		For 3 sites: T1 DS1 lines; for 2 sites Checs Backbone 1 MB for psychiatric services				
NY	<b>Genesee Gateway Local Development Corporation, Inc.</b>						
	<i>Upstate New York Telemedicine Study</i>		Secure IP for clinical services		802.11 a/b/g for mobility within the ED to treat stroke victims	T-1 connection for videoconferencing and transmittal of radiological data	
	<b>Long Island Association for Millennium Center for Convergent Technologies</b>						
	<i>An Electronic Clinical Trial System to Reduce Drug Development Costs</i>		IP for communication between SB Computer Science, SBUH and LifeTree	Trial data entered via secure Website		Broadband for communication between SBUH and LifeTree	
	<b>New York Presbyterian Hospital</b>						
	<i>Systems Technology Interfacing Teaching and Community Hospitals (STITCH)</i>		IP for clinical services exchange to other sites			Exchange of clinical data	
	<b>The Rosalind and Joseph Gurwin Jewish Geriatric Center of Long Island</b>						
<i>Demonstration of Implementation of Electronic Medical Record in Skilled Nursing Facility</i>		To submit clinical information to acute care hospitals					

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
OH	<b>Case Western Reserve University</b>						
	<i>NetWellness</i>		Consumer Health Information	Consumer Health Information			
	<b>Children's Hospital Medical Center of Akron</b>						
	<i>Tele-Health-Kids</i>	Uses input from digital camera and electronic stethoscope for clinical assessments	IP for clinical services			Broadband LAN	Real-time close-up video and additional history obtained by physician via conference interaction or telephone
	<b>Ohio Board of Regents</b>						
	<i>Medical Collaboration Network</i>		H.323 videoconferencing w/ H.264 Codec; HD videoconferencing	Continuing Medical Education web site shared by 7 medical schools; Web interface to drug discovery software		Gigabit Ethernet links from OC-48 backbone to hospital, college, and university sites	
	<b>Ohio State University Research Foundation (for the Ohio Supercomputer Center)</b>						
<i>Computational Approaches to Research on Cancer in Children and Others</i>		Utilize secure transport protocols for clinical data	De-identified information access	De-identified information access	De-identified information access		

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
OH	<b>Southern Consortium for Children</b>						
	<i>Southern Ohio Telepsychiatric Network</i>		IP for clinical services and for education over T1 terrestrial lines to rural towns	Streaming video website for CEUs; Teenline website (crisis hotline)		Connect physician office to rural MH clinic for telepsychiatry	Fiber Optic connects one MH facility for clinical services & education. Cable connects one MH facility for clinical services & education
OK	<b>OSU Center for Rural Health</b>						
	<i>Rural Oklahoma Telemedicine Service Expansion</i>		IP for clinical services and CME over T1 terrestrial lines to rural areas				
PA	<b>Community Nurses Home Health and Hospice, Inc.</b>						
	<i>Home Telehealth</i>					Telehealth visits	
	<b>Geisinger Clinic</b>						
	<i>Developing a Stroke Care Educational Program for Rural Pennsylvania</i>		Used for website <a href="http://www.ruralstroke.com">www.ruralstroke.com</a>	Website and email	Developing a Stroke Care Education Program for Rural PA		
	<b>Good Samaritan Hospital Regional Medical Center</b>						
	<i>Schuylkill Alliance for Health Care Access</i>		HIPPA-compliant registration system and client information storage program	iReach program is web-based and information is backed up with Alliance server			

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
PA	<b>Home Nursing Agency &amp; Visiting Nurse Association</b>						
	<i>Telehealth Network Grant</i>	Daily Transmission over POTS dialup of patient, vital signs, and health questions					
	<b>Jewish Healthcare Foundation</b>						
	<i>Reinventing Healthcare: the Application of the Pittsburgh Regional Healthcare Initiative's Perfecting Patient Care (PPC) System to Chronic Medical Conditions</i>			Utilizing e-mail network connecting all sites for regional learning and peer-to-peer coaching. Planned for 2006: Web-based methodology learning modules			
	<b>Mercy Health Partners</b>						
	<i>Using Information Technology to Enhance Patient Safety</i>			For remote access for physicians	At bedside for nursing documentation	Ethernet 100mb for local provider access	
	<b>Mercy Hospital of Pittsburgh</b>						
<i>Mobile Clinician Project</i>					Wireless (IEEE 802.11b, g standard)		

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
PA	<b>Oil Region Alliance of Business, Industry, &amp; Tourism</b>						
	<i>The Venango Center for Healthcare Careers (VCHC)</i>			Distance Learning Communication		Teleconference, Delivery of Education	
	<b>Pennsylvania College of Optometry</b>						
	<i>Urban Ophthalmic Telehealth</i>	Eye Care	Eye Care	Eye Care		Eye Care	
	<b>Penn State University</b>						
	<i>Digital Informatics and Communications System</i>	Lectures, CME	Videoconferencing, medical consent, telemedicine	Clinical Trials Network, Physician and patient education, intranet			T1/T3 links between sites for videoconferencing
	<b>Pennsylvania State University College of Medicine</b>						
	<i>Physician-Scientist Initiative</i>	Lectures, CME	Videoconferencing Medical consent. Telemedicine	Clinical trials network Physician and patient education. Intranet	Satellite to connect clinics to provide teleconsultations in frontier communities		
	<b>Pinnacle Health System</b>						
	<i>Reducing Variability to Deliver Safe Care</i>			Remote access to radiology and cardiology PACS; patient demographic and clinical data, including lab and radiology results; medical records imaging; OB link	Enhancements moving from 802.11b to 802.11g Increase number of wireless access points to provide wireless connectivity through all facilities		
<b>Thomas Jefferson University</b>							

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
	<i>Integrative Medicine Informatics Feasibility Project</i>			Web Based Distance Learning and Digital Archive			
	<b>Tyrone Hospital</b>						
	<i>The Tyrone Hospital Health Information Network</i>		IP will be used as the primary protocol for communication over public Internet to all members	The Internet will be used to communicate to remote providers	Wireless technology will be used within the hospital Satellite Broadband will be used where Cable and DSL are not available		
	<b>Wayne Memorial Hospital</b>						
	<i>Improving Medication and Patient Safety</i>				Wireless tech for portable nurses stations for barcoding		

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
SC	<b>Advanced Technology Institute (ATI)</b>						
	<i>Healthcare and Emergency Awareness Response for Telehealth (HEART) Phase II</i>	Ophthalmology	IP for transmission of retinal images between CHC and ophthalmologist. IP for access care to diabetes care management data				DSL for transmission of retinal images between CHC and ophthalmologist
	<b>Voorhees College</b>						
	<i>Developing a Telehealth Infrastructure to Address Health Disparities Through Education and Training</i>					1 Full T1 line at the main site for static VPN with remote sites for education and training	
SD	<b>Avera Health</b>						
	<i>Avera Rural and Frontier Disease Management Telehealth Network</i>	For Home Monitoring using POTS	In-Network only at QOS			Broadband ISDN for clinical encounters, Education and Administrative events	
	<i>Great Plains Telehealth Resource and Assistance Center</i>						N/A
TN	<b>University Health System, Inc.</b>						
	<i>High-Risk Newborn Services Project</i>						N/A
	<b>University of Tennessee Health Science Center</b>						
	<i>Delta Health Partnership</i>		IP for clinical services and for education over T1 terrestrial lines to rural towns	Archived educational Broadcasts (Grand Rounds, CDC satellite broadcasts, etc.) presented via the network	Satellite to connect clinics to provide teleconsultations in frontier communities	ISDN for educational broadcasts	

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
	<i>Mid-Appalachia Telehealth Project</i>	Companion Care diabetes monitoring equipment	IP for clinical services and for education over T1 terrestrial lines to rural towns	Archived educational Broadcasts (Grand Rounds, CDC satellite broadcasts, etc.) presented via the network	Satellite to connect clinics to provide teleconsultations in frontier communities	ISDN for educational broadcasts	
TN	<i>Mid-South Telehealth Consortium</i>		IP for clinical services and for education over T1 terrestrial lines to rural towns	Archived educational Broadcasts (Grand Rounds, CDC satellite broadcasts, etc.) presented via the network	Satellite to connect clinics to provide teleconsultations in frontier communities	ISDN for educational broadcasts	
	<i>Telehealth for Diabetic Patients in Hispanic and Underserved Rural Communities</i>	Companion Care diabetes monitoring equipment	IP for clinical services and for education over T1 terrestrial lines to rural towns	Archived educational Broadcasts (Grand Rounds, CDC satellite broadcasts, etc.) presented via the network	Satellite to connect clinics to provide teleconsultations in frontier communities	ISDN for educational broadcasts	
TX	<b>Federation of State Medical Boards of the United States, Inc.</b>						
	<i>Medical Licensure Portability to Facilitate Multi-State Telehealth Practice</i>						N/A
	<b>Harris County Hospital District</b>						

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
	<i>Specialty Access Through Telemedicine (SA++)</i>	This will be used with some dermatology consultations when the medical staff at spoke only needs consultation from specialist					T1 Transmissions for Psychiatry and dermatology consults needing direct communication with patient and/or staff at spoke
	<b>University of Texas Health Science Center at San Antonio (UTHSCSA)</b>						
	<i>Diabetes Risk Reduction via Community Based Telemedicine (DIRReCT)</i>			IP for clinical services and for education over T1 terrestrial lines to rural towns			

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
TX	<b>University of Texas Medical Branch Center to Eliminate Health Disparities</b>						
	<i>The Texas Telehealth Disparities Network</i>		IP for clinical services and for education over T1 lines to rural site in Smith and Cameron counties.				
UT	<b>Association for Utah Community Health (AUCH)</b>						
	<i>Association for Utah Community Health Telehealth Program</i>	Tele-Ophthalmology for Diabetic Retinopathy	IP Videoconferencing	Website/Distance Learning			T-1 Line for Internet/Videoconferencing
	<b>Intermountain Healthcare</b>						
	<i>HRSA Telemedicine Pilot Program for Interpreting Services for the Deaf</i>		H.323 video protocols	Transmission of video from Intermountain to LanguageLine via the Internet		Video interpreting transmissions— Transmission line rate— 512 kbps for high quality video transmission	
	<b>University of Utah</b>						
	<i>Utah Telehealth Network Comprehensive Telehealth Services</i>	Radiology, cardiology, pharmacy	Videoconferencing including patient care visits, radiology, pharmacy, cardiology, VPNs	Web archives of continuing education programming			ISDN Videoconferencing for some patient care (prison) and some educational activities
WA	<b>Inland Northwest Health Services</b>						

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
	<i>Northwest Telehealth--TeleER</i>		IP for clinical services, education and EMR, over T1 terrestrial lines to rural towns			IP for clinical services, education and EMR, over T1 terrestrial lines to rural towns	
	<i>Northwest Telehealth--Telepharmacy</i>					Fractional T1 lines connecting hospitals participating in telepharmacy program	
	<b>University of Washington</b>						
	<i>Native People for Cancer Control Telehealth Network</i>	Lance Armstrong Survivorship Center services.	Internet2 transport for clinical services and for education to AFHCAN hub.	Possible education using Web.		T1/ISDN for clinical services and education to rural tribal health centers and clinics.	
	<b>Yakima Valley Memorial Hospital</b>						
	<i>Bedside Medication Management (MAR) System</i>		TCP/IP Local Area Network 100/1000 Base T and F		802.11 b/g; Bluetooth		

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
WI	<b>La Crosse Medical Health Science Consortium</b>						
	<i>Virtual Population Health Centers in the Rural Midwest</i>	DVDs and streamlining	Terrific Tuesdays Class— “Developmental Principles Through the Lifespan”	Online program for Nurse Educators for Tomorrow. Online and clinical at rural sites for Radiography on Line			
	<b>Marshfield Clinic Telehealth Network</b>						
	<i>Marshfield Clinic Telehealth Network</i>	Dermatology Wound Management EMR is S/F and is used in all consultations	All intranet video is IP	Email only	Tablet PCs for providers and staff	Interactive Video Consultations. All clinic operations	ISDN for non-corporate video sites
	<i>Marshfield Clinic Telehealth Network 2006</i>	Dermatology Wound Management EMR is S/F and is used in all consultations	All intranet video is IP	Email only	Tablet PCs for providers and staff	Interactive Video Consultations. All clinic operations	ISDN for non-corporate video sites
WV	<b>Robert C. Byrd Center for Rural Health</b>						
	<i>Marshall University Southern West Virginia Rural Outreach Project</i>	Streaming Video Education for Health Outreach; Imagery for Virtual Colonoscopy project	T1 terrestrial lines to 3 sites; T3 lines to 1 site for Health Education and Meetings			H.323 connectivity for video conferencing and delivery of education and services	
WY	<b>Memorial Hospital of Laramie County dba Cheyenne Regional Medical Center</b>						

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
	<i>Regional Expansion of Telehealth and Distance Learning</i>		IP for clinical services and for education using T1 lines to network partners				
	<b>Wyoming Department of Health</b>						
	<i>Wyoming Network for Telehealth (WyNETTE)</i>		IP for clinical services, resource access, and distance education to rural communities	Web site for information on telehealth projects, policy statements, and sources of support		Videoconferencing via H.232 for telepsychiatry and limited primary care	Telephone service for home health monitoring

<b>Store and Forward</b>	Transmission of static images or audio-video clips to a remote data storage device, from which they can be retrieved by a medical practitioner for review and consultation at any time, obviating the need for the simultaneous availability of the consulting parties and reducing transmission costs due to low bandwidth requirements.
<b>Internet Protocol</b>	The messenger protocol of the TCP/IP (Transmission Control Protocol/Internet Protocol), describing software that tracks the internet address of nodes, routes outgoing messages, and recognizes incoming messages. It facilitates the identification of the Internet Protocol Address (IP Address), of a computer or other device on the Internet (normally printed in dotted decimal form such as 128.127.50.224). The TCP, or Transmission Control Protocol, is the connection-oriented protocol portion of the TCP/IP that first establishes a connection between two systems that exchange data. The TCP/IP facilitates communication through "packet switching" over the Internet and is the protocol used for communication across interconnected networks, between computers, and diverse hardware architectures, including data communications equipment and Ethernet LANs, and various operating systems.
<b>World Wide Web</b>	The universe of accessible information, including graphics, sound, text and video accessible through the Internet. The Web has a body of software, a set of protocols and defined conventions for accessing such information, including HTML (HyperText Markup Language), the Web's software language, and TCP/IP, a family of networking protocols providing communication across interconnected networks.
<b>Broadband</b>	For purposes of this questionnaire, a general term for a telecommunications medium of sufficient capacity to transmit high quality voice, data and video transmissions. Broadband has been defined in many ways; e.g., a Wide Area Network (WAN providing bandwidth greater than 45 Megbits/sec (T3); voice, data, and/or video communications at rates greater than 1.544 Megabits/sec (T-1), but has been Federally defined as data transmission <u>each way</u> , of 200 kilobits/second or more.
<b>Broadband LAN</b>	A Local Area Network (LAN) that is distributed via broadband coaxial cable normally utilizing CATV technology and broadband modems. Most commonly used with the Ethernet (CSMA/CD) and Token Bus.
<b>Broadband ISDN</b>	Refers to ISDN services offered at rates higher than the Primary access rate (23B+D) of 1.544MB/s or 2.048Mb/s. Proposed broadband ISDN service is defined by CCITT as switched services from 34Mb/s to 680Mb/s using cell relay technology. Channels are designated as "H" channels.



# Homeland Security

**OAT Grantees were asked to describe activities related to homeland security (e.g., surveillance, public health information, distance learning activities, etc.). Information requested included contact information, number of sites involved, role, brief description of activities (exercises, training, mass casualty, surge capacity efforts and/or any other relevant activity), and other entities associated with this activity.**

**Grant responses are indicated in this section.**

**N/A = Not applicable / Not available**

State	Organization	Contact Information	Description of Activity	Sites	Role in Federal, State or Local Emergency Planning	Other entities associated within Emergency Planning
AK	Alaska Native Tribal Health Consortium					N/A
	Alaska Psychiatric Institute (API)	Mark W. Doughty, Safety Officer 2800 Providence Drive Anchorage, AK 99508-4677 Ph: 907-269-7819 Fax: 907-269-7251 <a href="http://www.hss.state.ak.us/dbh/API">http://www.hss.state.ak.us/dbh/API</a>	We participate in the Homeland Security activities through Alaska State Hospital and Nursing Association (ASHNA) funded activities and our membership in the Joint Medical Emergency Planning Group (JMEPG).	1	The Safety Officer is the API Representative in the JMEPG Group. Working with Municipal, State, and Federal entities regarding the role of individual hospitals for emergency planning.	
AL	University of South Alabama	Carl Taylor 307 N. University Blvd., HSB 1100 Mobile, AL 36688 Ph: 251-461-1812 Fax: 251-46—1809 <a href="http://www.cshi.southalabama.edu">http://www.cshi.southalabama.edu</a>	Statewide network provider of Advanced Regional Response Training (ARRT) designed to meet the unique and specific needs of emergency response agencies, healthcare providers, hospitals and public health. Provided training at the USA Center for Strategic Health Innovation AART Center to 641 attendees; 74 hospitals; 11 public health areas. Delivered organized specific ICS and planning sessions for hospitals, community health centers, and public health organizations.	Statewide	CSHI coordinates and delivers response training for all of Alabama, incorporating all tiers of response into the education program; ensures training ties together local, state and federal responsibilities; collaborates with surrounding states of Florida, Mississippi, and Louisiana.	USA College of Medicine, USA College of Nursing, Alabama Department of Public Health, Mobile County Health Department, Alabama Emergency Management Agency, Mobile County Emergency Management Agency, Alabama Hospital Association
AR	University of Arkansas for Medical Sciences	Ann Bynum 1123 South University ST 400 Little Rock, AR 72204 Ph: 501-686-2595 Fax: 501-686-2585 <a href="http://rpweb.uams.edu/btportal/">http://rpweb.uams.edu/btportal/</a>	Statewide network for bioterrorism training and Medical Reserve Corps Teams. Continuing education for healthcare professionals in bioterrorism; Statewide conferences; Training exercises.	Statewide – 12 Regions	BioTCE manager based in each region at AHECs, CHCs or Health Depts. Comprehensive and coordinated approach to CE for health care providers, equipping them to work effectively with other local, regional, and State personnel in bioterrorism event. The 2005 Conference had 487 attendees. The first Arkansas Medical Reserve Corps Teams are forming at the AHECs and University Hospital.	Arkansas Department of Health, Arkansas Department of Emergency Management, Community Health Centers of Arkansas, Arkansas Children's Hospital, Veterans Administration, Arkansas Hospital Association

State	Organization	Contact Information	Description of Activity	Sites	Role in Federal, State or Local Emergency Planning	Other entities associated within Emergency Planning
AZ	<b>Arizona Board of Regents, University of Arizona</b>	Richard McNeely PO Box 245032 Tucson, AZ 85724 Ph: 520-626-7343 Fax: 520-626-2145 <a href="http://www.telemedicine.arizona.edu">www.telemedicine.arizona.edu</a>	Administrative and Educational Teleconferences in Bioterrorism Emergency Response	162	The Arizona Telemedicine Program provides network services in support of a number of local, regional, and statewide emergency preparedness efforts.	Colleges of Medicine, Nursing, Pharmacy, Public Health, Four Corners Telehealth Consortium, Arizona Emergency Medicine Research Center, Arizona Department of Health Services, Arizona Burn Center, Pima County, University Physicians Hospital at Kino.
	<b>Maricopa County, Arizona</b>	N/A				
CA	<b>California Telemedicine and eHealth Center</b>	N/A				
	<b>Multi-Dimensional Imaging, Inc.</b>	N/A				
	<b>Northern Sierra Rural Health Network</b>	Jim Perkins, DrPH Northern Sierra Rural Health Network 138 New Mohawk Road #100 Nevada City, CA 95959 Ph: 530-470-9091 Fax: 530-470-9094 <a href="mailto:jim@nsrhn.org">jim@nsrhn.org</a>	1. We are working with our rural clinics to help them develop emergency response plans. 2. We provide no-cost emergency preparedness and response training to clinics, public health agencies and rural hospitals. Many of these programs are provided by videoconferencing. We also conduct table top preparedness exercises	30	1. NSRHN, along with 14 other clinic consortia across California, receives HRSA funding through the California Primary Care Association to help our clinics develop emergency response plans and facilitate their participation in local planning activities and local and state-wide exercises. 2. NSRHN is a center for the California Preparedness Education Network (Cal-PEN), a program of the California Area Health Education Center Program.	California Primary Care Association California Area Health Education Center Program
CO	<b>Avista Adventist Hospital</b>	N/A				

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	<b>University of Colorado Health Sciences Center</b>	David Rivera 4200 E. 9th Ave. Denver, CO.80262 Ph: 303-315-7369 Fax: 303-315-4419	Police and Security Department for the 9th Ave and Fitzsimons Campuses. Patrol Campus, respond to calls for service, take crime reports, investigate crime, monitor electronic security	2	Denver Police and Fire Department Aurora Police and Fire Department Adams County Sheriff's Office State Emergency Preparedness State Homeland Security UASI	Internal of UCHSC Various Departments
DC	<b>Center for Telehealth and E-Health Law</b>	N/A				
DC	<b>Foundation for eHealth Initiative</b>	Janet M. Marchibroda Chief Executive Foundation for eHealth Initiative 818 Connecticut Ave, Suite 500 Washington, DC 20006 Phone: 202-429-5553 Fax: 202-624-3266 E-mail: <a href="mailto:janet.marchibroda@ehealthinitiative.org">janet.marchibroda@ehealthinitiative.org</a>	Through its annual survey of state, regional and community-based health information exchange initiatives and organizations, the Foundation for eHealth Initiative tracks the efforts of health information exchange efforts across the US, including several components that would support homeland security and emergency preparedness efforts.	15	The results of the Foundation for eHealth Initiative's annual survey, the learnings of funded communities, the rapidly growing coalition of state, regional, and community-based initiatives engaged in the Connecting Communities coalition, and the common principles and tools for health information exchange that are being developed and disseminated, can all play a critical role in federal, state, or local emergency planning efforts.	
FL	<b>University of Florida College of Dentistry (UFCD)</b>	N/A				
GA	<b>Ware County Health Department</b>	Hollard Phillips 1115 Church Street Waycross, Ga. 31501 912-285-6022	State & local emergency preparedness planning	2	SEHD EP Coordinator participates in statewide planning via linkage with the GA. DHR GVNS network & STN	Local EP planning done by the EP team via telehealth – Ware and Bulloch Counties
HI	<b>Hawai'i Primary Care Association</b>	N/A				
	<b>The Queen's Medical Center</b>	N/A				
IA	<b>Iowa Chronic Care Consortium</b>	N/A				

State	Organization	Contact Information	Description of Activity	Sites	Role in Federal, State or Local Emergency Planning	Other entities associated within Emergency Planning
	Mercy Foundation	N/A				
ID	Clearwater Valley Hospital and Clinics, Inc.	Pam McBride 301 Cedar St. Orofino, ID 83544 Ph: 208-289-5509 Fax: 208-289-2437 <a href="http://www.clearwatervalleyhospital.com">www.clearwatervalleyhospital.com</a>	Regional health care work group; local emergency planning committee	5	Collaborates with regional hospitals and medical facilities for surge capacity planning; partners with local law, fire, ambulance services for LEPC.	North Central Public Health District; Clearwater County; City of Orofino

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	<p><b>Idaho State University, Institute of Rural Health</b></p>	<p>Dr. B. Hudnall Stamm, PhD            921 So. 8<sup>th</sup> Ave., Stop 8174            Pocatello, ID 83209            Ph: 208 282-4436            Fax: 208 282-4074  <a href="http://www.isu.edu/irh">http://www.isu.edu/irh</a><a href="http://telida.isu.edu">http://telida.isu.edu</a></p> <p>Dr. Neill Piland, DrPH            921 So. 8<sup>th</sup> Ave., Stop 8174            Pocatello, ID 83209            Ph: 208-282-4436            Fax: 208-282-4074  <a href="http://www.isu.edu/irh">http://www.isu.edu/irh</a>  <a href="http://www.isu.edu/irh">http://www.isu.edu/irh</a></p>	<p>Representation on the State Bioterrorism Preparedness &amp; Response Advisory Committee; provision of digital medical library to 10 hospital sites with bioterrorism response health information; edited and published articles in IEEE Engineering in Medicine and Biology Magazine, Sept/Oct 2002, Dec 2003, Several papers on terrorism and cultural trauma.</p> <p>Statewide network for distributing bioterrorism continuing education training. Distance delivery will include virtual tabletop exercise and drill, simulations, live-event webconferencing (interactive and non-interactive), Webcasts (on-demand), archived Webcasts, Virtual Grand Rounds, workshops, seminars, audioconferences, CD-ROM.</p>	<p>11 44</p>	<p>Representation on the State Bioterrorism Preparedness &amp; Response Advisory Committee</p> <p>Telehealth Idaho coordinates videoconferencing CE education for awareness and preparedness training for health professionals in Idaho; collaborates with surrounding telehealth networks in Idaho and surrounding states; and participates in Idaho's homeland defense planning.</p>	<p>Principal Investigator for National Child Traumatic Stress Network Center for Rural, Frontier, and Tribal Health; Co-Principal Investigator/Co-Project Director for Bioterrorism Training and Curriculum Development Program Grant for Idaho. International Society for Traumatic Stress Studies, South African Institute of Rural Health, USAID, Save the Children and various other countries and agencies. Involved with Indonesian government to develop psychosocial recovery plan for Tsunami affected areas. Active internationally in providing aid worker support materials to governments' and NGO's responses to natural disasters in 2004-2005 (South Asian Tsunami, Hurricane Katrina, etc.) providing aid worker materials. See telida.isu.edu for access to materials.</p> <p>Principal Investigator for Idaho Bioterrorism Awareness and Preparedness (IBAPP)</p>

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ID	North Idaho Rural Health Consortium (NIRHC)	N/A				
	Public Hospital Cooperative, Inc.	Jon Smith 651 Memorial Drive—AIC Pocatello, ID 83201 Ph. 208-239-2384 Fax 208-239-2367 <a href="http://www.hospitalcooperative.org">http://www.hospitalcooperative.org</a>				
IL	Illinois Department of Human Services	N/A				
	The National Council of State Boards of Nursing	Kristin A. Hellquist, MS 111 East Wacker Drive #2900 Chicago, IL 60601 Ph: 312-525-3665 Fax: 312-279-1032 <a href="mailto:khellquist@ncsbn.org">khellquist@ncsbn.org</a>	NCSBN educates member boards of nursing on the Nurse Licensure Compact which enhances nurse licensure portability, reduces regulatory borders, and increases access to safe and effective health care.		NCSBN participates in assisting this area as it relates to facilitating the verification of nurse licensure	
	Saint John's Hospital	N/A				
	Southern Illinois University School of Medicine	Deborah E. Seale SIU Telehealth Networks & Programs 913 N. Rutledge St., Ste 1253 P.O. Box 19682 Springfield, Illinois 62794-9682 Ph: 217-545-7830 Fax: 217-545-7839 <a href="http://www.siumed.edu/telehealth">http://www.siumed.edu/telehealth</a>	Collaborated in training of 31 participants; four-part series	5	Primary care providers, administrators, and other health care providers learn how to recognize a bioterrorism event, how to react to an influx of patients, what systems are in place in their community to provide care during an attack. Videoconference was taped and reproduced on CD-ROM with resource materials and evaluation.	Western IL AHEC, IL Health Education Consortium, Adams County Health Department, Illinois Department of Public Health, SIU Quincy Family Practice, Montana AHEC-Montana State University
IN	James Whitcomb Riley Hospital for Children	N/A				

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IN	Health & Hospital Corporation of Marion County	Gurinder Hohl, MPH 3838 N. Rural St. Indianapolis, IN 46205 Ph: 317-221-3112 Fax: 317-221-2020 <a href="mailto:ghohl@hhcorp.org">ghohl@hhcorp.org</a>	1. Urban Areas Security Initiative (UASI). 2. HRSA Bed Surge 3. Metropolitan Medical Response System.	County-wide (1-3)	1. Indianapolis/Marion County/Hamilton County receives funding through UASI for a wide variety of homeland security efforts. 2. For increasing hospital bed surge capacity in the event of an emergency. 3. To increase capacity of public health and hospital system to respond to BT attacks within a 48 hour period.	1. State of Indiana and all local government agencies. 2. State of Indiana. 3. State of Indiana, City of Indianapolis.
KS	University of Kansas Medical Center	David Cook, Ph.D University of Kansas Medical Center Mail Stop 3013 3901 Rainbow Blvd. Kansas City, KS 66160	Two large bioterrorism and disaster preparedness conferences are scheduled for 2007.		KUCTT will videotape the conferences and archive them for later ITV broadcasts to ITV sites and for web-enabled asynchronous viewing for CE purposes.	External Affairs Continuing Education
KY	Marcum & Wallace Memorial Hospital	N/A				
	University of Kentucky Research Foundation—Kentucky TeleCare	Rob Sprang MBA Director, Kentucky TeleCare K128 KY Clinic, 740 S. Limestone Lexington, KY 40536-0284 Email: <a href="mailto:rsprang@uky.edu">rsprang@uky.edu</a>	Utilize the larger Kentucky TeleHealth Network KTHN for distributing education and emergency response programs, including disaster drills.	72 TH sites + 20 new public grant facilities	Kentucky TeleCare partnered with University of Louisville on HRSA BT grant. TeleCare coordinates the PROACT network of 20 VTC sites that are contracted to deliver education and respond 24 x 7 in the event of a disaster.	UK College Of Agriculture, UK Department of Psychiatry, UK College Of Pharmacy, KY Department for Public Health, University of Louisville, KY Department for Homeland Security, CDC, University of Missouri, University of Tennessee.

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ME	<b>Eastern Maine Healthcare Systems</b>	Kathy Knight, RN 43 Whiting Hill Rd. Brewer, ME 04412 Ph: 207-973-8008 <a href="mailto:kknight@emh.org">kknight@emh.org</a>	Statewide network for distributor of bioterrorism training and homeland security alert. Emergency Management Agencies Distributing lectures in region.	8	ME Telehealth Network coordinates videoconferencing education for preparedness training for Northern, Eastern, and Central Maine	Blue Hill Memorial Hospital, Inland Hospital, CA Dean Memorial Hospital, Sebasitcook Valley Hospital, The Aroostook Medical Center, The Acadia Hospital and Eastern Maine Healthcare Systems
	<b>Regional Medical Center at Lubec</b>	Carol Carew Regional Medical Center at Lubec 43 South Lubec Road Lubec, ME 04652 Ph: 207-733-5541 Fax: 207-733-2947 Web: <a href="http://www.rmcl.org">www.rmcl.org</a>	Distance education training on emergency preparedness for nursing home staff with CEU credits	5	Trainer, Dr. Ronald Blum, is contracted by the State of Maine as an educational resource for emergency planning for health facilities	N/A
MI	<b>Altarum Institute</b>			N/A		
	<b>Hurley Medical Center</b>			N/A		
	<b>Marquette General Hospital</b>			N/A		
	<b>Michigan State University</b>			N/A		
	<b>Western Michigan University</b>			N/A		

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MN	<b>Fairview Health Services</b>	Tom Ormand, Director 323 Stinson Blvd. Minneapolis, MN 55473 612-672-6822 <a href="mailto:tormand1@fairview.org">tormand1@fairview.org</a>	The Ambulatory Electronic Medical Record is used in conjunction with FHS acute care electronic medical records so that Emergency Department physicians and caregivers will have immediate access to patient's recent ambulatory records thus expediting diagnosis and treatment. The AEMR serves as an analytical repository for bio-surveillance and provides aggregate analysis. It also provides automated tracking of immunization and is used for monitoring disease patterns and patient volumes in physician and clinic offices. The data enables atypical disease cluster identification to support reporting to FHS for communication to the Minnesota Department of Health and Centers for Disease Control, as appropriate.	University of Minnesota Medical Center at Fairview Riverside and University Campuses and free-standing clinics (6) Fairview Southdale Hospital and free-standing clinics (4) Fairview Ridges Hospital and free-standing clinics (6)	Unrelated to this project Fairview Health Services' Internal/External Disaster Plan and Evacuation Plan/Policy (Orange Alert Plan) embraces the Hospital Emergency Incident Command System (HEICS) model of emergency management. HEICS is an all-hazard plan to manage natural, biologic, chemical and radiation disasters and emergencies.	HEICS is used by the Metro medical community and Federal, State, and military emergency responders.
	<b>Tri-County Hospital</b>	Corrine Neisess, RN Tri-County Hospital 415 North Jefferson St. Wadena, MN 56482 Ph: 218-631-7516 Fax: 218-631-7503 <a href="mailto:corrine.neisess@tricityhospital.or">corrine.neisess@tricityhospital.or</a>	Tri-County Hospital representative for the MN Central Region HRSA Bioterrorism Task Force		Unknown at this time	
MO	<b>Citizen's Memorial Hospital District</b>	N/A				
MT	<b>Benefis Healthcare Foundation</b>	Jack W. King 1101 26th St So. Great Falls, MT 59405 Ph: 406-455-4285 Fax: 406-455-4141 Email: <a href="mailto:kingjacw@benefis.org">kingjacw@benefis.org</a>	N/A	N/A	Benefis Healthcare Foundation is a partner in a Federal HRSA grant for Bioterrorism Preparedness.	St. Vincent Healthcare

State	Organization	Contact Information	Description of Activity	Sites	Role in Federal, State or Local Emergency Planning	Other entities associated within Emergency Planning
	<b>Billings Clinic Foundation</b>	Joe Marcotte 2800 10 <sup>th</sup> Avenue North Billings, MT 59101 Ph: 406-657-4824 <a href="mailto:jmarcotte@billingsclinic.org">jmarcotte@billingsclinic.org</a>	Involved in variety of initiatives—i.e., Surge Capacity Planning funded by HRSA and HAZMAT and Incident Planning funded by Office of Domestic Preparedness.	17	Yellowstone County Emergency Planning Committee Mr. Marcotte—Chair plus other State and National Committees	76 community members including EMS, Law Enforcement, and other Healthcare Facilities
	<b>Deaconess Billings Clinic Foundation</b>	N/A				
	<b>Saint Patrick Hospital &amp; Health Foundation</b>	N/A				
	<b>Saint Vincent Healthcare Foundation</b>	Doris T. Barta, Director Grants Division 175 North 27 <sup>th</sup> Street, Suite 803 Billings, MT 59101 Phone: 406-237-3602 Fax: 406-237-3615 Email: <a href="mailto:doris.barta@svh-mt.org">doris.barta@svh-mt.org</a>	Implementation of a Statewide Bioterrorism Grant focusing on education and training of healthcare providers across the state of Montana.	Service area includes the state of Montana	Local LEPCs have been engaged in grant activities and grant personnel have been engaged in Statewide Activities regarding Emergency Planning for Montana.	All 56 hospitals in the state of Montana; the Department of Public Health and Human Services, all Infectious Disease physicians in the state of Montana
<b>NC</b>	<b>Duke University Medical Center</b>	Jessica Thompson, Director of Emergency Preparedness and Planning; Duke University Hospital; Box 3521; Durham, NC 27710; 919-681-2933; <a href="mailto:jessica.r.thompson@duke.edu">jessica.r.thompson@duke.edu</a>	Comprehensive all-hazards emergency planning to address DUH's response to a mass casualty event. Planning activities include: vulnerability assessments, security enhancements, surge capacity planning, training and drills.	1	Participate in Durham County Emergency Management and Health Department planning activities. Participate in North Carolina Division of Public Health and Emergency Management planning and exercise activities.	North Carolina Hospital Association
<b>ND</b>	<b>North Dakota State University College of Pharmacy, Nursing, and Allied Sciences</b>	N/A				

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NE	Good Samaritan Hospital Foundation	Tracy Donner, Health Alert Network Coord. NE HHS Ph: 402-471-1996 Fax: 402-326-3014 Email: <a href="mailto:tracy.donner@hhs.ne.gov">tracy.donner@hhs.ne.gov</a>	Developing a connected network of Hospitals, Public Health dept. Labs & HHS (i.e., 3 Statewide Health Alert tests, monthly tests of the Nebraska Telehealth Network)	20	Participating in the emergency preparedness program establishing the state wide communications network to be utilized in any emergency. Another avenue of communication and administrative connectedness. Secretary Leavitt broadcast his Nebraska visit with topics including the Asian Bird Flu & other bioterrorism threats.	NHA, NHHS, NSTH, Various Nebraska health departments, UNMC, Nebraska bioterrorism labs, Nebraska information technologies
NJ	Saint Peter's University Hospital			N/A		
NM	New Mexico Human Services Department			N/A		
NY	Genesee Gateway Local Development Corporation, Inc.			N/A		
	Long Island Association for Millennium Center for Convergent Technologies			N/A		
	New York Presbyterian Hospital			NA		

State	Organization	Contact Information	Description of Activity	Sites	Role in Federal, State or Local Emergency Planning	Other entities associated within Emergency Planning
	<b>Research Foundation, State University of New York (SUNY) at Buffalo</b>	William Dice, MD ECMC, 462 Grider St. Buffalo, NY 14215 Ph: 716-858-8701 Fax: 716-858-8701 <a href="http://www.telehealth.buffalo.edu">www.telehealth.buffalo.edu</a>	Specialized Medical Assistance and Response Team (SMART) Mobile deployable wireless Disaster LAN Store-and-Forward Emergency Network Emergency Department Triage Surveillance	28	Dr. Dice is invited speaker for national WMD / Disaster conferences; State EP Committees Erie County Commissioner of Health is also Regional EMS Director; SMART Telehealth Division (DEllis).	Regional Air National Guard Unit Coast Guard
	<b>The Rosalind and Joseph Gurwin Jewish Geriatric Center of Long Island</b>	N/A				
OH	<b>Case Western Reserve University</b>	N/A				
	<b>Cincinnati Children's Hospital Medical Center</b>	Nathan Timm, MD 3333 Burnet Ave. MLC 2008 Cincinnati, OH 45229 Ph: 513-636-7972 Fax: 513-636-7967	As the primary and tertiary center for Pediatric care in the region, CCHMC conducts 2 to 3 Disaster Drills annually. In addition, we participate in community wide drills. Our training program for medical students and residents includes disaster preparedness. The medical center utilizes the Hospital Emergency Command System, as the model for conduct of a disaster drill or event.	12	CCHMC is represented by Dr. Timm for disaster planning at the Greater Cincinnati Health Council. We also provide representation to the Disaster Preparedness Committee in the Ohio Department of Health. Additionally, CCHMC is involved in the planning process with the local chapter of the American Red Cross, Hamilton County Emergency Management Agency.	Within CCHMC the Department of Emergency Medicine has primary responsibility for planning and implementation of disaster preparedness, with many other divisions, including infectious diseases and surgical services.
	<b>Ohio Board of Regents</b>	David Barber, 36th Fl., 30 E. Broad St. Columbus, OH 43214 Ph: 614-752-9530 Fax: 614-466-5866 <a href="http://www.regents.state.oh.us">www.regents.state.oh.us</a>	Joint development of training materials and conduct of simulation between sites offering specialized homeland security training	3	Two sites offer training programs for local government and emergency services personnel.	N/A

State	Organization	Contact Information	Description of Activity	Sites	Role in Federal, State or Local Emergency Planning	Other entities associated within Emergency Planning
	Ohio State University Research Foundation (for the Ohio Supercomputer Center)	N/A				
	Southern Consortium for Children	Steve Trout, Director of Program Development Southern Consortium for Children 20 Circle Drive, Unit 37206 PO Box 956 Athens, OH 45701 Ph: 740-593-8293 Fax: 740-592-4170 <a href="mailto:stout@frognet.net">stout@frognet.net</a> <a href="http://www.scchildren.com">www.scchildren.com</a>	Disaster Preparedness training, Emergency Response to Trauma	13	Coordinate videoconference training in 10 county area	Four mental health agencies, four Alcohol, Drug Addiction, and Mental Health Services (ADAMHS) Boards, Ohio Department of Mental Health, Health Department
OK	OSU Center for Rural Health	N/A				
	Geisinger Clinic	Scott Bitting 100 North Academy Avenue Danville, PA 17822-1540 Ph: 570-271-5631 E-mail: <a href="mailto:sbitting@geisinger.edu">sbitting@geisinger.edu</a>	Surveillance, Distance Learning, Public Health Information	1	Participation with regional counter terrorism task force. Regional activity to coordinate health and medical response.	Montour County Emergency Management Agency, Pennsylvania Department of Health and PEMA
	Good Samaritan Hospital Regional Medical Center	N/A				
	Home Nursing Agency & Visiting Nurse Association	N/A				
	Jewish Healthcare Foundation	N/A				

State	Organization	Contact Information	Description of Activity	Sites	Role in Federal, State or Local Emergency Planning	Other entities associated within Emergency Planning
	Magee Rehabilitation Hospital			N/A		
	Mercy Health Partners			N/A		
	Mercy Hospital of Pittsburgh			N/A		
	Millcreek Community Hospital			N/A		
	Oil Region Alliance of Business, Industry & Tourism			N/A		
PA	Penn State University			N/A		
	Pinnacle Health System	Christopher P. Markley, Esq. 409 South Second Market Street Harrisburg, PA 17105-8700 Ph: 717-231-8210 Fax: 717-231-8157 <a href="http://www.pinnaclehealth.org">www.pinnaclehealth.org</a>	Bioterrorism surveillance	4	De-identified data is sent from our hospital emergency rooms to the University of Pittsburgh, the administrator of Pennsylvania's RODS (Real-time Outbreak Disease Surveillance) Program.	University of Pittsburgh; Siemens Health Services
	SUN Home					

State	Organization	Contact Information	Description of Activity	Sites	Role in Federal, State or Local Emergency Planning	Other entities associated within Emergency Planning
	Health Services	Steven B. Richard MBA, CHCE 61 Duke Street, PO Box 232 Ph: 570-473-7625 Fax: 570-473-3070 <a href="http://www.sunhomehealth.com">www.sunhomehealth.com</a>	Member of the East Central and North Central Regional Emergency Management/Bioterrorism Task Force. Participates in regional planning and ensuring that homecare, as well as the Telehomecare resources are included in emergency planning. Computer connectivity is used by staff for emergency preparedness training and bioterrorism education.	9	Member of the East Central and North Central Regional Emergency Management/Bioterrorism Task Forces for the Commonwealth of Pennsylvania.	Pennsylvania Department of Health, Geisinger Medical Center, Bloomsburg Hospital, Evangelical Hospital, Sunbury Community Hospital, Berwick Hospital, Emergency Management Services from all involved counties
	Susquehanna Health System	Charles G. Stuzman 777 Rural Ave. Williamsport, PA 17701 Ph: 570-321-2398 Fax: 570-321-2397 <a href="mailto:cstuzman@susquehanna.org">cstuzman@susquehanna.org</a>	Emergency Preparedness Decon Center MCI Surge Capacity Organization Drill participation	3	Participates in NCCTTF on various committees and assists with health and medical response both prehospital and hospital responses.	N/A

State	Organization	Contact Information	Description of Activity	Sites	Role in Federal, State or Local Emergency Planning	Other entities associated within Emergency Planning
PA	<b>Thomas Jefferson University</b>	<p>Program Director Edward Jasper, MD Center for Bioterrorism and Disaster Preparedness 8330 Gibbon Building 111 South 11<sup>th</sup> St. Philadelphia, PA 19107 Ph: 215-955-1777 <a href="http://www.jeffersonhospital.org/bioterrorism/">http://www.jeffersonhospital.org/bioterrorism/</a></p> <p>Eric Williams (Admin. Contact) 2210C Gibbon Building Hospital Administration Thomas Jefferson Un. Hospital 111 South 11<sup>th</sup> St Philadelphia, PA 19107 Ph: 215-955-9345 Fax: 215-955-2197</p>	<p>Coordinated multi-hospital citywide Drill with over 300 fully moulaged victims.</p> <p>Provide education and training sessions to emergency medicine physicians, EMS personnel, etc. utilizing simulation manikins.</p> <p>Working with the Penn. Dept. of Health to provide educational content related to terrorism preparedness on the Learning Management System (web-based distance learning tool).</p>	On-site at TJUH Local Fire Dept., conference, etc.	Participate in Penn. Dept. of Health advisory committees related to statewide preparedness. Chair Philadelphia Center City Emergency Healthcare Support Zone.	
	<b>Tyrone Hospital</b>	<p>Craig Hattler Tyrone Hospital 1 Hospital Drive Tyrone, PA 16686 Ph: 814-684-1255 Fax: 814-684-6395</p>	Participating in Pennsylvania statewide effort to prepare hospital Emergency Departments for bioterrorism.	1	Participates in Region-wide planning efforts.	All regional healthcare and hospital providers.
	<b>Wayne Memorial Hospital</b>	N/A				

State	Organization	Contact Information	Description of Activity	Sites	Role in Federal, State or Local Emergency Planning	Other entities associated within Emergency Planning
SC	<b>Advanced Technology Institute (ATI)</b>	Joseph E. Jones 5300 International Blvd.N. Charleston, SC 29418 Ph: 843-760-3649 Fax: 843-207-5458 <a href="http://www.aticorp.org">http://www.aticorp.org</a>	Public Health Information, Distance Learning	4	Health diagnostic procedures, distance learning	
	<b>Voorhees College</b>	N/A				
SD	<b>Avera Health</b>	David Erickson 3900 W. Avera Drive Sioux Falls, SD 57108 Ph: 605-322-4550 Fax: 605-322-4522 <a href="http://www.avera.org">www.avera.org</a>	While Dr. Erickson serves as the contact for Avera Health, each regional facility also has their own contact for emergency preparedness. The regional facilities are involved at varying levels within their community and region.		Avera McKennan participates in various distance learning opportunities and on-going cooperation with the state bioterrorism contact and activities, as well as regular coordination activities with the local community activities.	
TN	<b>University of</b>					

State	Organization	Contact Information	Description of Activity	Sites	Role in Federal, State or Local Emergency Planning	Other entities associated within Emergency Planning
	<b>Tennessee Health Science Center</b>	Toy Strickland, MBA Director, UT Outreach Center 920 Madison, Suite 434 Memphis, TN 38163 Ph: 901-448-2611 Fax: 901-448-4344 <a href="http://www.utmem.edu/telemedicine">www.utmem.edu/telemedicine</a>	Statewide network for distribution of bioterrorism training and homeland security alert. Providing lectures from UT Health Science Center, UT Graduate School of Medicine, UT College of Vet Medicine, UT Martin, TN Dept. of Agriculture, TN Dept. of Health, Radiation Emergency Assistance Center/Training Site (REAC/TS), national radiation accident response, and Emergency Management Agencies. Distributing lectures in region.	64	UT Telehealth Network coordinates videoconferencing education for preparedness training for Middle and East Tennessee; collaborates with surrounding telehealth networks in Tennessee and surrounding states; and participates in the Tennessee Homeland Security Consortium.	UT College of Veterinary Medicine, UT Medical Center at Knoxville, UT Martin, Oak Ridge National Laboratory, Tennessee Emergency Management Agency, Knoxville Emergency Management Agency, Tennessee Department of Health, University of Kentucky, Memphis/Shelby County Health Department, West TN AHEC and Vanderbilt University
<b>TX</b>	<b>Federation of State Medical Boards of the United States, Inc.</b>	N/A				

State	Organization	Contact Information	Description of Activity	Sites	Role in Federal, State or Local Emergency Planning	Other entities associated within Emergency Planning
	<p><b>Harris County Hospital District</b></p>	<p>Kim Dunn, MD, PhD Associate Dean for Academic Affairs UT School of Information Sciences 7000 Fannin Street, Suite 600 Houston, TX 77030 Ph: 713-500-3907 Fax: 713-500-3907 E-mail: <a href="mailto:Kim.Dunn@uth.tmc.edu">Kim.Dunn@uth.tmc.edu</a></p> <p>Jerry Collier, Coordinator Harris County Medical Reserve Corps 3611 Ennis Houston, TX 77004 Ph: 713-783-4616 Fax: 713-785-3077 E-mail: <a href="mailto:Jerry_Collier@hchd.tmc.edu">Jerry_Collier@hchd.tmc.edu</a></p>	<p>Project to Collect and Analyze Data related to Admission to Emergency Rooms every 10 minutes to identify potential patterns that may suggest a developing public health emergency or terrorist attack. Recruit and train health care professionals to respond in the event of a declared emergency.</p>	<p>3+1</p>	<p>Develop Protocols and methods for system monitoring to provide an early alert of a developing crisis. The MRC recruits and provides coordination of health care professionals in the event of a declared emergency. Although the focus is on the local region, members are notified of calls from response in other parts of the country and international emergencies and many have responded.</p>	<p>Memorial Hermann Hospital, LBJ Hospital, Ben Taub Hospital, and others All 150+ member and affiliated organizations of the Harris County Community Access Collaborative are linked to the Emergency Plans for the Harris County Region through the MRC and are prepared to respond as needed. In the recent Katrina/Rita crisis, virtually all of them responded and helped support health services to the evacuees that came to the Region. 2,400+ health care professionals volunteered via the MRC.</p>
	<p><b>University of Texas Health Science Center at San Antonio</b></p>	<p>Primary Contact: Dr. Harold Timboe Director of Regional Medical Operations Center (RMOC) Ph: 210-567-0779 Fax: 210-567-7120</p> <p>Health Science Center Videoconference Operations Unit Contact: Rudy De L Cruz, Jr. MPA, MA Manager of Videoconference Operations Ph: 210-567-4404</p>	<p>In cases of disaster level emergencies requiring the deployment of large numbers of casualties to hospitals and emergency medical centers throughout south Texas, the RMOC will be activated to assist in the efficient execution of the activity previously described.</p>	<p>89 sites on the Health Sciences Center Videoconference Network</p>	<p>They train for tasks such as supporting health authorities administer mass inoculations, establishing alternate non-hospital treatment sites, staffing Call Centers to answer health questions from the public, and assisting with other unforeseen homeland security activities related to protecting and restoring public health.</p>	<p>Unit detachments established in border areas where the UT Health Science Center has campuses, such as Harlingen, Laredo and Edinburg.</p>

State	Organization	Contact Information	Description of Activity	Sites	Role in Federal, State or Local Emergency Planning	Other entities associated within Emergency Planning
	University of Texas Medical Branch Center to Eliminate Health Disparities			N/A		
UT	Association for Utah Community Health			N/A		
	Intermountain Healthcare			N/A		
	University of Utah	Deb LaMarche 585 Komas Drive, Suite 204 Salt Lake City, UT 84108 Ph: 801-587-6190 Fax: 801-585-7083 <a href="http://www.utahtelehealth.net">www.utahtelehealth.net</a>	Connect state and local health departments for training and planning. Health Department fund UTN activity with Health Alert Network & BT funding.	13	Health Departments are part of the state & federal Bioterrorism Preparedness grant program	
VT	The University of Vermont (UVM)	Terry Rabinowitz, MD 111 Colchester Avenue Patrick 4, MCHV Burlington, VT 05401 Ph: 802-847-7211 Fax: 802-847-3090 E-mail: <a href="mailto:Terry.Rbinowitz@vtmednet.org">Terry.Rbinowitz@vtmednet.org</a> <a href="http://www.fach.org/telemedicine">www.fach.org/telemedicine</a>	Working on wireless real time video in moving ambulance			
WA	Inland Northwest Health Services	Renee Anderson 601 West First Ave., Suite 200 Spokane, WA 99201 Ph: 509-232-8155 Fax: 509-232-8357 <a href="http://www.nwtelehealth.org">www.nwtelehealth.org</a>	(WEMSIS) Washington EMS Information System which will result in a comprehensive collection of EMS data from participating EMS agencies. Both EMS and hospital data are needed to analyze regional system status and identify needs.	22	State Requirement for EMS agencies.	Regional hospital emergency preparedness committees, Homeland Security, Combined Communications Center, Tribal EMS, Volunteer EMS, Ambulance
	University of Washington			N/A		

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	<b>Yakima Valley Memorial Hospital</b>	Jeanne Fasano 2811 Tieton Dr. Yakima, WA 98902 Ph: 509-249-5245	Participate in regional planning meetings and exercises. Educate and train staff in local/State/Federal procedures.	1	Assist with the development and updating of regional plans. Participate in at least one regional exercise per year.	Washington State PHEPR Region 8 Hospital Planning Committee
WI	<b>LaCrosse Medical Health Science Consortium</b>		Created "Operation Heartland Defense DVD-Video" from a training session for catastrophic emergency events was held in August 2004, which was distributed throughout via the HRSA regions, the Public Health Consortia and the State Office of Homeland Security.			
	<b>Marshfield Clinic Telehealth Network</b>	Nina M. Antoniotti RN, MBA, PhD 1000 N. Oak Avenue Marshfield, WI 54449Ph: 715-389-3694 Fax: 715-387-5225	Internal Bioterrorism response protocols	43	Corporate member of local municipal planning group.	State FEMA State Bioterrorism Committee
WV	<b>Robert C. Byrd Center for Rural Health</b>			N/A		
WY	<b>Memorial Hospital of Laramie County dba Cheyenne Regional Medical Center</b>			N/A		
	<b>Wyoming Department of Health</b>	Rex Gantenbein, Ph:D. 100 E. University, Dept. 3432, Laramie, WY 82071	Emergency Medical Services Continuing Education Regional Hospital Network Charter Member Northwest Regional Resource Center	23 Statewide 8 States and Pacific Islands	Participation in multi-state regional readiness pilots.	



# Demographics of Population Served

All OAT grantees were asked whether their projects served  $\geq 20\%$  of the population in the following demographic categories: African-American, Hispanic/Latino, American Indian/Alaska Native, and Asian American or Pacific Islander.

The grantees' responses are indicated below.

N/A = Not Applicable/Not Available

State	Organization	African-American	Hispanic/Latino	American Indian/Alaska Native	Asian American or Pacific Islander
AK	<b>Alaska Native Tribal Health Consortium</b>				
	<i>Continued Advancement of Telehealth Capacity in Alaska</i>			•	
	<i>The Summative Telemedicine Evaluation Project</i>			•	
	<b>Alaska Psychiatric Institute (API)</b> <i>API TeleBehavioral Health Project</i>			•	
AL	<b>University of South Alabama</b>				
	<i>Center for Strategic Health Innovation (CSHI) RMEDE/BioTrac Project</i>	•			
	<i>Center for Strategic Health Innovation (CSHI) Traditional Telemedicine</i>	•			
AR	<b>University of Arkansas for Medical Sciences</b>				
	<i>South Arkansas Integrated Telehealth Oncology Program</i>	•			
	<i>Telehealth for KIDS (Kids in Delta Schools)</i>	•			
AZ	<b>Arizona Board of Regents, University of Arizona</b>				
	<i>Arizona Diabetes Virtual Center for Excellence (ADVICE)</i>		•	•	
	<i>Institute for Advanced Telemedicine and Telehealth (THealth)</i>		•	•	
	<b>Maricopa County, Arizona</b>				
	<i>Correctional Health Services Telemedicine Initiative</i>		•		
CA	<b>California Telemedicine and eHealth Center</b>				
	<i>Western Regional Telehealth Resource Center</i>	N/A			
	<b>Multi-Dimensional Imaging, Inc.</b>				
	<i>Telemedicine for Improved Health Care and Education</i>	•	•	•	•
	<b>Northern Sierra Rural Health Network</b>				
	<i>Telehealth Network Grant Program</i>	N/A			
CO	<b>Avista Adventist Hospital</b>				
	<i>Clinical Integration Through Health Informatics</i>		•		
DC	<b>Center for Telehealth and E-Health Law</b>				
	<i>National Telehealth Resource Center</i>	N/A			
	<b>Foundation For eHealth Initiative</b>				
	<i>Connecting Communities for Better Health</i>	•	•	•	•
	<i>CareSpark, TN</i>	•	•		
	<i>Indiana Health Information Exchange, IN</i>	•	•		•
<i>Maryland/DC Collaborative for Healthcare Information Technology, MD</i>	•	•	•	•	

State	Organization	African-American	Hispanic/Latino	American Indian/Alaska Native	Asian American or Pacific Islander
	<i>Massachusetts Health Data Consortium (MA-SHARE), MA</i>	•	•	•	•
	<i>National Institute for Medical Informatics, WI</i>	•	•	•	•
	<i>Santa Barbara County Care Data Exchange, CA</i>	•	•	•	•
	<i>St. Joseph's Hospital Foundation (Whatcom HIE), WA</i>	•	•	•	•
	<i>Taconic Educational Research Fund, NY</i>	•	•	•	•
FL	<b>University of Florida College of Dentistry (UFCD)</b>				
	<i>University of Florida College of Dentistry (UFCD)</i>	•	•	•	•
GA	<b>Ware County Health Department</b>				
	<i>Rural Health Telemedicine Grant Program</i>	•	•		
	<i>Southeast Telehealth Network Program</i>	•	•		
HI	<b>Hawai'i Primary Care Association</b>				
	<i>The Hawai'i CHC Telehealth Network Project</i>				•
	<b>The Queen's Medical Center</b>				
	<i>Hawaii Neuroscience Telehealth Network</i>				•
IA	<b>Iowa Chronic Care Consortium</b>				
	<i>Iowa Medicaid Population Disease Management Demonstration</i>	•	•	•	•
	<b>Mercy Foundation</b>				
	<i>Midwest Rural Telemedicine Consortium</i>	•	•	•	•
ID	<b>Idaho State University, Institute of Rural Health</b>				
	<i>Telehealth Idaho</i>		•		
	<b>North Idaho Rural Health Consortium (NIRHC)</b>				
	<i>Expanding Telehealth to North Idaho Districts (EXTEND)</i>			N/A	
	<b>Public Hospital Cooperative, Inc.</b>				
	<i>Cooperative Telehealth Network</i>			N/A	
IL	<b>Illinois Department of Human Services</b>				
	<i>Illinois Developmental Disabilities Telehealth Network and Services: A Program Dedicated to Optimizing Health and Support of Community Living</i>			N/A	
	<b>The National Council of State Boards of Nursing</b>				
	<i>Moving Toward Portability: Uniform Core Licensure Standards for Nursing</i>			N/A	
IN	<b>Health &amp; Hospital Corporation of Marion County</b>				

State	Organization	African-American	Hispanic/Latino	American Indian/Alaska Native	Asian American or Pacific Islander
	<i>Congressionally-Mandated Telehealth Grants</i>	•			
KS	<b>University of Kansas Medical Center</b>				
	<i>Sustainability and Cost Benefit Evaluation of the Kansas Telehealth Network</i>	•	•		
	<i>Telehealth Access and Cost Benefit in Kansas</i>	•	•		
KY	<b>Marcum &amp; Wallace Memorial Hospital</b>				
	<i>Teleradiology Enhancement Project</i>	•	•		
	<b>University of Kentucky Research Foundation</b>				
ME	<i>Improving Health Outcomes for Children in Rural Kentucky Schools</i>	•	•		
	<b>Eastern Maine Healthcare Systems</b>				
	<i>Improving Rural Maine's Critical Access to Emergency &amp; Chronic Disease Care Through Telehealth/Monitoring</i>			N/A	
	<b>Regional Medical Center at Lubec</b>				
MI	<i>Maine Nursing Home Telehealth Network</i>			N/A	
	<i>Northeast Telehealth Resource Center</i>			N/A	
	<b>Altarum Institute</b>				
	<i>Concepts for a Michigan Health Information Network (MiHIN)</i>	•			
	<b>Hurley Medical Center</b>				
MI	<i>Clinical Information System Replacement Project</i>	•			
	<b>Marquette General Hospital</b>				
	<i>Midwest Alliance for Telehealth and Technologies Resources</i>			N/A	
	<b>Michigan State University</b>				
MI	<i>Telehospice in Mid-Michigan</i>	•	•	•	•
	<b>Western Michigan University</b>				
MN	<i>The Application of Tele-Allied Health in Rural Counties in Southwest Lower Michigan</i>	•	•	•	•
	<b>Fairview Health Services</b>				
	<i>Ambulatory Electronic Medical Record System – Twin Cities Metropolitan Care Systems</i>	•	•	•	•
	<b>Tri-County Hospital</b>				
	<i>Telehealth Network Grant Program</i>			N/A	
MO	<b>University of Minnesota</b>				
	<i>Fairview – University of Minnesota Telemedicine Network</i>			•	
	<b>Citizen's Memorial Hospital District</b>				
	<i>Project Infocare: In-Home Telemanagement</i>			N/A	

State	Organization	African-American	Hispanic/Latino	American Indian/Alaska Native	Asian American or Pacific Islander
MT	<b>Benefis Healthcare Foundation</b>				
	<i>NMHA &amp; REACH Telehealth Network Development Project</i>	•	•	•	
	<b>Billings Clinic Foundation</b>				
	<i>Effect of an Integrated CIS on Inpatient and Post-Discharge Medication Administration Error and Chronic Disease Management</i>	•		•	
	<b>Deaconess Billings Clinic Foundation</b>				
	<i>Revolutionizing Diabetes Care at Billings Clinic: A Model for Chronic Disease Care</i>	•	•	•	•
	<b>Saint Patrick Hospital &amp; Health Foundation</b>				
	<i>Bringing Healthcare Home</i>	•	•	•	•
	<b>Saint Vincent Healthcare Foundation</b>				
<i>Mansfield Health Education Center (MHEC)</i>	•	•	•	•	
<i>Northwest Regional Telehealth Resource Center</i>			•		
NC	<b>Duke University Medical Center</b>				
	<i>Patient Inclusion in a Community-Based Telehealth Network</i>	•			
	<i>Patient Participation in a Rural Community-Based Network</i>	•			
ND	<b>North Dakota State University College of Pharmacy, Nursing, and Allied Sciences</b>				
	<i>North Dakota Telepharmacy Project</i>	•	•	•	•
NE	<b>Good Samaritan Hospital Foundation</b>				
	<i>Mid-Nebraska Telemedicine Network(MNTN)</i>		•		
NJ	<b>Saint Peter's University Hospital</b>				
	<i>Medical Technology Center for Infants and Children</i>	•	•	•	•
NM	<b>New Mexico Human Services Department</b>				
	<i>New Mexico Tele-Behavioral Health Improvement Project</i>		•		
	<b>University of New Mexico Health Sciences Center</b>				
	<i>Rural Health Telemedicine Program</i>		•		
NY	<b>Genesee Gateway Local Development Corporation, Inc.</b>				
	<i>Upstate New York Telemedicine Study</i>	•	•		
	<b>Integrated Community Alternatives Network, Inc.</b>				
	<i>Foster Care Tracker and Assessment Tool</i>		•		

State	Organization	African-American	Hispanic/Latino	American Indian/Alaska Native	Asian American or Pacific Islander
	<b>Long Island Association for Millennium Center for Convergent Technologies</b>				
	<i>An Electronic Clinical Trial System to Reduce Drug Development Costs</i>	.	.		.
	<b>Montefiore Medical Center</b>				
	<i>Electronic Medical Records Expansion</i>	.	.		
NY	<b>New York Presbyterian Hospital</b>				
	<i>Systems Technology Interfacing Teaching and Community Hospitals (STITCH)</i>	.	.	.	.
	<b>Research Foundation of State University of New York (SUNY) at Buffalo</b>				
	<i>Telehealth New York</i>	.	.	.	
	<b>The Rosalind and Joseph Gurwin Jewish Geriatric Center of Long Island</b>				
	<i>Demonstration of Implementation of Electronic Medical Record in Skilled Nursing Facility.</i>	.	.	.	.
OH	<b>Case Western Reserve University</b>				
	<i>NetWellness</i>	.	.	.	.
	<b>Children's Hospital Medical Center of Akron</b>				
	<i>Tele-Health-Kids</i>	N/A			
	<b>Cincinnati Children's Hospital Medical Center</b>				
	<i>Pursuing Perfection—Transforming Health Care Delivery</i>	.	.		
	<b>Ohio Board of Regents</b>				
	<i>Medical Collaboration Network</i>	.	.		
	<b>Ohio State University Research Foundation (for the Ohio Supercomputer Center)</b>				
	<i>Computational Approaches to Research on Cancer in Children and Others</i>	.	.		.
	<b>Southern Consortium for Children</b>				
	<i>Southern Ohio Telepsychiatric Network</i>	.	.	.	.
OK	<b>OSU Center for Rural Health</b>				
	<i>Rural Oklahoma Telemedicine Service Expansion</i>	.	.	.	
PA	<b>Community Nurses Home Health and Hospice, Inc.</b>				
	<i>Home Telehealth</i>	.			.
	<b>Geisinger Clinic</b>				
	<i>Developing a Stroke Care Educational Program for Rural Pennsylvania</i>	.	.		
	<b>Good Samaritan Hospital Regional Medical Center</b>				

State	Organization	African-American	Hispanic/Latino	American Indian/Alaska Native	Asian American or Pacific Islander
PA	Schuylkill Alliance for Health Care Access	N/A			
	<b>Home Nursing Agency &amp; Visiting Nurse Association</b>				
	Telehealth Network Grant				
	<b>Jewish Healthcare Foundation</b>				
	Reinventing Healthcare: The Application of the Pittsburgh Regional Healthcare Initiative's Perfecting Patient Care (PPC) System to Chronic Medical Conditions	.			
	<b>Magee Rehabilitation Hospital</b>				
	Virtual Reality Technology	.			
	<b>Mercy Health Partners</b>				
	Using Information Technology to Enhance Patient Safety	N/A			
	<b>Oil Region Alliance of Business, Industry, &amp; Tourism</b>				
	The Venango Center for Healthcare Careers (VCHC)	.			
	<b>Pennsylvania College of Optometry</b>				
	Urban Ophthalmic Telehealth	.	.		.
	<b>Penn State University</b>				
	Digital Informatics and Communications System	.	.	.	.
	<b>Pennsylvania State University College of Medicine</b>				
	Physician-Science Initiative	.	.		.
	<b>Pinnacle Health System</b>				
	Reducing Variability to Deliver Safe Care	.	.	.	.
	<b>Thomas Jefferson University</b>				
Integrative Medicine Informatics Feasibility Project	.	.		.	
<b>Tyrone Hospital</b>					
The Tyrone Hospital Health Information Network	.				
<b>Wayne Memorial Hospital</b>					
Improving Medication and Patient Safety	.	.			
<b>University of Pittsburgh School of Nursing Nurse Anesthesia Program</b>					
Nurse Anesthesia Rural and Elderly Expansion Project (NAREEP)	.	.		.	
<b>Wayne Memorial Hospital</b>					
Improving Medication and Patient Safety	.	.			
SC	<b>Advanced Technology Institute (ATI)</b>				
	Healthcare and Emergency Awareness Response for Telehealth (HEART) Phase II	.	.	.	
	<b>Voorhees College</b>				

State	Organization	African-American	Hispanic/Latino	American Indian/Alaska Native	Asian American or Pacific Islander
	<i>Developing a Telehealth Infrastructure to Address Health Disparities Through Education and Training</i>	•			
SD	<b>Avera Health</b>				
	<i>Avera Rural and Frontier Disease Management Telehealth Network</i>		•	•	
	<i>Great Plains Telehealth Resource and Assistance Center (TRAC)</i>	N/A			
TN	<b>University Health System, Inc.</b>				
	<i>High-Risk Newborn Services Project</i>	•	•		
	<b>University of Tennessee Health Science Center</b>				
	<i>Delta Health Partnership</i>	•			
	<i>Mid-South Telehealth Consortium</i>	•			
	<i>Telehealth for Diabetic Patients in Hispanic and Underserved Rural Communities</i>		•		
TX	<b>Federation of the State Medical Boards of the United States, Inc.</b>				
	<i>Medical Licensure Portability to Facilitate Multi-State Telehealth Practice</i>	N/A			
	<b>Harris County Hospital District</b>				
	<i>Specialty Access Through Telemedicine (SA++)</i>	•	•		
	<b>University of Texas Health Science Center at San Antonio (UTHSCSA)</b>				
	<i>Diabetes Risk Reduction via Community Based Telemedicine (DiRReCT)</i>		•		
	<b>University of Texas Medical Branch Center to Eliminate Health Disparities</b>				
<i>The Texas Telehealth Disparities Network</i>	•	•			
UT	<b>Association for Utah Community Health (AUCH)</b>				
	<i>Association for Utah Community Health Telehealth Program</i>		•		
	<b>Dr. Ezekiel R. Dumke College of Health Professions</b>				
	<i>Health Opportunity Professional Exploration (HOPE)</i>		•		
	<b>Intermountain Healthcare</b>				
	<i>HRSA Telemedicine Pilot Program for Interpreting Services for the Deaf</i>		•		
	<b>University of Utah</b>				
<i>Utah Telehealth Network Comprehensive Telehealth Services</i>			•		

State	Organization	African-American	Hispanic/Latino	American Indian/Alaska Native	Asian American or Pacific Islander
WA	<b>Inland Northwest Health Services</b>				
	<i>Northwest Telehealth--TeleER</i>	•	•	•	•
	<i>Northwest Telehealth—Telepharmacy</i>	•	•	•	•
	<b>University of Washington</b>				
	<i>Native People for Cancer Control Telehealth Network (NPCCTN)</i>			•	
	<b>Yakima Valley Memorial Hospital</b>				
	<i>Bedside Medication Management (MAR) System</i>		•		
WI	<b>La Crosse Medical Health Science Consortium</b>				
	<i>Virtual Population Health Centers in the Rural Midwest</i>			•	
	<b>Marshfield Clinic Telehealth Network</b>				
	<i>Marshfield Clinic Telehealth Network</i>		•	•	•
	<i>Marshfield Clinic Telehealth Network 2006</i>		•	•	•
WV	<b>Appalachian Pain Foundation</b>				
	<i>Physician Education, Community Outreach Program to Prevent Diversion of Prescription Drugs</i>	•			
	<b>Robert C. Byrd Center for Rural Health</b>				
	<i>Marshall University Southern West Virginia Rural Outreach Project</i>	•	•	•	•
	<b>West Virginia University, Mountaineer Doctor (MDTV)</b>				
	<i>West Virginia Community Mental Telehealth Project</i>	•	•		
WY	<b>United Medical Center</b>				
	<i>Regional Expansion of Telehealth and Distance Learning</i>	•	•	•	•
	<b>Wyoming Department of Health</b>				
	<i>Wyoming Network for Telehealth (WyNETTE)</i>	•	•		

# **Project Descriptions by State**

In this section, OAT Grantees were asked to provide brief narrative description of their projects by providing information about Network Partners, Project Purpose, Outcomes Expected & Project Accomplishments, Service Area, Services Provided, Equipment, and Transmission.

**ALABAMA, Mobile County**  
**Realtime Medical Electronic Data Exchange (RMEDE) Project**  
**University of South Alabama**

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**CMP FY02, 03, 04, 05**

Center for Strategic Health Innovation  
307 University Boulevard N., HSB 1100  
Mobile, AL 36688  
[www.cshi.southalabama.edu](http://www.cshi.southalabama.edu)

Carl W. Taylor  
Ph: 251-461-1805  
Fax: 251-461-1819  
Email: [cwtaylor@usouthal.edu](mailto:cwtaylor@usouthal.edu)

***Network Partners:***

University of South Alabama Health System  
Alabama Department of Public Health  
Alabama State Medicaid Agency

***Project Purpose:***

RMEDE builds upon the home monitoring BioTrac program by integrating home health monitoring data with claims data to create a true 360-degree view of the patient's health. A virtual medical record (VMR) is created providing detailed information about the patient from multiple accessible data sources that otherwise are not available to the provider. This project also studies patient claims information and proposes to deliver outcome-oriented results in an effort to improve the dual bottom lines of quality and cost improvement in rural health care throughout the state.

***Outcomes Expected/Project Accomplishments:***

The RMEDE project strives to not only develop an application to improve patient outcome and reduce healthcare costs, but also to apply these across a broad, statewide patient population and physician base. In order to accomplish this statewide application, USA CSHI works collaboratively with the Medicaid Patient 1<sup>st</sup> program Physician Advisory Panel. The RMEDE proprietary software develops a Combined Health Score (CHS) which is a unique collective statement linking the quality of the provider to the response and compliance of the patient. Over time, it is anticipated that this CHS will be a far better predictor of patient health than quality of care alone.

***Service Area:***

The RMEDE project has a statewide reach for Medicaid providers. Of these, 58 providers have patients participating in the home monitoring program.

***Services Provided:***

Services provided include a VMR with home health monitoring of patients suffering from chronic illnesses such as diabetes, congestive heart failure, and hypertension.

***Equipment:***

Cybernet Medical MedStar monitoring units with A & D Medical peripherals.

***Transmission:***

Home monitoring utilizes Plain Old Telephone System (POTS) with Internet access at the project site and at each provider's location.

Alaska Native Tribal Health Consortium  
Alaska Telehealth Advisory Council  
4000 Ambassador Drive  
Anchorage, AK 99508  
[www.anthc.org](http://www.anthc.org)

Thomas Nighswander, MD, MPH  
Ph: 907-729-3682  
Fax: 907-729-1901  
Email: [tnighswander@anthc.org](mailto:tnighswander@anthc.org)

**Network Characteristics:**

Partners external to the grantee include the ANTHC Division of Information/Technology, the Alaska Federal Health Care Access Network (AFHCAN), the University of Alaska, Anchorage, Alaska Physician's EHR Alliance, Edward Deaux, Ph.D., and Gary Hart, MD.

**Project Purpose:**

Continued Advancement of Telehealth Capacity in Alaska focuses on (1) contributing to Telehealth expansion to three community health centers, (2) establishment of a Telemedicine ENT Center of Excellence, (3) developing an Alaska RHIO, (4) developing a private physician electronic health record office pilot and support structure using health information electronic exchange across State lines, (5) training in the use of this technology, (6) update the OAT definition of "Frontier," and (7) participation in development of national telemedicine technical guidelines.

**Outcomes Expected/Project Accomplishments:**

- For expansion to community health centers, AFHCAN software development process is modified for compliance with cGMO.
- AFHCAN tele-ENT equipment is placed, tested and used at Yakama site.
- Alaska Chartlinks (RHIO) is created, with Steering, IT and Clinical workgroups established and outside funding commitments secured, and a sustainable business plan completed.
- The Alaska EHR Alliance is created, with 501(c) (3) status pending, and business plan development finalized. Additional outside funding has been received.
- Comprehensive Evaluation Plan finalized.

**Service Area:**

State of Alaska. One component additionally serves the Yakama Nation in Washington.

**Services Provided:**

Alaska Chartlinks and the EHR Alliance efforts are primarily infrastructure and pilot development. This grant has also provided faculty training in the use of telemedicine for distance education, and provider training in delivery of telemedicine services. Clinical telemedicine services include ENT, Cardiology, Dermatology, and Audiology with expansion to Community Health Centers

**Equipment:**

For Community Health Center expansion and ENT Center of Excellence, equipment will include AFHCAN Telemedicine Software, digital cameras, scanners, electro cardiograms, video otoscope, teleradiology equipment and videoconferencing units.

**Transmission:**

Dedicated telephone line connectivity, with variable bandwidth.

Alaska Psychiatric Institute (API)  
2800 Providence Drive  
Anchorage, AK 99508-4677  
<http://www.hss.state.ak.us/dbh/API>

Mr. Ron Adler, CEO  
Ms. Robin Hobbs, MSW, Project Coordinator  
Ph: 907-269-7278  
Fax: 907-269-7246  
Email: [Robin\\_Hobbs@health.state.ak.us](mailto:Robin_Hobbs@health.state.ak.us)

**Network Partners:**

Yukon Flats Health Center (Ft. Yukon) (2003) (8) (16), Edgar Nollner Health Center (Galena) (2003) (12) (30), Central Peninsula Hospital (Soldotna) (2006) (1), the Seldovia Village Tribal Clinic (Homer) (2007), Maniilaq Health Corporation (Kotzebue) (2007) (10) (30), Yukon Kuskokwim Health Corporation (Bethel) (2008) (30) (90), Copper River Native Association (2007) (Copper Center) (20) (50).

**Project Purpose:**

1. Provide behavioral health services (VTC) to rural AK areas.
2. Provide “Grand Rounds” trainings to primary care/behavioral health providers in rural AK
3. Assist local hospitals to maintain acute psychiatric patients by providing a psychiatric consultation and liaison service.
4. Develop and deliver a psychiatric consultation model with primary care providers throughout AK.

**Outcomes Expected:**

Assess project success through measurement of Clinical Outcomes (clinical effectiveness measures, patient global health functioning) (increased patient management skill set for local providers), management and Sustainability Outcomes (efficiency of care, cost measures, patient access measures, patient site billing success), and Technical Outcomes (VTC quality, reliability, and accuracy).

**Service Area:**

Yukon Flats Health Center & Edgar Nollner health Center (Yukon-Koyukuk Borough) Central peninsula General Hospital & Seldovia Village Tribal Clinic & the Seldovia Village Tribe (Kenai Borough), Maniilaq Health Corporation (Northwest Arctic), Yukon Kuskokwim Health Corporation (Bethel Borough), Cooper River Native Association (Valdez Cordova Borough).

**Services Provided:**

Psychiatric assessment and medication management services, for children, youth, adults; neuro-psych screening; licensure supervision, psychiatric consultation & liaison services, Grand Rounds Trainings behavioral health counseling and therapy.

**Equipment:**

Polycom VSX 7000, Polycom HD, Tandberg Edge.

**Transmission:**

Vendors: AT&T Alascom, GCI Connect MD, Alaska Native Tribal Health Center, Alaska Rural Telehealth Network. Full and fractional T-1 lines, Bundled T-1 lines.

UAMS Center for Distance Health  
4301 West Markham, Slot 812  
Little Rock, AR 72205-7199  
<http://www.uams.edu/cdh>  
[bynumcarola@uams.edu](mailto:bynumcarola@uams.edu)

Ann Bynum, Ed.D.  
Ph: 501-686-2595  
Fax: 501-686-2585  
Email:

**Network Partners:**

New sites in Lee County are Whitten Elementary School, Lee High School, Lee County Health Unit, and Lee County Cooperative Clinic (CHC). These sites join the existing 50 site UAMS' Rural Telehealth Network, operational since 1995. The unduplicated patients served between 10/06-9/07 = 776, and the anticipated patients served between 10/07-09/08 = 1,160. The number of patient encounters between 10/06-9/07 = 13,784, and the estimated number of encounters between 10/07-09/08 = 18,770.

**Project Purpose:**

Provide telehealth services to children in two rural schools without current access due to poverty or lack of transportation. School-based services will 1) Increase # of students receiving pediatric services; 2) Reduce behavioral problems; 3) Decrease school absenteeism of students with asthma; 4) Increase # of Diabetic students performing self-glucose monitoring daily; and 5) Increase referrals/resources to students/families.

**Outcomes Expected/Project Accomplishments:**

Increased access to pediatric services; Reduced Hemoglobin A1c in diabetic students; Increased proficiency of self-administered asthma medications; Reduced school absences emergency room visits, and hospital admissions; Cost savings from reduced ER and hospital visits; Reduced classroom behavioral disruptions; and Increased family access to resources. A goal attainment model will be used to evaluate.

**Service Area:**

Whitten Elementary School, Lee High School, Lee County Health Unit, and Lee County Cooperative Clinic (CHC), in the remote Mississippi Delta community of Marianna in Lee County. At the schools, 90 percent of all students are African-American, and 93 percent are eligible for free/reduced lunch.

**Services Provided:**

Real-time telehealth consults with Pediatric and Behavioral specialists at UAMS for services that are unavailable otherwise, and educational programming regarding pediatric and behavioral topics for students, parents, and school staff. Connect local health professionals at the Lee County Health Unit and CHC to facilitate referrals, ease follow-up care with students, and provide continuing education.

**Equipment:**

Remote sites: Tandberg MXP interactive video systems, Polycom interactive educational units, web cameras, Honeywell Health Monitors with peak flow, pulse oximeter, glucometer, ID cards, central station.

**Transmission:**

IP, H.323 and H.320

Arizona Telemedicine Program  
1501 N. Campbell Avenue, PO Box 245105  
Tucson, AZ 85178  
[www.telemedicine.arizona.edu](http://www.telemedicine.arizona.edu)

Ronald S. Weinstein, MD  
Sandy Beinar  
Ph: 520-626-2493  
Fax: 520-626-1027  
Email: [beinars@u.arizona.edu](mailto:beinars@u.arizona.edu)

**Network Partners:**

Project partners are the Colleges at the Arizona Health Sciences Center in Tucson, including the Medicine, Nursing, Pharmacy, and Public Health, all of whom are active programs with the Arizona Telemedicine Program and are integral to the program. Future partners will be the Indian Health Service and Yuma Proving Ground (DOD).

**Project Purpose:**

THealth will include a state-of-the-art learning center designed for contextual-based learning by interdisciplinary teams of students of various healthcare professions including medicine, nursing and pharmacy. Curricula will be developed to take advantage of both on-site and extramural telemedicine patients. Distance education will also be provided to clinical sites.

**Outcomes Expected/Project Accomplishments:**

THealth will be regarded as a next generation video-conferencing facility that leverages accessibility to content-rich education and training resources, including traditional learning modalities, multi-media programming, faculty-student video-conferencing, and telemedicine patient encounters, to provide students with a rich, multi-disciplinary, interactive, learning experience.

**Service Area:**

THealth will be linked to the adjacent biomedical communications control room. This will provide access to the entire Arizona Telemedicine Program Network that links to 162 sites in Arizona and adjacent states. Initially the service area will be Tucson and Phoenix.

**Services Provided:**

Curriculum will be designed to complement and broaden that of the medical school curriculum. It will emphasize advanced technologies and medical informatics. Medical simulation, virtual reality, robotics, and telemedicine clinics will be important features of this new curriculum pathway. Didactic presentations on telemedicine/telehealth courses will be offered as well.

**Equipment:**

State-of-the-art conferencing theater, fully equipped telemedicine training center, digital dermascope, otoscope, ophthalmoscope, stethoscope, specialized control, and monitoring devices.

**Transmission:**

Full T1, Internet, POTS, 802.11b wireless, video teleconference (VTC) bridge.

Correctional Health Services  
Jeray  
234 N. Central Ave.  
Phoenix, Arizona, 85004  
[www.maricopa.gov](http://www.maricopa.gov)

Ken  
Ph: 602-506-1242  
Fax: 602-506-2577  
E-mail: [kjeray@mail.maricopa.gov](mailto:kjeray@mail.maricopa.gov)

**Network Partners:**

Maricopa County Sheriff's Jail Facilities: Lower Buckeye, 4<sup>th</sup> Ave., Towers, Durango, Estrella, Estrella Support (Tent City). Maricopa County Sheriff's District Substations: Avondale, Mesa, Surprise and Blue Point Potential Project Partners: Maricopa Integrated Health Service, Contract Psychiatrists.

**Project Purpose:**

Through the use of the Arizona Telemedicine Network, Correctional Health Services will be able to perform consultations with any entity connected to the network. This, along with an established intra-jail network will improve access to specialty health care and reduce costs associated with unnecessary transports and referrals and be able to share information with each other.

**Outcomes Expected/Project Accomplishments:**

Provide medical screening at remote booking sites to reduce police agency time in transporting. Reduce inmate transfers out of the facilities (jails) for primary care. Improve public safety by treating more inmates in the secure jail setting. Discourage false medical claims by inmates. Provide inmates with an improved level of medical care, thus reducing litigation. Improve the access time to specialty care.

**Service Area:**

Maricopa County Sheriff's Office.  
Arizona Department of Corrections (ADC).  
Maricopa County Public Health Services (PHS).  
Maricopa Integrated Health Systems.

**Services Provided:**

Remote booking substation initial medical exams.  
Continuing Medical Education.  
Medical/Psychiatric consultation.  
Intra-jail network and communication.

**Equipment:**

Tandberg Director Unit with VCR and computer presentation.  
Tandberg 6000, 1700's, 1000's & 880's totaling 22 units.  
Tandberg Management System (TMS)  
American TeleCare Provider/Patient units with peripheral vital signs monitors

**Transmission:**

T-1 bandwidth from Arizona Telemedicine Program to Tandberg Director.  
Static IP's on County LAN for Tandberg equipment.  
DSL and ISDN for ATI equipment and to remote booking stations.

**CALIFORNIA, Sacramento County**  
**Western Regional Telehealth Resource Center**  
**California Telemedicine and eHealth Center**

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TRC FY 06-08

California Telemedicine and eHealth Center (CTEC)  
1215 K Street, Suite 800  
Sacramento, CA 95814  
[www.cteonline.org](http://www.cteonline.org)

Christine Martin, MBA, PMP  
Ph: 916-552-7679  
Fax: 916-552-7526  
Email: [cmartin@calhealth.org](mailto:cmartin@calhealth.org)

***Network Partners:***

Current CTEC funded Networks include: Community Clinic Health Network (May 2005), Central Valley eHealth Network (March 2005), Central Valley Teleophthalmology Network (May 2005), Del Norte Clinics Network (January 2005), Teledentistry Network (May 2005), North Coast Telemedicine Network (January 2005), Northern California Telemedicine Network (January 2005), Northern Sierra Health Network (January 2005), Shasta Community Health Center Network (January 2005), and Southern California eHealth Network (June 2005).

***Project Purpose:***

To serve as a model Telehealth Resource center for new and developing Telehealth networks. CTEC will focus its strategic efforts for the next three years on building Telehealth capacity among providers, increasing access to specialty care, decreasing the digital divide as it relates to health care services, and improving access to quality care for rural and medically underserved populations.

***Outcomes Expected/Project Accomplishments:***

Expand the Telemedicine Learning Center into a second location in Southern California. Develop online Distance learning modules, which will be made available through CTEC's website. Publish two Telehealth Best Practice Guides each year and publish biennial updates for current CTEC resources.

***Service Area:***

Rural and medically underserved communities in the Western Region of the United States.

***Services Provided:***

Services include behavioral health, cardiology, dentistry, dermatology, endocrinology, gastroenterology, general surgery, internal medicine, infectious diseases, language interpretation, mental health/psychiatry, nephrology, neurology, nutrition, OB/GYN, ophthalmology, optometry, orthopedics, otolaryngology, pain management, pediatrics, pediatric endocrinology, pediatric neurology, podiatry, public health, pulmonary care, radiology, and rheumatology.

***Equipment:***

Networks use mixture of room-sized, set-top, and desktop videoconferencing systems from Polycom and Tandberg. Store and forward programs use open source EyePACs for ophthalmology and Second Opinion for dermatology.

***Transmission:***

Approximately 65 percent of the networks are connected by ISDN, the remainder used T-1 lines for IP-based videoconferencing.

Multi-Dimensional Imaging, Inc.  
2722 Walnut Avenue  
Tustin, CA 92780  
<http://www.mdovac.com>

Harvey Eisenberg, MD  
Ph: 949-278-8890  
Fax: 949-200-3689  
Email: [HCEisenberg@healthview.com](mailto:HCEisenberg@healthview.com)

**Network Partners:**

Not Applicable.

**Project Purpose:**

Develop a prototype Mobile Preventive Medicine model system designed to bring cutting-edge advanced technologies in diagnostic screening and behavioral medicine through telemedicine, improved informatics and interactive health education to a wide public, including workplace and rural America.

**Outcomes Expected/Project Accomplishments:**

Transmission of large patient data files are now successfully sent from Spoke to Hub and clarity of visual/audio transmission are sent from Hub to Spoke for patient consultation. Administrative services will be streamlined with successful transmission of payment from Spoke to Hub, successful intake, storage and transmission of health and patient satisfaction forms. Patient education videos will be created to improve understanding of preventive medicine concepts and strategies for improving health outcomes.

**Service Area:**

Counties served include sites in Los Angeles, San Bernardino, and Orange County, as well as individuals from all Counties in Southern California. We have provided services to individuals nationwide and worldwide. Our current project aims to include more rural communities.

**Services Provided:**

Multi-Dimensional Imaging has been in existence since 1992, developing products and technologies for the purpose of early disease detection capabilities, graphic patient education, behavioral medicine, and telepresent therapies. Products developed by MDI have been managed since 1997 by HealthView Services and are currently utilized by Body Scan International.

**Equipment:**

Refurbished and ruggedized, Multidetector, Spiral CT (MDCT) and will be replaced by a VAC system with future funding. PCs with several form factors for CT data reconstruction, analysis and display and patient intake/education system. Multiple-to-one video processors for screen control.

**Transmission:**

Satellite Internet system on the spoke utilizing approximately 1Mbps of bandwidth, coupled with a full T1 at the hub secured at each end with a VPN. Teleconferencing is secured using AES encryption.

Northern Sierra Rural Health Network  
138 New Mohawk Road STE 100  
Nevada City, CA 95959-2921  
[www.nsrhn.org](http://www.nsrhn.org)

Speranza Avram  
Susan Thomas  
Ph: 530-722-1156  
Fax: 530-722-1154  
Email: [tsc@nsrhn.org](mailto:tsc@nsrhn.org)

**Network Partners:**

The Northern Sierra Rural Health Network consists of fifty-one member sites, thirty-five of which are telehealth network sites consisting of rural hospitals, community health centers, rural health clinics, public health departments, private physicians, and tribal health centers. Specialty services are provided by urban community health centers and university systems.

**Project Purpose:**

Expand the range and scope of telehealth services by adding new sites, develop new types of telehealth services, integrate telehealth with our health information exchange efforts, and expand the ability of rural providers to use telehealth technology to support distance learning.

**Outcomes Expected/Project Accomplishments:**

Increase the capacity of the Northern Sierra Rural Health Network to use telehealth to increase access to health care by adding twelve new telehealth sites in our rural region, expand access to specialty care services for rural and underserved patients, enhance the ability of rural providers to recruit and retain a rural workforce, support the ability of regional and statewide organizations to use video conferencing.

**Service Area:**

The region consists of nine counties that comprise the northeastern corner of California. The region covers 30,000 square miles and contains a population of 435,706 residents. 81% of these residents live in rural or frontier communities. 50% of the communities are designated as a MUA/MUP, 65% are Health Professional Shortage Areas (HPSA) and 50% are designated dental health HPSAs.

**Services Provided:**

Our current telehealth network supports the ability of 35 rural health facilities and their safety-net providers to participate in a variety of telehealth services and activities. From 1999 through February 2008, our network members have completed 6,798 clinical telehealth consultations and 2,886 distance learning education and other telehealth events. For this six month reporting period, (September 1, 2007 thru February 29, 2008) our sites reported a total of 850 clinical encounters and 599 distance learning continuing education and other telehealth events.

**Equipment:**

Polycom VSX 7000 with interface and Quad BRI module, Avteq Series 32" Tall Cart, monitor, Polycom PVX desktop video software and Dell Vostro laptop hardware, Accord MGC-100 24-port video conferencing bridge.

**Transmission:**

A broad telecommunications network interfaces with 19 point to point T1 lines that share access to 2 bonded internet T1 lines and 3 ISDN PRI lines. Internal T1 sites on private IP based networks are able to be connected with external IP sites on the internet as well as sites equipped with only ISDN. A Polycom MGC 100 video bridge provides transcoding so IP member sites using H.323 video are able to connect with ISDN sites using H.320 video.

Integrated Physician Network Avista  
100 Health Park Drive  
Louisville, CO 80027  
[www.avistaadventist.org](http://www.avistaadventist.org)

David Ehrenberger, MD  
Rochelle Hass: Director Medical Staff Resources  
Phone 303-673-1271  
Fax 303-673-1238  
Email: [rochellehass@centura.org](mailto:rochellehass@centura.org)

**Network Partners:**

Integrated Physician Network, Clinica Campesina Family Health Clinic, Boulder County Public Health. Formed 09/01/05.

**Project Purpose:**

1) Electronic Medical Record shared between Avista Hospital, Clinica Campesina, and 21 private physician locations. 2) Institute a Clinical Quality Improvement Program (QIP) using evidence based medicine to address the six aims of the Institute of Medicine. 3) Implement decision support for providers at the time of care using a knowledge warehouse.

**Outcomes Expected/Project Accomplishments:**

Improve communications between providers – implementation of a shared Electronic Medical Record.  
Improve quality of care – diabetes registry, lab results for HbA1c and eye exam, protocols embedded in the EMR, and registries for 4 other health disparities. Improve the value of the health care– lower expenses for physicians and payers, lower premium rates, and a new model of health care delivery.

**Service Area:**

Congressional District – Colorado 2. Colorado Counties – Boulder, Adams, Broomfield.

**Services Provided:**

Allergy, Asthma, Diabetes, Mental Health, Nutrition, OB, Orthopedics, Pediatrics, Pharmacy, Trauma/ER, Acute Hospital, Dental, Family Practice, Internal Medicine, Ophthalmology, Laboratory Interfaces. 2007 – Cardiology.

**Equipment:**

Laptop computers, projectors, fax servers, fax machines, multi-page scanners, ID card scanners, desk top computers, cell phones, NextGen EPM-EMR software, Mobile MD middle-ware, Medi-Tech software.

**Transmission:**

Full T1 lines between providers and server, DSL lines to providers' home computers, Internet for patient contact.

Center for Telehealth & E-Health Law  
c/o Drinker Biddle Gardner Carton LLP  
1301 K Street NW, East Tower, 9<sup>th</sup> Floor  
Washington, DC 20005-3317  
[www.telehealthlawcenter.org](http://www.telehealthlawcenter.org) , [www.ctel.org](http://www.ctel.org)

Robert J. Waters, JD  
Ph: 202-230-5090  
Fax: 202-230-5300  
Email: [info@ctel.org](mailto:info@ctel.org)

**Network Partners:**

The Center for Telehealth & E-Health Law (CTeL) will continue its long tradition of convening telehealth leaders from across the Nation to discuss key legal and regulatory issues facing the telehealth industry. NTRC will collaborate with the four regional telehealth resource centers.

**Project Purpose:**

The NTRC serves as the source for legal and regulatory information affecting the telehealth industry and provides technical assistance to current OAT and HRSA grantees and those that seek grant funding for telehealth programs. Critical legal and regulatory information will be available on the NTRC website at [www.telehealthlawcenter.org](http://www.telehealthlawcenter.org).

**Outcomes Expected/Project Accomplishments:**

We have inventoried the material developed by the Center for Telehealth and E-Health Law (CTeL), identified which relevant statutes, regulations and state laws to include on the website, and we are engaged in an ongoing process of researching and collecting relevant material to the NTRC's mission.

**Service Area:**

The NTRC is a national resource center and provides information to current OAT and HRSA grantees and those that seek grant funding for telehealth programs.

**Services Provided:**

The NTRC provides information on legal and regulatory issues facing telehealth to current OAT and HRSA grantees and those that seek grant funding for telehealth programs.

**Equipment:**

Polycom video-conferencing system

**Transmission:**

Internet, video-conferencing; Vendors: Polycom, Chorus Call

Foundation for eHealth Initiative (FeHI)  
818 Connecticut Avenue, Suite 500  
Washington, DC 20006  
[www.ehealthinitiative.org](http://www.ehealthinitiative.org)  
[www.ccbh.ehealthinitiative.org](http://www.ccbh.ehealthinitiative.org)

Doug Emery  
Ph: 202-624-3270  
Fax: 202-429-5553  
Email: [doug.emery@ehealthinitiative.org](mailto:doug.emery@ehealthinitiative.org)

**Network Partners:**

Stakeholders engaged in more than 200 State, regional, and community-based health information exchange projects across the Nation. Includes 10 community-based multi-stakeholder collaboratives funded by FeHI that are improving health and healthcare through health information exchange (HIE): CareSpark, TN; Colorado HIE, CO; IHIE/Regensrief Institute, IN; Massachusetts Health Data Consortium (MA-SHARE), MA; MD/DC Collaborative for HIT, MD; National Institute for Medical Informatics, WI; Santa Barbara County Care Data Exchange, CA; Taconic Educational Research Fund, NY; St. Joseph's Hospital Foundation, WA; and HealthBridge, CT.

**Project Purpose:**

To improve the quality, safety and efficiency of healthcare by supporting the mobilization of information across disparate systems through health information exchange. The Program provides seed funding and technical assistance to state, regional, and community-based collaborative initiatives that are improving health and healthcare through health information exchange and develops and disseminates tools and resources to support healthcare stakeholders who are navigating the clinical, financial, legal, organizational, and technical aspects of health information exchange.

**Outcomes Expected/Project Accomplishments:**

- Increase in the number of sustainable health information exchange initiatives across the Nation that are enabling the mobilization of information to support better health and healthcare.
- Increase in the number of the providers, purchasers, and payers that recognize the value of health information exchange and are actively engaged in such efforts at the state, regional, and local levels.
- Increase in the number of principles and tools available to health information exchange initiatives to support their navigation of clinical, financial, organizational, and technical aspects of HIE.
- Evaluation measurement tools: eHI Annual Surveys; resources and tools generated by grantees and other stakeholders; accomplishments of CCBH funded collaboratives; Stakeholder interviews.

**Services Provided:**

Seed funding to communities who are improving healthcare through HIE; development of common principles and tools for: getting started, organization and governance, value creation and financing, practice transformation and quality, health information sharing policies, and technical aspects; dissemination information through learning forums, an online Resource Center, and direct technical assistance.

**Equipment:**

A broad range of equipment for health information exchange: hardware, software, and other equipment.

University of Florida College of Dentistry  
PO Box 100405  
Gainesville, FL 32610-0405  
[www.dental.ufl.edu/](http://www.dental.ufl.edu/)  
[www.dental.ufl.edu/offices/alumni/tele.asp](http://www.dental.ufl.edu/offices/alumni/tele.asp)

Teresa A. Dolan, DDS, MPH/ Linda Tyson, MA, CPPB  
Jean Sweitzer, MHA, MS  
Ph: 352-273-5787  
Fax: 352-392-3070  
Email: [jsweitzer@dental.ufl.edu](mailto:jsweitzer@dental.ufl.edu)

**Network Partners:**

N/A.

**Project Purpose:**

The University of Florida College of Dentistry (UFCD) is seeking to enhance its Statewide Network for Community Oral Health to include expanded capabilities in the areas of distance learning and teledentistry.

**Outcomes Expected/Project Accomplishments:**

Expansion and evaluation of video-conferencing capabilities from the Gainesville campus to dental clinics throughout the state has been completed. This includes classroom/conference room facilities upgrades and distance learning for dental students and residents via videoconferencing throughout UFCD's network of clinics. The mobile videoconference cart has been tested on-site.

Web-based educational experiences for dental students, dental residents, faculty and dental practitioners have been offered and include the ongoing "oral pathology" case of the month. The educational website related to teledentistry and distance education and the testing of the "virtual" dental study club concept is completed.

Digital radiography implementation has been completed at the Gainesville, Hialeah and St. Petersburg sites, with implementation in Jacksonville expected in the next few months.

**Service Area:**

University of Florida Gainesville campus to health facilities located throughout the state, specifically, Jacksonville, St. Petersburg and Hialeah. Counties where clinics are located include Pinellas, Alachua, Duval and Miami-Dade. Web-based technology will give us a presence throughout the statewide network for community oral health.

**Services Provided:**

Dental services provided include digital radiography and eventually, teledentistry consultations. In addition, Distance Learning technology was upgraded and expanded to include area practitioners across the State of Florida. The existing statewide network has been operational for over 10 years.

**Equipment:**

Video Conferencing Equipment: Polycom VSX 7000, Sony Cameras, Polycom Practitioner Cart, Polycom Gateway; Dell PowerEdge, Medicor: EMC Centera Dell Optiplex GX270 PCs, Cisco Routers & switches, etc.

**Transmission:**

TCP/IP over Full T3, T1s and ISDN telecommunication circuits.

Southeast Health Unit  
1101 Church Street  
Waycross, GA 31501

Diane Watson, Telehealth Director  
Ph: 912-287-4890  
Fax: 912-287-403  
Email: [dcwatson9@gdph.state.ga.us](mailto:dcwatson9@gdph.state.ga.us)

**Network Partners:**

Appling, Atkinson, Bacon, Brantley, Bulloch, Candler, Charlton, Clinch, Coffee, Evans, Jeff Davis, Pierce, Tattnall, Toombs, Ware, & Wayne County Health Departments; Medical College of Georgia; Georgia Department of Human Resources; Coffee Regional Medical Center; Savannah Perinatology; SEHD Children's Medical Services; State of Georgia WIC Program; Bulloch, Coffee, Toombs, Ware & Wayne Wellness Centers.

**Project Purpose:**

To continually enhance health care provision in public health in Southeast Georgia. The network provides access to specialty providers for clients living with HIV/AIDS, high risk obstetrical conditions, asthma, and children with special needs that need genetic or pulmonologic consultations. The project has provided the enhancement necessary to expand the network into all public health clinic settings in the 16 county area allowing continued service provision during times of staff shortages and funding uncertainties. The remaining project time will focus on developing a teledentistry system for preventive dental services for elementary school children either enrolled in Medicaid/PeachCare or have no dental coverage.

**Outcomes Expected:**

- Decrease in costs associated with travel – both mileage costs and underutilization of staff d/t travel time
- Increase in the number of specialty health care services provided locally
- Increase utilization of the network across programs and locations throughout public health
- Successful linkage with Ga. DHR videoconferencing network (GVNS)
- Provision of on-demand nutritional services and lactation consultation
- Program sustainability post OAT

**Service Area:**

The rural service area is roughly the size of the state of Massachusetts and consists of 16 counties with 24 public health sites. The district is predominantly classified as both medical and dental underserved areas.

**Services Provided:**

Southeast Telehealth Network provides telemedicine services in Infectious Disease including TB & HIV/AIDS, Children with Special Needs including asthma, genetics, and pulmonology, and for high risk OB clients. Group and individual on-demand nutritional services and lactation on-demand services have recently been added. Telehealth videoconferencing services are available in all sites.

**Equipment:**

STN utilizes 7 Polycom IPower units, 35 Polycom VSX 7000 units, 9 Polycom VSX 3000 units, Codian 4200 MCU, Codian IP Recorder, AMD peripherals.

Hawai'i Primary Care Association (HPCA)  
345 Queen Street, Suite 601  
Honolulu, Hawai'i 96813  
[www.hawaiipca.net](http://www.hawaiipca.net)

Principal Investigator: Christine Sakuda  
Project Manager: Orin Sherman  
Ph: 808-536-8442  
Fax: 808-524-0347  
Contact Person: [osherman@hawaiipca.net](mailto:osherman@hawaiipca.net)

**Network Partners:**

All thirteen Federally Qualified Community Health Centers (FQHCs) in Hawai'i, Native Hawaiian Health Care Systems (NHHCS), Queen Emma Clinics, Hawai'i Area Health Education Center (AHEC)-Ke`Anuenue, Dr. Doug Johnson (dermatologist), Dr. Chad Koyanagi (psychiatrist).

**Project Purpose:**

Help the FQHCs prepare for the effective, practical, and seamless use of telehealth in clinical, administrative, and educational settings, by creating a positive experience of telehealth among CHC providers, administrators, and patients. Three primary objectives are (1) increase remote access to health care using telecommunications, (2) encourage consultations among CHCs that have or need shareable clinical capacity, (3) use Telehealth and other health information technology to meet important non-clinical needs: administration, education, and outreach.

**Outcomes Expected:**

(1) Increase the number of patients assessing needed specialists in Hawai'i's FQHCs, primarily through dermatology and behavioral health (2) develop and support sustainable, on-going VTC programs-CMEs, grand rounds, community health education, community outreach, (3) increase the number of telehealth consults in FQHCs, (4) decrease PT and Provider travel costs.

**Service Area:**

The 3 urban FQHCs and 11 rural FQHCs collectively serve roughly 100,000 patients annually or 8% of the state population. 80% of these represent Medically Underserved Populations (MUPs), 20% represent Medically Underserved Areas (MUAs) and is comprised largely of Native Hawaiians, Immigrants, Migrants from the Freely Associated States of the Marshall Islands, Micronesia, and Palau, Homeless people, and uninsured people.

**Services Provided:**

Teledermatology, audio and video multi-point conferencing services, distance education for example the Community Health Education Outreach Program, website development, electronic practice management/health records procurement collaborative, Medicine Bank online database.

**Equipment:**

Tandberg MCU bridge, Tandberg/Sony/PictureTel/Polycom VTC units, Nikon CoolPix cameras, general exam cameras, document reader, dermoscopes, otoscopes, ophthalmoscopes.

**Transmission:**

A mix of PRI, IP T-1 lines, frame-relay, DSL, and ISDN. MCU is mostly supported by an ISDN PRI and cable broadband IT transport. Most spoke sites have 384kbs ISDN connectivity but some are some are migrating to IP.

06-08

Hawaii Neuroscience Telehealth Network  
The Queen's Medical Center

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The Queen's Medical Center  
1301 Punchbowl Street  
Honolulu, HI 96813  
<http://www.queens.org/services/neurosciences.html>

Cherylee Chang MD, FACP  
Karen Seth, Manager  
Ph: 808-537-7152  
Fax: 808-547-4001  
Email: [kseth@queens.org](mailto:kseth@queens.org)

**Network Partners:**

Hilo Medical Center in Hawaii County and Wahiawa General Hospital in the Central/Leeward area of Honolulu County. The Hawaii Neuroscience Telehealth Network became operational in February 2008. The expected number of patients to be served annually is approximately 75 acute neurological patients.

**Project Purpose:**

To develop a telemedicine system to connect emergency departments in Hawaii rural hospitals without neuroscience expertise to a medical center in Honolulu that has expertise in this area at all times in order to improve access to acute neurological and neurosurgical care for patients at the rural sites.

**Outcomes Expected/Project Accomplishments:**

The system will be easy to use with few system or technical failures as measured by technical end user evaluations, usage frequency and technical failures. This system will improve access to acute neurological patient care for patients at the rural sites.

**Service Area:**

The Hawaii Neuroscience Telehealth Network will initially serve Hawaii County via the rural hospital site of Hilo Medical Center. Hawaii County has a population of about 160,000 with a land area of 4,038 square miles. It is designated as both a Medically Underserved Population (MUP) and a primary care Health Professional Shortage Area (HPSA).

**Services Provided:**

Emergency neurology and neurocritical care and potential referral to neurosurgical specialty care.

**Equipment:**

This telehealth network is based on a three component architecture managed by Interactive Care Technologies: 1) An ASP server application, called the Virtual Care Team; 2) Two iCare Vision Elite camera systems for remote sites that are digital, wireless, battery-operated with a single off-on switch; and 3) Telehealth ISP routing methodology that layers on top of consumer Internet connectivity.

**Transmission:**

Telehealth ISP and Internet, ASP hosted source, video traffic protected by end-to-end encryption using VPN SSL technologies, and POTS.

Telehealth Idaho  
921 So. 8<sup>th</sup> Ave., Stop 8174  
Pocatello, ID 83209-8174  
[www.isu.edu/irh](http://www.isu.edu/irh) & [www.telida.isu.edu](http://www.telida.isu.edu)

B. Hudnall Stamm, PhD  
Ph: 208-282-4436  
Fax: 208-282-4074  
Email: [telida@isu.edu](mailto:telida@isu.edu)

**Network Partners:**

Community: 12 hospitals, two clinics, one dental practice, one hospital network (five hospitals), and four State associations. University: The College of Pharmacy, Idaho Health Sciences Library, Dental Sciences, Clinical Psychology, Family Medicine, and Hispanic Health Center. Corporate: Healthwise, Inc. & Well Diagnostics. Operational August 1, 2001.

**Project Purpose:**

Improve access to healthcare for people in rural and frontier Idaho and support a statewide telehealth resource center designed to improve access across the spectrum of health care, including oral, physical, and mental/behavioral health. The program takes a 3-pronged approach to increase, extend, and preserve health professionals in Idaho (see specific objectives below).

**Outcomes Expected/Project Accomplishments:**

Improved quality and quantity of access to healthcare for people living in Idaho's rural and frontier areas (Goal 1). We also have established a statewide telehealth resource center (Goal 2). An anticipated overarching outcome is a healthcare culture change incorporating Health Information Technology (HIT) among health professionals in Idaho. Below are our three objectives and the outcome measures used to evaluate them.

- *Objective 1: Increase the workforce through new and upgraded education:* Frequency counts of sessions, participants, and a standardized, self-report course evaluation.
- *Objective 2: Extend the reach of existing providers by using telehealth-based supervision and consultation.* Frequency counts, standardize self-report evaluations for direct patient care.
- *Objective 3: Preserve Existing Professionals:* Data is collected from health professionals using standardized measures of (a) telehealth utilization (b) overall quality of life (Life Status Review, LSR) and (c) professional quality of life (The Professional Quality of Life Scale, ProQOL). Data area also collected on frequency of use for various online tools such as the digital medical library.

**Service Area:**

Entire state of Idaho. The 44 counties include 36 HPSAs, 30 DPSAs, 44 MPSAs, 28 MUAs.

**Services Provided:**

Technical support, digital medical library, clinical services, new and continuing health professions education, and the Tel Ida Toolbox, a health informatics website. Specializations include professional quality of life, geriatrics, traumatic brain injury, community integration, mental health, health services, health economics, traumatic stress, and cultural competency. Business analysis and cost-effectiveness studies.

**Equipment:**

Wide range, including virtual program centers and webconferencing applications, as requested by partners. Emphasis is on interoperability, data security, and HIPAA compliance.

IDAHO, Bonner County  
Expanding Telehealth to North Idaho Districts (EXTEND)  
North Idaho Rural Health Consortium (NIRHC)

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CMP FY 02, 03, 04, 05

North Idaho Rural Health Consortium  
Kootenai Medical Center  
2003 Lincoln Way  
Coeur D' Algne, ID 83814  
[www.nirhc.org](http://www.nirhc.org)

Tom Hauer  
Ph: 208-666-2987  
Fax: 208-666-2389  
Email: [hauer@kmc.org](mailto:hauer@kmc.org)

**Network Partners:**

Five northern Idaho county hospitals in St. Maries, Sandpoint, Bonners Ferry, Coeur d' Alene, and Kellogg; three school districts in Wallace, Kootenai, and Priest River; and North Idaho Behavioral Health.

**Project Purpose:**

Extend existing service providers, by further developing and expanding telehealth treatment applications, to better serve the rural population of northern Idaho. Increase access to quality healthcare and improve patient safety through the use of telecommunications and digital technologies specifically in the areas of mental health, hospital and school-based rehabilitative therapies, pathology, pharmacy, and electronic medical records.

**Outcomes Expected/Project Accomplishments:**

EXTEND will evaluate the feasibility, quality of care, cost-effectiveness, satisfaction, and outcomes data related to delivering healthcare using telehealth techniques. Quantitative and qualitative measurements are integrated into each telehealth application.

**Service Area:**

Five counties in northern Idaho: Boundary, Bonner, Kootenai, Shoshone, and Benwah counties.

**Services Provided:**

Electronic Medical Records (2005), telepharmacy (2004), telepathology (2004), hospital and school based telerehabilitative therapies (2003), telemental health (2002), professional continuing medical education (1996), distance learning (1996), and administrative meetings (1996).

**Equipment:**

Tandberg 880 videoconferencing unit, Polycom FX viewstation, and Vtel TC2000 videoconferencing unit.

**Transmission:**

IP Wide Area Network (WAN) between hospitals with Primary Rate ISDN gateway access to the school district networks.

Public Hospital Cooperative, Inc.  
651 Memorial Drive—East Campus  
Pocatello, ID, 83201

Jon Smith  
Ph: (208) 239-2912  
Fax: (208) 239-3777  
Email: [jons@portmed.org](mailto:jons@portmed.org)

**Network Partners:**

Participating Sites: Portneuf Medical Center-hub (Pocatello, ID), eight hospitals located in Southeast Idaho and West Wyoming, and a Federally Qualified Health Center with various sites in Idaho; Project partners include: Idaho State University, Partners in Health Telemedicine Network.

**Project Purpose:**

CTN will focus on developing a network that enables residents in rural /frontier counties to have access to mental health and other clinical services typically available only in urban settings. CTN will enable us to meet the goals of increasing quality and years of healthy life and eliminating health disparities by making needed specialty mental health services available at the local hospitals for all rural residents.

**Outcomes Expected/Project Accomplishments:**

Idaho State University Institute of Rural Health will evaluate the feasibility, quality of care, cost-effectiveness, satisfaction, and outcomes data related to delivering healthcare using telehealth. Quantitative and qualitative measurements are included into each clinical and educational telehealth application. CTN will measure performance with the OAT GPRA tool.

**Service Area:**

The Eastern Idaho Telehealth Network will serve the following Idaho and Wyoming counties: Bannock, Bingham, Caribou, Lemhi, Madison, Minidoka, Oneida, Power, Teton, Lincoln (WY). The total geographic area covered by the Eastern Idaho Telehealth Network participants is approximately 25,000 square miles.

**Services Provided:**

Cooperative Telehealth Network will be providing mental health services (February 2007) and distant education for hospital staff (CMEs, CEUs) and community members (diabetes management, healthy living, depression). Other possible clinical services include dermatology, orthopedics, and radiology.

**Equipment:**

Participating Sites: 6 Tandberg 880 MXP IP Units with Natural Presenter Software (equipment vendor—Wire One Technologies)

**Transmission:**

Full point-to-point T-1 lines will be used from participating sites to the hub site (Portneuf Medical Center).

## Illinois Developmental Disabilities Telehealth Network and Services: A Program

Dedicated to Optimizing Health and Support of Community Living

Illinois Department of Human Services

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Illinois Department of Human Services  
Division of Developmental Disabilities,  
Bureau of Clinical Services  
319 East Madison St., Suite 2A  
Springfield, IL 62701-1035

Rod Curtis, MD  
Crystal VanDeventer, MPA  
Ph : 217-782-9449  
Email : [cvandeventer@siumed.edu](mailto:cvandeventer@siumed.edu)  
[Rod.Curtis@illinois.gov](mailto:Rod.Curtis@illinois.gov)

**Network Partners:**

Network partners include state agencies and community-based organizations serving developmentally disabled individuals in institutionalized and group residential settings throughout Illinois. The network was initiated in November 2006 and consists of 18 grant funded sites and 15 self-funded sites (10 in Illinois, 4 in other states, 1 in Egypt). Estimated Patients served Oct. 2007-Sept. 2008: 94.

**Project Purpose:**

Develop a comprehensive Telehealth network connecting organizations that serve developmentally disabled individuals in rural and underserved areas of Illinois. Use the network to develop and implement clinical, educational and administrative initiatives that will improve medical and supportive care services provided to intellectually and developmentally challenged individuals. Services currently provided through the Telehealth program include clinical case reviews, neurology consults, health care-related educational events and administrative support.

**Outcomes Expected:**

1) Improve efficiency and efficacy of care delivery and support to intellectually disabled individuals who experience behavioral and medical exacerbations. 2) Reduce admissions to State Operated Developmental Centers, ER, and psychiatric facilities. 3) Enhance professional clinical management and supportive care.

**Service Area:**

The eight developmental centers are located in Clinton, Cook, Kankakee, Lake, Livingston, Lee, and Union counties. The eight community agencies are located in Champaign, Coles, Iroquois, Jackson, Knox, Lee, Pope, and Stephenson counties, with a total population of 469,101. Additionally, many of these locations serve multiple surrounding counties.

**Services Provided:**

Provide clinical assistance to support individuals with intellectual disabilities residing in state centers and community-supported agencies in rural areas throughout Illinois; provide educational programs and administrative support for direct care staff, physicians, medical students, nurses and other professionals serving people with intellectual disabilities.

**Equipment:**

16 Polycom 7000s (IP/ISDN) (1/site), DSU/CSU Interface Card, Ethernet Router, 32" Monitor w/S-Video inputs, peripheral cameras, video recorders, etc. for medical and educational purposes.

**Transmission:**

Dedicated T1 connection; state of Illinois Century Network Backbone and community service providers.

Moving Toward Portability: Uniform Core Licensure Standards for Nursing  
**National Council of State Boards of Nursing**

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The National Council of State Boards of Nursing (NCSBN)  
111 East Wacker Drive, Suite 2900  
Chicago, IL 60601  
[www.ncsbn.org](http://www.ncsbn.org)

Kristin Ann Hellquist, MS  
Ph: 312-525-3665  
Fax: 312-279-1032  
Email: [kellquist@khellquist.org](mailto:kellquist@khellquist.org)

**Network Partners:**

NCSBN has partnerships with states that are awarded contracts to implement or assist with implementation of the Nurse Licensure Compact (NLC) and Criminal Background Checks (CBCs) with it for portability purposes. It also utilizes a contract advisory panel to review submissions, and other external stakeholders related to portability.

**Project Purpose:**

Assist states in implementing the Nurse Licensure Compact (NLC) and criminal background checks (CBC). Remove regulatory barriers while increasing access to safe nursing care through licensure portability. Enhance licensure portability for nurses and thereby increase telehealth practice.

**Outcomes Expected/Project Accomplishments:**

Assist Boards of Nursing in meeting NCSBN uniform core requirements (CBC, uniform data collection and licensure portability). Improve the quality, timeliness and immediate accessibility of criminal history and related records. Demonstrate an increase in the number of nurses who are practicing across state lines while decreasing barriers associated with nurse licensure portability.

**Service Area:**

Boards of nursing who have not yet implemented uniform requirements (notably CBCs, NLC or Advanced Practice Compact) are eligible to receive funds.

**Services Provided:**

NCSBN provides secretariat services for the Nurse Licensure Compact Administrators, as well as member services in the areas of government relations, policy, legal, meetings support, finance, and operations.

**Equipment:**

Not applicable

**Transmission:**

Not applicable

**INDIANA, Marion County**  
**Congressionally-Mandated Telehealth Grants**  
**Health & Hospital Corporation of Marion County**

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**CMP FY 05**

Health & Hospital Corporation of Marion County  
Grants Department  
3838 N. Rural St.  
Indianapolis, IN 46205

Thomas Kuster, CNMT  
Gurinder Hohl, MPH  
Ph: 317-221-3112  
Fax: 317-221-2020  
Email: [ghohl@hccorp.org](mailto:ghohl@hccorp.org)

***Network Partners:***

N/A.

***Project Purpose:***

To enhance Wishard Health Services (WHS) physician, staff and patient access to and satisfaction with radiology images and reports through the use of the Picture Archive Communications System (PACS).

This project is an upgrade to an existing system in effort to become a “filmless” radiology department.

***Outcomes Expected/Project Accomplishments:***

Increased physician usage and satisfaction of/with PACS. Increased staff satisfaction with PACS. Have one year’s worth of images stored in cache (immediate retrieval). This will be monitored via system user surveys.

***Service Area:***

Marion County (Indianapolis), Indiana.  
Approximately 12 HPSAs served by grant project.

***Services Provided:***

The WHC PACS system has been in place since 1998 and supports all modalities of radiology including Computed Tomography (CT), Magnetic Resonance Imaging (MRI), Nuclear Medicine, Ultrasound and Diagnostic X-ray.

***Equipment:***

1 Oracle server; 2 network gateways; 2 tape archives; 2 archive servers; 1 Web server; 25 radiology review stations; administrative workstation.

***Transmission:***

Broadband LAN throughout hospital with Internet access for radiologists and referring physicians outside of hospital.

Des Moines University  
3200 Grand Avenue  
Des Moines, Iowa 50312  
[www.iowacc.com](http://www.iowacc.com)

William Appelgate, PhD  
Ph: 515-271-1516  
Fax: 515-271-7062  
Email : [william.appelgate@dmu.edu](mailto:william.appelgate@dmu.edu)

**Network Partners:**

Iowa Medicaid Enterprise  
Des Moines University  
Pharos Innovations

Approximately 200-250 Iowa Medicaid members will be served through this project.

**Project Purpose:**

To implement a comprehensive population-based statewide chronic care program, targeting all Iowa Medicaid beneficiaries with a primary or secondary diagnosis of Congestive Heart Failure (CHF). Eligible members will be enrolled in a daily auto voice response system (AVR), which prompts self-reporting of concerning symptoms and weight gain. The goal is to identify and mitigate early warning signs of CHF exacerbations. Additional care management, as needed, will be provided through Iowa Medicaid Enterprise Care managers.

**Outcomes Expected/Project Accomplishments:**

Clinical Improvement: Clinical parameters, (measure): Telehealth data management technology.

Patient Satisfaction: Telephone surveys will be completed with all patients in the program.

Patient Functionality: Will measure through Minnesota Living with Heart Failure survey.

Health Care Utilization: Will evaluate all health claims data on participants, as well as a matched cohort.

**Service Area:**

It is anticipated that this project will serve Medicaid members in any one of the 99 counties in Iowa, in which they may reside.

**Services Provided:**

Intervention: AVR system as developed by Pharos Innovations, Inc. Care management and self-management education provided by Iowa Medicaid Enterprise Care Managers.

**Equipment:**

Telephones: Patient monitoring through the Pharos Tel-Assurance system.  
Scales, both regular and for those who weigh in excess of 325 pounds.

**Transmission:**

Plain Old Telephone Service (POTS).

Midwest Rural Telemedicine Consortium  
1111 6<sup>th</sup> Avenue  
Des Moines, IA 50314-2611  
<http://www.mrtc.iowa.org>

Dale Andres, DO  
Fred Eastman, MS  
Ph: 515-643-8750  
Fax: 515-643-5350  
Email: [feastman@mercydesmoines.org](mailto:feastman@mercydesmoines.org)

**Network Partners:**

Mercy Medical Center – Des Moines, Mercy Medical Center – North Iowa, and 23 affiliate facilities in Algona, Ames, Audubon, Belmond, Bloomfield, Britt, Centerville, Charles City, Clarinda, Corydon, Cresco, Emmetsburg, Greenfield, Hampton, Iowa Falls, Leon, Manning, Marshalltown, Mount Ayr, Nevada, New Hampton and Osage, Iowa.

**Project Purpose:**

Enhance the quality and accessibility of health care services through updated equipment deployment, develop a support mechanism for Limited English Proficient (LEP) patients, and increase access for delivery of clinical services.

**Outcomes Expected/Project Accomplishments:**

Outcomes include an increase in current network utilization (clinical, educational and administrative); improved ability for facilities to address the language needs for LEP patient populations; increased awareness of telemedicine capabilities and opportunities for rural physicians and urban specialists. Monitor outcomes using the OAT GPRA Performance Measures.

**Service Area:**

The service area consists of 24 communities in North-Central, Central and South-Central Iowa, including: Adair, Audubon, Wright, Polk, Floyd, Davis, Decatur, Hardin, Franklin, Hancock, Kossuth, Carroll, Marshall, Story, Cerro Gordo, Appanoose, Chickasaw, Mitchell, Page, Palo Alto, Howard, Ringgold, and Wayne counties.

**Services Provided:**

Since 1995 - Clinical (Echocardiography, Dermatology, Mental Health, Nephrology); Educational (CEU/CME, health care management, community support groups, public health);  
Administrative. Tele-Interpretation for LEP patients.

**Equipment:**

8 Polycom Viewstation FX, 24 Polycom Viewstation EX, 7 PictureTel VTC units, POTS videoconferencing systems.

**Transmission:**

Dialable ISDN-PRI over statewide network. Point-to-point and multi-point conferences via dial-up service and state owned videoconference bridge. ISDN-BRI used in Des Moines local area.

KU Center for Telemedicine and Telehealth (KUCTT)  
3901 Rainbow Blvd.  
Kansas City, KS 66160  
<http://www.kumc.edu>  
<http://www2.kumc.edu/telemedicine/>

Ryan Spaulding, PhD  
Ph: 913-588-2226  
Fax: 913-588-2227  
Email: [rspaulding@kumc.edu](mailto:rspaulding@kumc.edu)

**Network Partners:**

Cedar Vale Clinic, Crawford County Mental Health Center, Flint Hills Community Health Center, Goodland Regional Medical Center, Grisell Memorial Hospital, Hays Medical Center, Horton Community Hospital, Northwest AHEC, Northwest Education Service Center, Parsons State Hospital, Sedan City Hospital, South Central Kansas Special Education Cooperative, East AHEC, Southwest AHEC, Southwest Kansas Area Cooperative District. KUCTT has been operational since 1991. Actual number of patients served 1 OCT 06- 30 SEP 06: 647. Actual number of patient encounters 1 OCT 05-30 SEP 06: 1,548.

**Project Purpose:**

The project will evaluate access and cost-benefit of pediatric special needs services delivered via telemedicine across the Kansas Telehealth Network, which links Kansas University Medical Center (KUMC) to 15 partner sites in rural Kansas. Cost accounting procedures will be used to compare costs of telemedicine to more traditional service delivery methods, and validated quality of life instruments will be employed to measure the benefit of telemedicine. The services being evaluated include developmental pediatrics, Autism/Asperger's interventions, child psychiatry and behavioral pediatrics from such specialists as Developmental Pediatricians, Child Psychiatrists and Child Psychologists, respectively.

**Outcomes Expected/Project Accomplishments:**

It is hypothesized that access to pediatric special needs services will be improved and that the cost of providing the service via telemedicine will be lower than providing the same service in a traditional outreach setting. It is also expected that quality of life measures will demonstrate at least an equivalent level of care via telemedicine of that which is observed in traditional settings. Together, these cost-benefit data will provide evidence that telemedicine can be a cost-effective and clinically-beneficial service.

**Service Area:**

This network will serve 15 sites in 13 counties across Kansas, covering 11,431 square miles and a population of 237,388. Twelve of the 13 counties are HPSAs or partial HPSAs, 12 are mental health HPSAs, and 12 are MUAs or partial MUAs. This area has a disproportionately high number of elderly, children, Native Americans, and Hispanics compared to Kansas overall.

**Services Provided:**

The services provided include developmental pediatrics, Autism/Asperger's interventions, child psychiatry, child psychology, and behavioral pediatrics from respective specialists, such as Developmental Pediatricians and Psychiatrists. Other services provided by KUCTT are: Cardiology; Diet and Nutrition, including Diabetes Care and Management; Oncology; Rehabilitation, Physical Therapy, and Speech Language Pathology; and a wide range of Pediatric Services. Patient education and continuing education services are provided as well.

**Equipment:**

All sites are equipped with a PolyCom F/X Viewstation or a Polycom VSX 7000.

**Transmission:**

Consults are conducted at 384 kbps or higher over dedicated H.323 T-1 lines or ISDN PRI lines.

Marcum & Wallace Memorial Hospital  
60 Mercy Court  
Irvine, KY 40336

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Fax: 606-723-2951  
Email: [slwhitaker@marcumandwallace.org](mailto:slwhitaker@marcumandwallace.org)

**Network Partners:**

Lourdes Hospital

**Project Purpose:**

To continue to provide local access to radiology and echocardiology services to our rural community by utilizing telemedicine/teleradiology. All physicians who provide healthcare services to our hospital through private practice, specialty clinics, and emergency services will be linked to the project, which will expedite diagnosis and treatment. Actual number of patient encounters 1 OCT 05-30 SEP 06: 13,506.

**Outcomes Expected/Project Accomplishments:**

Annual physician and patient satisfaction surveys—evaluating improvement of quality of radiology services. Quality review of turnaround time for radiology reports—decrease turnaround times. Radiologist peer review for quality interpretative services.

**Service Area:**

The hospital serves rural areas of Appalachia and eastern Kentucky, which incorporates six rural counties with a cumulative population of over 62,000 serving a total of seven MUA and six HPSA status communities. (Five of these counties are dependent on our hospital to provide their healthcare needs.)

**Services Provided:**

In 1959 Marcum & Wallace Memorial Hospital began operations as a healthcare facility. In 2000 the hospital received Critical Access Designation. The hospital provides radiology and echocardiography services to rural Appalachia and eastern Kentucky.

**Equipment:**

Software upgrade for Sonos 5500 echocardiography unit, Easylink license for attachment of additional imaging modalities such as an MRI, Web Browser for Internet access, three PACS viewing stations, and radiologist reading stations.

**Transmission:**

Full T-1 lines between facilities (Radiologists, Marcum & Wallace Memorial Hospital and Lourdes Hospital). Internet access for physician utilization to view procedures and reports.

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740 S. Limestone  
Lexington, KY 40536-0284  
<http://www.mc.uky.edu/kytelecare>

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**Network Partners:**

The Kentucky TeleCare Network was created in 1993 at the University of Kentucky and reaches out to over 25 healthcare facilities across the state, including hub sites at St. Claire Regional Medical Center in Morehead and Lewis County Primary Care in Vanceburg. The network served over 1600 patients between 1 OCT 05 and 30 SEP 06 and is expected to serve over 1,800 patients in the following 1 year period.

**Project Purpose:**

Expand the Kentucky TeleCare Network to hospitals, primary care clinics and public school clinics to serve the needs of rural Kentuckians. Use the network to deliver clinical and educational programs that will have a significant impact on acute and chronic disease, helping reduce unnecessary transportation and providing needed care more quickly than would otherwise be possible.

**Outcomes Expected/Project Accomplishments:**

Traditional clinics in public schools and primary care clinics for specialty services have helped reduce the number of patients who seek specialty care from primary care providers, and healthcare education of public school students has improved health awareness. A mobile telehealth van, serving coal mining facilities is helping improve patient compliance with medication and treatment.

**Service Area:**

University of Kentucky, Fayette County, Bath County Middle School, Carter County Primary Care, Menifee County Primary Care, Elliott County Primary Care, Olive Hill Elementary, Carter County, Lewis County Family Health, Lewis County High School, Tollesboro Family Health, Lewis County, Tollesboro Elementary School, Lewis County, Laurel Elementary School, Lewis County.

**Services Provided:**

The network provides educational programming, such as Grand Rounds, targeted, disease-specific education, Medical student and resident programs. Clinical services, including Pediatric Cardiology, Infectious Disease, Dermatology, Child and Adult Psychiatry, Pre and post operative visits, surgical specialty clinics, Gastroenterology, Rheumatology, primary care, Neurology, Memory Disorder Clinic.

**Equipment:**

The network utilizes Polycom endpoints, video bridges, firewall traversal devices and gatekeepers.  
Clinical equipment includes American TeleCare stethoscopes, camcorders and other specialty cameras.

**Transmission:**

T-1s connect endpoints to video bridges and bridges are connected by one or more T-1s.

**MAINE, Penobscot County**  
**Improving Rural Maine's Critical Access to Emergency & Chronic Disease**  
**Care Through Telehealth/Monitoring**  
**Eastern Maine Healthcare Systems**

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**TNGP FY 06-08**

Eastern Maine Healthcare Systems  
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Brewer, ME 04412-1005  
[www.emh.org](http://www.emh.org)

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***Network Partners:***

Eastern Maine Healthcare Systems; Eastern Maine Medical Center; Acadia Hospital; Eastern Maine HomeCare; EMS; The Aroostook Medical Center; Inland Hospital; Blue Hill Memorial Hospital; Mayo Regional Hospital and Sebecook Valley Hospital; Redington-Fairview and Penobscot Bay Medical Center-Network formed 1996.

***Project Purpose:***

To provide patient-centered care to rural residents in northern, central, and eastern Maine through effective use of telehealth technology, linking care between providers to reduce ED visits and re-hospitalizations; stabilizing and improving care provided by Critical Access Hospitals within EMHS' service area.

***Outcomes Expected/Project Accomplishments:***

To improve emergency access to trauma & orthopedic specialists to reduce ratio of unnecessary transfers from CAH & improve patient's outcomes transferred after telemedicine communication. Reduce medical errors in treatment of injured trauma patients. Improve trauma & orthopedic consultations access for follow-up. Improve self-management of glucose control. Improve emergency access to pediatric critical care specialists.

***Service Area:***

EMMC and Acadia Hospital: Penobscot County; TAMC and Eastern Maine Homecare: Aroostook County; SVH & Redington-Fairview: Somerset County; Inland Hospital: Kennebec County; Blue Hill Memorial Hospital: Hancock; Mayo Regional: Piscataquis County and Penobscot Bay: Knox County.

***Services Provided:***

Diabetes Care and Management; Mental Health; Remote Patient Monitoring and Trauma/Emergency Medicine.

***Equipment:***

Remote sites: 3 Polycom videoconferencing units, 11 Tandberg videoconferencing units.  
Home Monitoring equipment: 12 Telestation Platforms, 12 Weight Scales, 12 Blood Pressure units; 12  
Wireless Pulse Oximeters; and a Tandberg MPS800 Bridge

***Transmission:***

Full T1 lines, ISDN and IP (Internet protocol) to hospitals, Internet, POTS to homes  
Vendors used: Polycom and Tandberg

Maine Telemedicine Services  
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Lubec, ME 04652  
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**Network Characteristics:**

In Maine, applicant contracts with various organizations in an open network of over 300 sites.

Subcontractor: Partners HealthCare Systems, Boston, MA (Joe Ternullo, Vice Pres., Center for Connected Health--network of 75 sites including 7 hospitals; 1,200 clinical consults in 2005

University of Vermont College of Medicine, Burlington VT (Terry Rabinowitz, Director, Fletcher Allen HealthCare Telemedicine Program)--36 sites including 13 hospitals in VT & NY

**Project Purpose:**

The Northeast Telehealth Resource Center will provide educational, technical, and coordination support and guidance to health care organizations in the 7 northeast states seeking to develop, expand, or improve the effectiveness of telemedicine programs. An additional focus will be on helping collaboratives seeking to enhance regulatory and reimbursement policies.

**Outcomes Expected:**

Documented linkage of TRC efforts to: development of new rural telehealth access sites, new clinical telehealth services, increased access to continuing medical education, and improved Medicaid and private payor reimbursement policies.

**Service Area:**

The Regional Medical Center at Lubec (Washington County ME), Partners HealthCare (Suffolk County, MA), and the University of Vermont School of Medicine (Chittenden County, VT) will collectively serve all counties of the 7 northeast states: ME, MA, VT, NH, NY, CT, RI.

**Services Provided:**

Technical, educational, and clinical development assistance in telehealth for clinical outpatient specialty care, emergency medicine, nursing home specialty care, store and forward applications, home health care, telehealth network operations, e-health, medical education by distance education, telecommunications, reimbursement issues, and program evaluation.

**Equipment:**

Project partners use Polycom units and an Accord bridge, capable of conferencing with clients by ISDN or IP. A satellite receiver is available for accessing C-band educational transmissions. A variety of home health equipment is used by partner organizations.

**Transmission:**

ISDN at 128K to 384K over leased lines for video; IP on T1 or institutional WANs; POTS lines for home telehealth.

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**Network Partners:**

Michigan Department of Community Health (MDCH), Lansing, MI; Michigan Department of Information Technology (MDIT), Lansing, MI; Blue Cross Blue Shield of Michigan (BCBS), Detroit, MI.

**Project Purpose:**

Define the infrastructure elements for a Michigan Health Information Network (MiHIN) by providing the conceptual and operational concepts critical to MiHIN implementation in future efforts following this planning process. The goal is to define the overall framework for the MiHIN and its stakeholders, set priorities, and create workable plans.

**Outcomes Expected/Project Accomplishments:**

Convened statewide kickoff stakeholder meeting and engaged stakeholders in formulation of initial MiHIN. In addition worked with stakeholders to create, convene, and support workgroups to develop policy frameworks and implementation plans to achieve stakeholder agreement on key areas of MiHIN governance.

**Service Area:**

The entire State of Michigan and the areas governed by Michigan Regional Health Informatics Organizations.

**Services Provided:**

During the planning phase, services provided will be associated with convening stakeholders and supporting workgroups throughout development of the conceptual and operational framework for future MHIN implementation. Specific services to be provided once MHIN is operational will be determined over the course of the planning process.

**Equipment:**

Not Applicable.

**Transmission:**

Not Applicable.

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[www.hurleymc.com](http://www.hurleymc.com)

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Email: [gtownse1@hurleymc.com](mailto:gtownse1@hurleymc.com)

**Network Partners:**

Hurley Medical Center and Hurley Health Services.

**Project Purpose:**

To select a clinical information system to replace the current legacy system. System requirements will be developed based on input from key stakeholders (physicians, nursing, pharmacy, health information management, and other ancillary areas). System selection will be based on evaluation of vendor responses to the system requirements, reference calls and on-site system demonstrations.

**Outcomes Expected/Project Accomplishments:**

The system will provide: 1) clinical decision support with rules and/or alerts to clinicians, 2) improved CPOE to increase physician use, 3) comprehensive clinical documentation—electronic medical record, 4) pharmacy information system functionality, including electronic MAR and bar-code based bedside administration, 5) easy remote access to the system. Epic Systems Corporation was chosen as the vendor for Hurley's new system. Grant funds were also used to purchase networking equipment, including enterprise-wide core and work group switches, a wireless control system, and access points within the hospital and several remote locations.

**Service Area:**

Primary service area is Genesee County, Michigan.

**Services Provided:**

Hurley Medical Center is a 463-bed teaching hospital providing acute and tertiary care. Services provided include: Level 1 Trauma Center, Level III Neonatal Intensive Care Unit, Pediatric Intensive Care Unit, Burn Unit, and ACS Level 1 B Accredited Bariatric Center. Specialty pediatric services also include the Regional Pediatric Rehabilitation Unit and Pediatric Emergency Department.

**Equipment:**

CISCO PIX 515 firewall, CISCO 7200 router, CISCO VPN 3000 concentrator.

**Transmission:**

A wide area network of T1s on a SONET interconnects with Hurley Medical Center and 16 off-site facilities. Remote users access the clinical systems with secure VPN sessions.

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**Network Partners:**

Michigan State University College of Communication Arts and Sciences  
Purdue University Regenstrief Center for Healthcare Engineering  
Kansas University Center for Telehealth & Telemedicine

**Project Purpose:**

MATTeR supports existing and developing telehealth networks to meet the needs of rural and underserved residents within the tri-state region of Kansas, Indiana, and Michigan. The Alliance provides technical assistance, information dissemination, evaluation and research design, and an educational consortium.

**Outcomes Expected/Project Accomplishments:**

Development of successful and sustainable telehealth services; efficiency in the collection, synthesis and dissemination of information; strong consistent evaluations for participating services; increased availability of educational resources to a regional audience.

**Service Area:**

The tri-state area of Michigan, Kansas, and Indiana

**Services Provided:**

Technical assistance, information dissemination, evaluation design, and educational programming and resource sharing.

**Equipment:**

N/A

**Transmission:**

N/A

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Communication Arts & Sciences, Deans Office  
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**Network Partners:**

Sparrow Hospice Services, Lansing, MI and Michigan State University, East Lansing, MI (provider).

**Project Purpose:**

The purpose of this project is to deploy telehospice services for Mid-Michigan hospice patients and their families, positively impacting six groups: couples where one person is a hospice patient and one is caregiver; patients living 25 miles plus from hospice facilities; patients suffering from lung disease; grieving families during the bereavement period after a hospice patient dies; on-call nurses working challenging schedules; providers applying telehospice technologies.

**Outcomes Expected/Project Accomplishments:**

The expected results are improved patient satisfaction and reduced burdens on family members, nurses, and providers. To measure these outcomes, researchers will use the McGill Quality of Life survey, patient health questionnaire, burden scale, the Mueller/McCloskey Job Satisfaction Scale, staff work records and notes, willingness to accept technology.

**Service Area:**

Sparrow Hospice Services provides hospice care to people throughout Michigan, including Ingham, Eaton, Clinton, Gratiot, Montcalm Counties, Shiawassee, Ionia, and Jackson counties. Patients included in this study will come from these areas.

**Services Provided:**

Currently, Sparrow Hospice Services provides medical care for patients, social care for affected family members, and on-call staffing for emergencies. Future services through this project will include nurse visits and data collection through videophones.

**Equipment:**

Twenty-two POTS (Plain Old Telephone System) units: interactive video systems that combine with standard telephones to operate through analog phone lines, ensuring patient access and ease of use.

**Transmission:**

Transmission will be through standard phone lines based on H.324 standards. This allows for a low-cost, "plug-and-play" option easily used by all patients and staff.

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**Network Partners:**

Borgess Health Alliance and members of the Southwest Michigan Telehealth Network, which includes rural hospitals, public health departments, and health clinics.

**Project Purpose:**

The purpose of the Western Michigan University Telehealth Project is to add the resources and expertise of a research university to the Southwest Michigan Telehealth Network, expand available services to rural residents and practitioners, and promote the development of a regional telehealth research agenda. This project is new with a primary focus in the area of allied health.

**Outcomes Expected/Project Accomplishments:**

To provide specialized geriatric assessment to the rural population, develop CME/CEU telehealth opportunities to allied health professionals, and to promote regional research in telehealth.

**Service Area:**

Thirteen rural counties in Southwest Lower Michigan.

**Services Provided:**

Services include continuing education for allied health professionals, geriatric assessment to rural patients and healthcare providers, and the facilitation of a regional telehealth research agenda.

**Equipment:**

Tandberg Intern II, Tandberg 6000 Flat Panel Monitor, AMD 3100 Ausculette II Electronic Stethoscope, AMD 9940 Video Phone (2), AMD 2500 General Exam Camera NTSC, AMD ENT scope.

**Transmission:**

IP, VTC Bridge, Internet, T1

MINNESOTA, Hennepin County CMP FY 02, 04, 05  
Ambulatory Electronic Medical Record System – Twin Cities Metropolitan  
Care  
Systems  
Fairview Health Services

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<http://www.fairview.org>

William Showalter  
Ph: 612-672-6900  
Fax: 612-672-5955  
E-mail: [wshowall@fairview.org](mailto:wshowall@fairview.org)

**Network Partners:**

Fairview Health Services including University of Minnesota Medical Center at Fairview–Riverside and University Campuses, and free-standing clinics (6); Fairview Southdale Hospital and free-standing clinics (4); and Fairview Ridges Hospital and free-standing clinics (6).

**Project Purpose:**

Acquire and install an ambulatory electronic medical record application in Fairview’s hospitals and clinics. Redesign and automate core care delivery processes and provide physicians with decision support tools at the point of care in the clinics setting. Provide electronic access to the ambulatory record to physicians at the time of ED and hospital care and from any Internet access point. Provide patient information across the continuum of care throughout Fairview’s regional care systems supporting same day, on demand appointments.

**Outcomes Expected/Project Accomplishments:**

- 100 percent computerized physician order entry
- 100 percent results available on-line.
- Improved availability of information for clinical care decision making.
- Clinical quality measurement reporting to enable improvement efforts.
- 80 percent reduction in ambulatory dictation/transcription costs resulting from point-of-care documentation.
- HIPAA compliance

**Service Area:**

Hennepin and Ramsey Counties in Minnesota including 11 HPSAs/MUAs and serving 2.7 million residents.

**Services Provided:**

The ambulatory electronic medical record system supports 15 primary care clinics delivering over 500,000 patient visits each year and four hospital campuses providing a complete range of clinical services from prevention of illness and injury to care for the most complex medical conditions.

**Equipment:**

The ambulatory electronic medical record system is a three-tier computer architecture using PCs running Windows 2000, HP Servers running Windows Server 2003 and Citrix, and IBM AIX Servers running Intersystems Cache DBMS, storing data on a Hitachi Storage Area Network. PCs are located at every Fairview site and networked via WAN/LAN technologies. Epic Systems Inc. software is used—multiple modules.

**Transmission:**

Secure Internet connections and private wide-area and local-area networks consisting of T1 and OS3 transmission services.

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**Network Partners:**

University of Minnesota, Minneapolis, 1994 with previous Fairview University of MN Telemedicine Network consisting of 17 active sites; North Region Health Alliance representing a consortium of 22 rural hospitals across northwest MN and northeast ND; and SISU Medical Systems, Duluth, a consortium of 14 medical centers in northern MN.

**Project Purpose:**

Implement a Minnesota Telehealth Network across northern MN and eastern ND. Address the restricted access to medical specialty and healthcare professionals in rural areas. Special needs include geriatric care, chronic disease management, mental health and rehab services for underserved populations and health professional education.

**Outcomes Expected/Project Accomplishments:**

Increase access to medical specialists and health professionals by increasing the number of network members who provide telehealth services, 7 new rural sites each year. Quantify patient usage of telehealth services using data collection of OAT GPRA performance measures. Provide medical and health professional education.

**Service Area:**

MN: Wadena, Todd, Otter Tail, Polk, Kittson, Pennington, Clearwater, Roseau, Lake of the Woods, Norman, Marshall, Carlton, St. Louis, Crow, Wing, Itasca, Aitkin, Cook, Kanabec, Becker, McLeod, Dakota, Cass, Pine, Goodhue, Koochiching, Mille Lacs, Traverse. ND: Grand Forks, Traill, Cavalier, Walsh, Pembina, Ramsey, Griggs, Nelson.

**Services Provided:**

Dermatology, orthopedics, neurology, gastroenterology, asthma/allergy, behavioral health, cardiology, child/adult psychiatry, endocrinology, gerontology, home care/hospice, pharmacy, pulmonology, wound care, rehab services, NICU visits, oncology, dietitian, and chronic disease management such as diabetes/CHF/pain.

**Equipment:**

Rural sites: Document Video Visualizer, Digital Camera, Polycom Videoconferencing System, Exam Camera.

Providers: Polycom/Tandberg Videoconferencing System, Stethoscope.

**Transmission:**

Interoperable transmission standards will be used made up of IP videoconference capable connections—i.e., point to point enabled layer 3, quality of service managed connections.

MINNESOTA, Hennepin County TNGP FY 94-96, RTGP FY 00-02, TNGP FY 03-05  
Fairview-University of Minnesota Telemedicine Network  
University of Minnesota

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Email: [speed002@umn.edu](mailto:speed002@umn.edu)

**Network Partners:**

Fairview Health Svcs, (Minneapolis, MN), UMN Physicians, (Minneapolis, MN), Prairie at St. Johns (Fargo, ND), UMN Duluth Medical School (Duluth, MN), Sports and Ortho Specialists (Edina, MN). Originating Sites: Wadena, Aitkin, Crosby, Red Wing, Hibbing, Cook, Moose Lake, Big Fork, Onamia, Ne-Ia-Shing Clinic, Mora, Littlefork, Cass Lake, International Falls, Wheaton. Patients: 810. Encounters: 866.

**Project Purpose:**

Meet the needs of rural Minnesotans for a greater range of specialty medicine consultations with an emphasis on mental health, geriatric issues; improve treatment of chronic conditions including heart disease, diabetes, and chronic pain; and health professional education. Facilitate the continued growth of FUMTN into an open network of multiple telemedicine providers and users to reach a larger percent of the state's rural underserved populations in multiple settings. Patients will be served by telemedicine not just in hospitals, but in rural clinics and homes.

**Outcomes Expected/Project Accomplishments:**

Increase the number of network members where patients can seek telemedicine consultations and assist those sites to extend telemedicine into the community through home care agencies and rural health clinics. It is anticipated that the outcomes will be larger numbers of available services, providers and network sites; greater number of consults; more home care visits and discharges to lower levels of care.

**Service Area:**

Portions of 12 Minnesota counties. Covers 11 HPSAs and pHPSAs; 13 full and partial mental health HPSAs; 10 MUAs and pMUAs; one partial MUP. Counties served: Aitkin, Carlton, Cass, Crow Wing, Goodhue, Itasca, Mille Lacs, Otter Tail, Pine, St. Louis, Todd, and Wadena.

**Services Provided:**

Current specialties: Dermatology, orthopedic surgery, cardiology, pulmonology, neurology, gastroenterology, asthma/allergy, adult psychiatry, child psychiatry, and endocrinology. New services: adult mental health, chronic illness, pain management, and NICU visits.

**Equipment:**

Currently using 6 Polycom FXs and 6 Polycom Viewstations videoconferencing units, 6 handheld exam cameras, 6 digital cameras, 4 digital stethoscopes, 1 otoscope, and 5 document cameras. Planned installations: 5 Polycom Viewstation videoconferencing units, 4 digital cameras, 7 video phones.

**Transmission:**

One network member utilizes an ISDN connection. The remainder network members are using secure IP connections. Home telehealth is using h.324 over POTS lines.

Citizens Memorial Hospital District (CMH)  
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**Network Partners:**

CMH, CMH Foundation, and Bolivar Family Health Care. The Project Infocare Network was formed in December 2002. At present, the network holds an Electronic Medical Record (EMR) for 80,000 patients. The project started on 11/02/06. It will serve an estimated 240 patients each year through an estimated 21,600 encounters.

**Project Purpose:**

Project Infocare will integrate in-home telemanagement into its existing EMR network, evaluate whether telemanagement in an EMR environment will improve quality of care and outcomes, and evaluate whether active monitoring of patients by physicians using telemanagement improves quality of care and outcomes more than nurse-only monitoring.

**Outcomes Expected/Project Accomplishments:**

Improved Care—Outcome and Assessment Information Set (OASIS) by CMS (Medicare); improved patient compliance—data from home health units; improved access—speed of response to patient changes; improved clinical outcomes—OASIS and CMS; cost-effective service delivery—difference between average cost of episode before and after telemanagement; changes in blood glucose levels in diabetic patients.

**Service Area:**

The only site is Home Healthcare (HH) in CMH serving Polk, Dallas, Dade, Cedar, and Hickory Counties. HH covers a number of secondary sites.

**Services Provided:**

Daily monitoring of vital patient information along with daily education and medication management; adding information to the patient's EMR; increased contact between patient and nurses, physicians, and necessary health care professionals.

**Equipment:**

Telemanagement will occur via 40 Well-at-Home units, phased in over eight months, for a single home use of 50 days, allowing each unit to be employed six times a year.

**Transmission:**

Patients will convey daily data via regular phone lines. Data will be placed on EMR, which will become Available via the Wide Area Network. Physicians can also use the Internet to reach the EMR via Citrix.

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Great Falls, MT 59405

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**Network Partners:**

The Northcentral Montana Healthcare Alliance (NMHA) and Realizing Education And Community Health Telehealth Network (REACH) consists of Benefis Healthcare (hub) and sites in Havre, White Sulphur Springs, Chester, Chinook, Chouteau, Ft. Benton, Big Sandy, Conrad, Cut Bank, Shelby, and Box Elder. Benefis Healthcare Foundation is an additional partner.

**Project Purpose:**

To expand and enhance the connectivity and clinical capabilities of the existing REACH network. To improve access and reduce costs overall of providing medical specialty and mental health services to rural residents. To positively impact the financial, psychological, emotional, and spiritual well-being of rural communities by improving retention of healthcare services and revenues.

**Outcomes Expected/Project Accomplishments:**

Attain financial, strategic, and operational synergies (measure) - financial data, retention and turnover rates, budget comparisons (tool). Expand clinical and education capabilities of Network (measure) - participant evaluations (tool). Reduce costs of providing specialty and mental health services (measure) – archival data comparison (tool). Positively impact well-being of communities (measure) - comparative data for financial, participant satisfaction surveys for psychological, emotional, and spiritual (tool).

**Service Area:**

Benefis Healthcare, Center for Mental Health, Sletten Cancer Institute (Cascade); Fort Belknap Service Unit, Sweet Medical Center, Sweet Memorial Nursing Home (Blaine); Big Sandy Medical Center, Missouri River Medical Center (Chouteau); Liberty County Hospital (Chester); Teton Medical Center (Teton); Pondera Medical Center (Pondera); Northern Rockies Medical Center, Blackfeet Community Hospital (Glacier); Chippewa Cree Health Center, Northern Montana Healthcare (Hill); Phillips County Hospital (Phillips); Mountainview Medical Center (Meagher), Marias Medical Center (Toole).

**Services Provided:**

The REACH Network currently provides services including CME for credit, professional development (non-credit), mental health consults, pre-surgery education, genetic counseling, educational programming, and the clinical service of teleradiology (limited). Intend to expand teleradiology and include telepharmacy and other clinical services such as oncology, cardiology, dermatology, and pediatrics.

**Equipment:**

All fourteen REACH sites use Polycom equipment, either FX view stations or VSX-series units. Most sites use Sony video monitors, with a few sites using Sharp Aquos monitors.

**Transmission:**

The REACH network uses a private (full, dedicated) T-1 based network to provide IP (Internet protocol) connectivity to the 14 REACH sites. The network uses a Polycom Accord MGC100 bridge, which allows video conferencing at a speed of 384kbps.

Revolutionizing Diabetes Care at Billings Clinic: A Model for Chronic Disease Care

**Deaconess Billings Clinic Foundation**

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Billings Clinic  
PO Box 37000  
Billings, MT 59107-7000  
[www.billingsclinic.org](http://www.billingsclinic.org)

Fred E. Gunville, MD  
Beth Bales  
Ph: 406-657-4621  
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Email: [bbales@billingsclinic.org](mailto:bbales@billingsclinic.org)

**Network Partners:**

Billings Clinic, Billings Clinic Heights, Billings Clinic West in Billings, Montana; Cody Clinic in Cody, Wyoming; Columbus Clinic in Columbus, Montana; Forsyth Clinic in Forsyth, Montana; Miles City Clinic in Miles City, Montana; Red Lodge Clinic in Red Lodge, Montana.

**Project Purpose:**

Improve the care for diabetes patients of all ages in our service area by focusing on two specific projects: (1) consolidating the pediatric diabetes services into one identified area; and (2) improving the quality of diabetes care by modifying office practices and continuing the development of a diabetes registry to provide quantitative data for diabetic patients of all ages.

**Outcomes Expected/Project Accomplishments:**

Improve the percentage of DM patients who receive HbA1c, cholesterol, nephropathy, foot, eye exams; improve the percentage of DM patients who are as well controlled for HbA1c, blood pressure, and cholesterol; improve the percentage of DM patients using aspirin for anticoagulation; improve the percentage of DM patient receiving influenza and pneumonia vaccinations when indicated.

**Service Area:**

Central and Eastern Montana; northern Wyoming.

**Services Provided:**

Clinical data repository/electronic medical record, MicroMedics, MedMARx.

**Equipment:**

Mobile Intel Celeron 800 MHz processor, electronic Medical Administration Record (MAR).

**Transmission:**

100 Base T backbone, Citrix Terminal Servers, Ethernet 10 Base T.

St Patrick Hospital & Health Foundation  
PO Box 4587  
500 W. Broadway  
Missoula, MT 59806  
[www.partnersinhomecare.org](http://www.partnersinhomecare.org)

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Primary Contact Dianne Hansen, R.N.  
Ph: 406-327-3646  
Fax: 406-327-3684  
Email: [hansend@partnersinhomecare.org](mailto:hansend@partnersinhomecare.org)

**Network Partners:**

Northern Rockies Healthcare Network – est. 1995. Marcus Daly Memorial Hospital; St Joseph Hospital; Clark Fork Valley Hospital; Mineral County Hospital; Community Hospital Anaconda; Granite County Medical Center. Others in network: Teton Medical Center; Barrett Hospital; Marias Medical Center.

**Project Purpose:**

1. To implement a regional cardiac Electronic Patient Medical Record (EMR);
2. To provide digital patient test transference capability at all targeted rural sites
3. To conduct a Patient Tele-consultation Demonstration as “proof of concept”; and
4. To thoroughly evaluate, report and disseminate results of the MCTN project.

**Outcomes Expected/Project Accomplishments:**

- Improved Quality and Efficiency of Patient Care (mortality, Guideline Care);
- Successful Patient Teleconsultation Demonstration;
- Decreased Cost of Care; and
- Provider/End-User/Beneficiary Satisfaction will also be measured.

**Service Area:**

Missoula; Ravalli; Lake; Mineral; Deer Lodge; Beaverhead; Granite; Sanders; Teton; Toole Counties in Montana.

**Services Provided:**

The MCTN was established in June 2005 and provides the service area with an ECG and Echocardiography network and cardiac electronic medical record. Toole County is also served with a cardiac telemedicine exam service. Mineral & Sanders County are to receive similar telemedicine exam services.

**Equipment:**

Heart Lab ECG data repository and network tool. 40+ ECG’s distributed throughout Western Montana and eastern Idaho. Phillips EnConcert Echocardiology data repository and archiving system. General Electric Vivid Echocardiology equipment.

**Transmission:**

T1 lines or multiples or fractions of T1 lines depending on development of transmission infrastructure.

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Billings, MT 59101  
[www.svfoundation.org](http://www.svfoundation.org)

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Ph: 406-237-3602  
Fax: 406-237-3615  
Email: [doris.barta@svh-mt.org](mailto:doris.barta@svh-mt.org)

**Network Partners:**

The Northwest Regional Telehealth Resource Center (NRTRC) is a region-wide (nine-state) consortium of healthcare organizations and educational institutions. St. Vincent Healthcare Foundation, located in Billings, Montana, is the recipient and fiscal agent for the project and INHS in Spokane, Washington is the operations center. The NRTRC promotes a “best practices” approach to telehealth service delivery.

**Project Purpose:**

To ensure that Federal and state investments in telehealth programs are effectively used through collaborative growth and opportunity development; to promote effective delivery of telehealth services through sharing of information and leveraging of developed resources across multiple telehealth systems; and to assist in the development of new telehealth programs through expertise sharing and organized assistance.

**Outcomes Expected/Project Accomplishments:**

The NRTRC will help provide improved access by enhancing the clinical care programs available to rural communities via telehealth. These programs include access to specialists for clinical consults, ongoing care management programs to support individuals with chronic conditions; and enhanced emergency care through programs that connect emergency room specialists with providers and patients in rural hospitals.

**Service Area:**

The Northwest Regional Telehealth Resource Center (NRTRC) represents 9 western states (Alaska, Hawaii, Idaho, Oregon, Montana, Nevada, Utah, Washington, Wyoming, as well as the U.S. Affiliated Pacific Islands). The NRTRC assists healthcare organizations, networks, and providers implementing cost-effective telehealth programs serving rural and medically underserved populations.

**Services Provided:**

The NRTRC will collect and disseminate shared resources as well as coordinate and manage projects, activities, communications, meetings, marketing, and advocacy. The NRTRC will develop cross-state expertise groups led by regional content experts focused on specific issues including: regulatory, technical and interoperability, clinical delivery models, distance education, evaluation, business models, marketing.

**Equipment:**

Polycom video codecs from IP based Via Video to FX and custom VS4000 room systems, VCONN Executive IP systems, Accord Polycom MGC 100 MCU that incorporates audio, ISDN, and IP video bridging and data collaboration services, Panasonic 3 CCD cameras, and AMD general exam cameras.

**Transmission:**

Standardized delivery of 12 channels, 64Kbps over leased T1 lines, microwave wireless, cellular, and IP based transmission services. Segmentation of circuits for voice/video or data provide for cost effective utilization of available bandwidth.

**NEBRASKA, Buffalo County**  
**Mid-Nebraska Telemedicine Network (MNTN)**  
**Good Samaritan Hospital Foundation**

**RTGP 94-96, 97-99, 00-02, CMP FY 04, 05**

Good Samaritan Hospital Foundation  
RN, BS

PO Box 1810  
Kearney, NE 68848-1810

[www.gshs.org](http://www.gshs.org)

Dale Gibbs, BS/Wanda Kjar

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Ph: 308-865-2703

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Email: [lesliebollwitt@catholichealth.net](mailto:lesliebollwitt@catholichealth.net)

**Network Partners:**

This network was formed in 1995 and grown to 14 Nebraska project partners and 3 Kansas partners, added 3 additional teletrauma/telepsych partners in 2007. Patients served between 1 OCT 06-30 SEP 07: 1082 estimated number of patients to be served between 1 OCT 07-30 SEP 08: 1190; patient encounters between 1 OCT 06-30 SEP 07: 1521; estimated number of patient encounters between 1 OCT 07-30 SEP 08: 1673

**Project Purpose:**

Expand Teletrauma from 8 to 16 sites, improve outcomes for inpatient adolescents by providing weekly family therapy sessions, provide pediatric behavior health clinic consults, provide family risk assessment for hereditary cancer to high risk patients, provide education, training and team meetings for child abuse teams across the state, provide Spanish interpretation

**Outcomes Expected/Project Accomplishments:**

Program data collection is built around the key concepts of clinical effectiveness, use of the system and cost-effectiveness. Nebraska Public Service Commission/Nebraska Hospital Telehealth Network Patient/Provider Satisfaction (measure) –surveys (tool), Quantify Patient Usage of Services Provided (measure) – OAT GPRA Performance Measure (tool).

**Service Area:**

Good Samaritan Hospital, Richard Young Hospital: Buffalo & all 27 counties: Jennie M.Melham Memorial Medical Ctr.:Custer, Logan, Thomas, Loup; Callaway District Hospital: Custer, Logan; Tri-Valley Health Systems: Furnas, Frontier; Cozad Community Hospital: Dawson, Gosper; Gothenburg Memorial Hospital: Dawson, Lincoln; Valley County Hospital: Valley, Garfield, Dundy County Hospital: Dundy, Hitchcock, Chase; Rock County Hospital: Rock, Holt; Franklin County Hospital: Franklin; Chase County Hospital: Chase, Dundy, Hayes, Perkins; Brown County Hospital: Brown, Blaine; Webster County Hospital: Webster; Brown, St. Anthony's Hospital: Holt, Kearney County Health Services: Kearney; KS: Norton County Hospital: Norton, Decatur, Phillips, Graham; Phillips County Hospital: Phillips, Norton, Smith, Rooks; Smith County Memorial Hospital: Smith. Add: Tri-County Hospital: Gosper, Dawson; Phelps Memorial: Phelps, Harlan; McCook Community: Red Willow

**Services Provided:**

Mental health, emergency mental health, genetics counseling, cardiology, teletrauma, infectious disease, geriatric assessment, neurology, oncology, orthopedics, occupational therapy, hospice, diabetic education, nutrition, speech pathology, wound ostomy care, teleradiology, domestic/child abuse interviewing, professional & community education, Spanish interpreting

**Equipment:**

Remote sites: 32 Polycom videoconferencing systems, at the GSH sites 37 Polycoms, 1 Tandberg, Accord Network Bridge, AMD Oscopes, AMD Stethoscopes. Vendors used: Wire One & SKC

**Transmission:**

T1 lines to all MNTN network hospitals, internet access and ISDN capabilities provided via UNMC.

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***Network Partners:***

Not Applicable.

***Project Purpose:***

The Medical Technology Center for Infants and Children is a multi-disciplinary entity, which will conduct basic and clinical research in pediatric biomedical engineering and technology. By partnering with Drexel University, and NJIT, as well as collaborating with other academic and corporate sources, the Center will allow for the successful and expedient integration of pediatric medicine and engineering. Technology developed by the Center will ultimately be of international benefit in both the pediatric and adult medical fields. Initial foci for research will include: Blue Light Emitting Diode Phototherapy, and the Heart Rate Variability Analysis.

***Outcomes Expected/Project Accomplishments:***

**Outcomes Expected:** 1) A Blue Light Emitting Diode Phototherapy system will be developed for the treatment of Neonatal Jaundice. 2) Heart Rate Variability Analysis will be studied as a predictor of neonatal sepsis, and as a tool to help predict neonatal outcomes. Antibiotic exposure and development of resistant organisms is a major problem in all intensive care units. For neonatal intensive care units an additional problem is the non-specific nature of signs and symptoms of infection and high morbidity and mortality for established infection. Therefore a lot of babies get worked up for nosocomial infection and get treated with antibiotics while waiting for culture results. Our aim is to incorporate Heart Rate Variability Analysis into the clinical decision making process of initiating antibiotics for suspected sepsis before culture results are available. We expect that antibiotic use will decrease with this strategy, thereby, reducing the development of resistant organisms.

***Service Area:***

Not Applicable

***Services Provided:***

Not Applicable

***Equipment:***

A Blue Light Emitting Diode Phototherapy System  
Hero Heart Rate Variability Analysis System

***Transmission:***

Not Applicable

**NEW MEXICO, Santa Fe County**  
**New Mexico Tele-Behavioral Health Improvement Project**  
**New Mexico Human Services Department**

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**CMP FY 05**

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HSD/BH/South Park  
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***Network Partners:***

University of New Mexico department of Psychiatry and Center for Telehealth  
New Mexico Department of Health Office of School Health

***Project Purpose:***

Improve access to Behavioral Health (BH) services for children/youth in rural NM.  
Expand training in the BH workforce through specialized distance education.  
Improve local BH planning through the use of telehealth technology.  
Develop an inter-agency data-sharing infrastructure for collaborative policy, planning, and contract management.

***Outcomes Expected/Project Accomplishments:***

Telehealth equipment has been installed and connectivity established for a number of School-Based Health Centers (SBHCs). Local BH planning to address local disparities in access, quality, and outcomes of the behavioral health delivery system has been improved. Integration and efficiency of inter-agency BH data and information has begun.

***Service Area:***

Statewide.

***Services Provided:***

Direct: mental health services, to include depression screening and treatment for adolescents, will be implemented over the next year.  
Indirect: distance learning curricula will be developed/delivered; rural Local Collaboratives (LCs) will receive technology support; data integration will occur to better support BH Collaborative operations.

***Equipment:***

Polycam Video Systems, Sony TV monitors, and Cisco Routers (T1 w/VPM-Firewall).  
Equipment and technology assistance has been provided to Local Collaboratives.

***Transmission:***

T1/DS1 lines; Checs Backbone 1MB.

**NEW YORK, Genesee County**  
**Upstate New York Telemedicine Study**  
**Genesee Gateway Local Development Corporation, Inc.**

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**CMP FY 05**

Genesee Gateway Local Development Corporation, Inc.  
56 Harvester Ave., STE 301  
Batavia, NY 14020-2201  
[www.gcedc.com](http://www.gcedc.com)

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**Network Partners:**

WNY R-AHEC, Millard Fillmore-Gates Hospital, Medina Memorial Hospital, United Memorial Hospital, Wyoming County Hospital.

**Project Purpose:**

To conduct a pilot study to determine the need and effectiveness of telemedicine in rural hospitals, and to implement the project providing three rural WNY spoke hospitals, Medina Memorial Hospital, United Memorial Hospital, Wyoming County Hospital, the telemedicine systems to connect to a TeleStroke hub hospital, Millard Fillmore-Gates Hospital, as a part of the NY state TeleStroke Demonstration Project to treat stroke victims locally in a timely and effective manner.

**Outcomes Expected/Project Accomplishments:**

- 1) Improved outcomes in stroke victims served by the rural hospitals, based on hospital data.
- 2) Increased patient and provider satisfaction from surveys.
- 3) Increased management of stroke patient care (and thereby, increased revenues) at the rural hospitals.
- 4) Increase in the skill-sets of the rural clinical staff to treat and manage the stroke victims.

**Service Area:**

- 1) Medina Memorial Hospital, Medina, NY—Orleans County
- 2) United Memorial Medical Center, Batavia, NY—Genesee County
- 3) Wyoming County Hospital, Warsaw, NY—Wyoming County

**Services Provided:**

Neurological and radiological services for the treatment and management of stroke victims at the rural hospital, using a telemedicine link to a NY State-designated hub for stroke services. Implementation date: December, 2006.

**Equipment:**

ReachMD TeleStroke Cart, equipped with a medical grade pan-tilt-zoom camera, and a telestroke application on a laptop computer with NIH Stroke Scale over a wireless network.

**Transmission:**

Secure IP connection with minimum 768 kbps upload and minimum 256 kbps download speeds, over a secure wireless router and access point compatible with the 802.11a/b/g standards.

NEW YORK, Suffolk County  
An Electronic Clinical Trial System to Reduce Drug Development Costs  
Long Island Association for Millenium Center for Convergent Technologies

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Millennium Center for Convergent Technologies  
300 Broadhollow Road  
Melville, NY 11747  
[www.longislandassociation.org](http://www.longislandassociation.org)

Robert Kelly, PhD  
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**Network Partners:**

Stony Brook University, Stony Brook University Hospital, LifeTree Technology.  
This is not a clinical program.

**Project Purpose:**

The overarching purpose of this project is to develop and test the application of new technologies for the healthcare industry to help reduce its spiraling costs. The first goal is to add an enhancement to an already-developed clinical trial system to reduce the time to capture and process clinical trial data, while improving the accuracy of data collected. The second goal seeks to address the inability to recruit patients that is the single biggest cause of clinical trial delays, which thereby increases clinical period development costs, by developing a prototype patient eligibility system to identify potential clinical trial subjects when they arrive for Emergency Room treatment.

**Outcomes Expected/Project Accomplishments:**

The project will measure the time savings and the improvement in data quality, achieved by use of the software enhancement, which will permit electronic data exchange between the clinical site and the trial manager, in a realistic clinical environment, expecting at least 30 percent time savings and over 99 percent accuracy. The prototype eligibility system will investigate the use of portable XML documents and a rule-based system to identify candidates for a clinical trial from among patients in a typical ER setting, seeking to identify at least 10 eligible patients.

**Service Area:**

Not Applicable.

**Services Provided:**

Not Applicable.

**Equipment:**

Computers and related equipment as follows: HP Desktop PC, IBM Thinkpad Notebook, Elo Intuitive Touchscreen Monitor (2), HP Deskjet printer, SIIG Fiber Optic Switch, and Com SS3 Baseline Hub. Substitutions may be made if appropriate as the project moves forward.

**Transmission:**

Internet and T-3 high-speed broadband (campus is served by NYSERNET, bulk-buying aggregator for New York's research and education community)

**NEW YORK, New York County** **CMP FY 03, 05**  
**Systems Technology Interfacing Teaching and Community Hospitals**  
**(STITCH)**  
**New York Presbyterian Hospital**

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New York - Presbyterian Hospital  
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**Network Partners:**

New York-Presbyterian/Allen Pavilion, Brooklyn Hospital, Queens Hospital, Lawrence Hospital, New York-Presbyterian Ambulatory Care Network.

**Project Purpose:**

- Link four hospitals in the New York area allowing patients to review their data and physicians to review data from institutions other than their own.
- Create a Regional Health Information Infrastructure to empower doctors, nurses, and patients with information so that patients can receive quality care wherever they are.
- Create a proof-of-concept to demonstrate that exchange of clinical data between academic medical centers and a community hospital can improve point-of-service care at all hospitals.

**Outcomes Expected/Project Accomplishments:**

Improve patient care across the continuum of healthcare settings, including academic medical settings, community hospitals, physician offices and clinics.

**Service Area:**

NYC (Upper Manhattan), Brooklyn, Queens, and Westchester.

**Services Provided:**

Primary health care, health education, social services, mental health, care to special populations. In the near future, patients will be able to share data with providers outside of the participating institutions.

**Equipment:**

4 Dell PowerEdge Servers, 2 DELL/EMC CX700 Fiber Channel Storage Area Network (SAN).

**Transmission:**

Internet, T1.

NEW YORK, Suffolk County

CMP FY 05

Demonstration of Implementation of Electronic Medical Record in Skilled Nursing Facility

The Rosalind and Joseph Gurwin Jewish Geriatric Center of Long Island

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Jewish Geriatric Center of Long Island  
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Suzanne Fields, M.D.  
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**Network Partners:**

St. Catherine of Siena Medical Center (Smithtown, NY), Huntington Hospital (Huntington, NY), University Hospital at SUNY Stony Brook (Stony Brook, NY). Network established in December 2005. Actual number of patients served 1 OCT 05-30 SEP 06: 0 since system installation will not begin until November 2006. Patients to be served 1 OCT 06-30 SEP 07: 860.

**Project Purpose:**

Develop an interoperable electronic medical record program including computerized physician-order entry suitable for post-acute care and long term care. This program will be designed with the potential to exchange critical health information with other clinical settings, particularly acute care hospitals.

**Outcomes Expected/Project Accomplishments:**

Provider satisfaction, enhanced communication, improved compliance with required documentation, decreased time to document history and physical examination (measures)-Survey of medical staff (tool); Reduction of medial errors that occur during transitional care, decreased rate of illegible or incomplete orders, better reconciliation of medications (measure)-Review of medical records of medication errors (tool).

**Service Area:**

Suffolk County, including three acute care hospitals.

**Services Provided:**

Provides long term care services, assisted living, home care, ventilator dependent care, subacute care, adult day care, hospice services. Dialysis services will begin in early 2007.

**Equipment:**

Optimus EMR software, Hewlett Packard Laptops and computers, Palm Pilots, Pocket PCs, printers.

**Transmission:**

Internet, T1 lines.

Division of Clinical Informatics, Duke University  
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Email: [clinicalinformatics@duke.edu](mailto:clinicalinformatics@duke.edu)

**Network Partners:**

Major sites: Granville Medical Center, Maria Parham Medical Center, Person Memorial Hospital, 24 primary care practices, Vance-Granville District Health Department, Person County Health Department, Warren County Health Department, 4 Departments of Social Services; Number of patients served: 17,923.

**Project Purpose:**

To support proactive care management of medically underserved populations in four rural counties in the Northern Piedmont region of North Carolina. Medicaid claims data, billing data imported from community hospital, and clinical information collected directly from patients will be used for proactive population health management through a standards-based clinical decision support system. Healthcare services are customized to each patient and include health education, health risk reduction programs, and assistance accessing appropriate clinical services and complying with medication regimens.

**Outcomes Expected/Project Accomplishments:**

Decreased emergency department utilization and admissions for ambulatory care-sensitive conditions. Improved HEDIS indicators for cancer screening, immunizations, diabetes care, asthma care, Chlamydia screening, well-child visits and post-partum care.

**Service Area:**

Granville, Person, Vance and Warren counties. Four MUAs and four HPSAs.

**Services Provided:**

Members of the network will provide telemedicine services, receive telemedicine services, provide distance education services and receive distance education services.

**Equipment:**

This project is Internet based. Equipment used includes a specially designed touch-screen patient data entry kiosk. The kiosk includes an output printer and a video camera to provide real-time contact to a care manager. Partner sites access the data via the Internet on their office personal computers.

**Transmission:**

T1 lines at the partner sites, over the Internet.

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**Network Partners:**

Licensed rural community and hospital pharmacists and pharmacies, rural communities, North Dakota State Board of Pharmacy, and North Dakota State Pharmaceutical Association.

**Project Purpose:**

To establish, restore, or retain pharmacy services in medically underserved rural communities in North Dakota through the use of telepharmacy technology. To allow a licensed pharmacist at a central pharmacy site to supervise a registered pharmacy technician at a remote telepharmacy site in processing prescriptions for patients. Activities are in full compliance with all rules and regulations for the practice of pharmacy in the State as established by the North Dakota State Board of Pharmacy.

**Outcomes Expected/Project Accomplishments:**

To provide rural citizens with access to a pharmacist health professional and pharmacy services in their own community; to improve economic development in remote rural communities by building new businesses and adding new jobs; by building new businesses and adding new jobs; to improve recruitment and retention of pharmacists in rural areas; to make rural pharmacies more attractive as a business; to provide relief help for sick-time, vacations, and professional leave for pharmacists practicing in rural areas; to provide educational opportunities for pharmacy students at the University.

**Service Area:**

Since September 2002, fifty-seven pharmacies in 29 MUA counties in North Dakota and two in Minnesota are participating in delivering telepharmacy services including 21 central sites serving 36 remote telepharmacy sites with 44 being retail pharmacies and 13 being hospital pharmacies serving a population of more than 40,000 rural citizens.

**Equipment:**

Pharmacy operations software on a standard PC computer; digital imaging camera; Polycom- FX or VSX video conferencing equipment; VPN/firewall, and 20" television monitor, located at both remote telepharmacy spoke site and central pharmacy hub site.

**Transmission:**

Transmitted over the Internet using DSL lines at 512K bandwidth or dedicated fractional T1 and secured through a VPN/firewall.

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**Network Partners:**

The Ohio State University, Columbus, Ohio and University of Cincinnati, Cincinnati, Ohio. NetWellness has been in operation since 1994. The number of web hits from September 1, 2005 through August 31, 2006 was 61,437,835 (average: 5,119,819/month), with a steady increase from 4.8 million for September, 2005 to 6.6 million in August, 2006.

**Project Purpose:**

Develop a website that incorporates easy to understand information on hundreds of health topics, current health news and an Ask an Expert feature where users can get individual responses on health topics from faculty experts at the three universities. Over 450 academic medical and research professionals write articles on many of the health topics and through the site's Ask an Expert feature.

**Outcomes Expected/Project Accomplishments:**

The intended outcomes are increased knowledge of the healthcare consumer, improved physician/patient communication and ultimately reduced healthcare costs. User surveys, continuous feedback from a form available on every NetWellness page, continuous analysis of use and other site data are used to evaluate its effectiveness.

**Service Area:**

Nationwide.

**Services Provided:**

NetWellness provides health information via the web. This includes access to a portfolio of health resources such as an encyclopedia, directories, manuals, reviewed web links, and original content on health topics written by university faculty. A key component is our Ask an Expert feature through which users can get individual responses on hundreds of diseases, conditions, and wellness topics.

**Equipment:**

Standard web and database servers.

**Transmission:**

Internet.

Children's Hospital Medical Center of Akron  
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Akron, OH 44308  
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Email: [dlangkamp@chmca.org](mailto:dlangkamp@chmca.org)

**Network Partners:**

Originating sites: Dale Roy School, Ashland; Ida Sue School, Wooster. Physician sites: Children's Hospital Physician Associates, Ashland and Wooster; Pediatric Consultants, Ashland; Cleveland Clinic, Wooster; and Locust Pediatric Care Group, Akron.  
Network formed May 2007. Students enrolled: 94. Anticipated telemedicine visits (10/07-9/08) = 85.

**Project Purpose:**

Develop a telehealth network to improve care for acute illnesses among children with special health care needs (CSHCN) in Ashland and Wayne Counties, two rural counties in Northeast Ohio. Telemedicine services will be provided by the child's own primary care pediatrician while the child attends school.

**Outcomes Expected/Project Accomplishments:**

Established telemedicine network with 2 schools and 5 physician sites. Completed telemedicine encounters for CSHCN: 69. We are collecting data regarding parent's loss of time from work associated with child's illness.

**Service Area:**

Dale Roy School, Children's Hospital Physician Associates-Ashland, and Pediatric Consultants serve Ashland County. Ida Sue School, Children's Hospital Physician Associates-Wooster, and Cleveland Clinic-Wooster serve Wayne County. Locust Pediatric Care Group -Akron serves both counties.

**Services Provided:**

Children's Hospital Physician Associates-Ashland, Children's Hospital Physician Associates-Wooster, Cleveland Clinic-Wooster, Pediatric Consultants of Ashland and Locust Pediatric Care Group- Akron will provide pediatric primary care services.

**Equipment:**

School sites: Workstation with 17" Display, video camera, Dr. Camscope otoscope, and electronic stethoscope. Physician sites: Workstation with 17" display, video camera. Tel-e-Atrics software.

**Transmission:**

Broadband LAN between schools and physician sites. Vendor used: Tel-e-Atrics

Cincinnati Children’s Hospital Medical Center  
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[www.cincinnatichildrens.org](http://www.cincinnatichildrens.org)

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**Network Partners:**

Not Applicable.

**Project Purpose:**

The aims and goals of Pursuing Perfection have been to make fundamental, transformational changes in the way health care is delivered through supporting efforts of grantee organizations in provision of care that is knowledge based, systems-minded and patient centered. This project will allow us to spread the learnings and improvements outside the Medical Center, and allow patients and families to access information and have a more active role in their care.

**Outcomes Expected/Project Accomplishments:**

Our outcomes/goals for the project include:

- 1) Improving care for individual patients or population of patients both in clinical, (patient centric measures), such as mortality, morbidity complication rates, or improving care processes such as reducing delays, and reducing adverse events.
- (2) Goal 2 is aimed at spreading the learnings to transform care. The outcomes for goal 2 will be measured (a) by number of site visits made to CCHMC, (b) Number of national presentations by experts in improvement from CCHMC, and (c) number of personnel from CCHMC who play a leadership role on national quality organizations.

**Service Area:**

CCHMC’s immediate service area includes 29 counties from southwest Ohio, southeast Indiana, and northern Kentucky. We also serve as a regional, national and international referral center for the specialties provided in pediatric care at the Medical Center.

**Services Provided:**

Current services provided at CCHMC include primary through quaternary pediatric services. This project will allow us to implement additional patient portals for the chronically ill.

**Equipment:**

Equipment used at this point for patient portals include our Web-based servers for patients and families to access through home-based, high-speed connections. The equipment to be installed through the MIND center is still being researched at this time.

**Transmission:**

Transmission at this time is limited to our Web-based servers. Additional options will be explored to increase availability, access, and speed.

Ohio Board of Regents  
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**Network Partners:**

Columbus Children's Hospital, Ohio Supercomputer Center, University of Cincinnati Genome Research Institute, Ohio State University (Medical Center and Department of Family Medicine), Owens Community College, Northeast Ohio Universities College of Medicine, Ohio University, Walsh University, University of Findlay, and Mt. Union College.

**Project Purpose:**

The Medical Collaboration Network will interconnect Ohio's colleges and medical schools with Ohio's hospitals through the Third Frontier Network and remove barriers to the collaboration among the researchers, educators, students, and physicians at these sites by the implementation of gigabit networks and sharing of information, including high-quality video conferencing.

**Outcomes Expected/Project Accomplishments:**

Experience with the improved ability to collaborate created by high-quality video conferencing. Shared access will be created to facilities for drug discovery research. An understanding of the relationship between telemedicine use and Medicaid costs. A multi-institutional continuing medical education program. Identification of telemedicine equipment for neonatology.

**Service Area:**

Project will serve the entire State of Ohio through the Third Frontier Network.

**Services Provided:**

Neonatology, administrative conferencing, distance education, research support, and technology evaluation.

**Equipment:**

H.323 videoconferencing equipment with H.264 Codec; HD video conferencing equipment; neonatology peripherals; gigabit switches.

**Transmission:**

Gigabit Ethernet.

Computational Approaches to Research on Cancer in Children and Others

Ohio State University Research Foundation (for the Ohio Supercomputer Center)

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1224 Kinnear Road  
Ph: 614-292-2696  
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<http://www.osc.edu>

Principal Investigator: Eric A. Stahlberg  
Primary Point of Contact: Ashok Krishnamurthy  
Primary Point of Contact Ph: 614-688-4803  
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**Network Partners:**

Cincinnati Children's Hospital Medical Center  
The Medical University of Ohio  
Columbus Children's Research Institute

**Project Purpose:**

Develop software to support network system for pediatric cancer research. System will securely transfer and transform protected pediatric patient information for correlative studies involving related genetic and proteomic data. The effort will employ advanced computing technologies for information transformation, correlation and meta-data analysis. Ultimately, the project provides a set of proven technologies for future safe, secure and compliant participation for community and service hospitals in efforts requiring transport of protected health information.

**Outcomes Expected:**

System for Clinical Information Transfer (SCIT) and Clinical Bioinformatics Integrated Visualization (CBIV) system for transforming and normalizing pediatric patient information for cancer research (measure)  
- Software product validation tests (tool)

**Service Area:**

Primary areas are Franklin, Hamilton and Lucas counties in Ohio serving pediatric patients nationally. Areas will extend incrementally to additional sites in Ohio and nationwide.

**Services Provided:**

Collaboration clinical information transfer capabilities and tools (2005)

**Equipment:**

Linux server systems. Aggregated database will be housed at OSC.

**Transmission:**

OC3 from Columbus to Cincinnati (future gigabit connectivity via TFN fiber-optic)  
DS3 from Columbus to Toledo (future gigabit connectivity via TFN fiber-optic)

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**Network Partners:**

INTEGRIS Health entities include: Southwest Medical Center's Stroke Center of Oklahoma, Baptist Medical Center, INTEGRIS Heart Hospital, Mental Health, Samaritan Home Health and Jim Thorpe Rehabilitation Hospital. Lindsey Municipal Hospital, Rural Public Schools of Stringtown, Boise City, Tyrone, Goodwell, Milburn, Keyes, and Felt. Evident Telehealth.

**Project Purpose:**

INTEGRIS TeleHealth will improve the health of the people and the communities we serve by expanding the community of medical and community-based practice through the use of telehealth. We will provide allied health teletherapy to rural school students and patients with disabilities. We will also facilitate emergent management of rural neurological and psychiatric patients as well as promoting home health telemonitoring for patients with chronic diseases.

**Outcomes Expected/Project Accomplishments:**

1. Increase access to quality health care services and disease management for rural residents with chronic diseases;
2. Establish a working relationship with rural EDs across western and central Oklahoma in order to increase awareness of stroke and promote evidence-based treatments;
3. Provide rural EDs assistance with telemobile assessment of psychiatric patients; and
4. Collect and disseminate clinical outcome data as well as related costs/cost savings.

**Service Area:**

The following counties are being served: Alfalfa, Atoka, Canadian, Cimarron, Comanche, Garfield, Garvin, Johnston, Kay, Major, Oklahoma, Texas, and Woods, with potential for other western and central Oklahoma counties that are medically underserved and have health care provider shortages.

**Services Provided:**

INTEGRIS Telehealth Network has been in operation since 1993 when a network between rural and metropolitan hospitals and clinics was built. We provide services in chronic disease management, wound care, mental health, neurology, home care, rehabilitation, speech pathology, physical therapy, continuing education for physicians, nurses, and allied health professionals.

**Equipment:**

INTEGRIS Telehealth Network has 10 Polycom or Tandberg Videoconferencing systems in the Oklahoma City metro area between 3 facilities and 8 videoconferencing systems at 8 rural facilities, approximately 140 POTS video phones in clinics and homes w/peripheral equipment, and 70 home monitoring systems for diabetes, wound care, stroke, COPD, and CHF.

**Transmission:**

Full ATM between INTEGRIS metro facilities and remote rural hospitals and clinics, POTS to homes, clinics, long term care facilities as well as Internet for home monitoring and medical staff forpatient education.

**OKLAHOMA, Tulsa County**  
**Rural Oklahoma Telemedicine Service Expansion**  
**OSU Center for Rural Health**

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**CMP FY 05**

Oklahoma Center for Rural Health, Oklahoma State University  
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<http://healthsciences.okstate.edu/research/orhprc/index.htm>

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**Network Partners:**

OSU Telemedicine and Distance Learning Center (Tulsa, OK)  
Oklahoma Office of Rural Health (Oklahoma City, OK)  
Oklahoma Critical Access Hospitals (CAHs), CAH-Eligible Hospitals, and other rural providers.

**Project Purpose:**

The OSU Center for Rural Health, the Oklahoma Office of Rural Health (the “OORH”), and the OSU Telemedicine and Distance Learning Center hope to make subspecialty services more accessible to rural citizens by providing such services to them via telemedicine technology. Specifically, we hope to expand access to healthcare services available through rural hospitals in cardiology, mental health, orthopedics, and radiology. The OSU Center for Rural Health is also requesting funding to support telemedicine staff who will help locate sites that maximize telemedicine utilization, install technology, and provide technical support for telemedicine visits.

**Outcomes Expected/Project Accomplishments:**

- Primary care physicians will be able to acquire specialty consultation.
- Radiologists and cardiologists will be able to provide diagnosis for patients.
- Orthopedic consultations will be possible from remote sites.
- Rural community hospitals will share expensive diagnostic equipment.
- Mental health diagnostic and treatment services will be available via the network.

**Service Area:**

Statewide, *potentially* representing 77 counties, of which 69 are classified as either full or partial county Health Professional Shortage Areas or Medically Underserved Areas.

**Services Provided:**

Since September, 2001, the OSU Center for Rural Health has helped coordinate the following telemedicine services: Cardiology, Radiology, Orthopedics, Mental Health, Wound Care, General Health Care, Physical Therapy, Emergency Room monitoring, and Continuing Medical Education.

**Equipment:**

Computed Radiography Systems, Digital Otoscopes, Digital Stethoscopes, Digital Ultrasound Systems, Film Digitizers, Film Imagers, e-Film Software, Firewalls, Image Management and Reporting Systems, Retinal Imaging Systems, Routers, Switches, Video Conferencing Systems.

**Transmission:**

Full T1, Internet.

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**Network Partners:**

Soldiers and Sailors Memorial Hospital (Wellsboro, PA), Moses Taylor Hospital (Scranton, PA), Sunbury Community Hospital (Sunbury, PA), Dubois Regional Medical Center (Dubois, PA), Geisinger Clinic (Danville and Wilkes Barre, PA), Shamokin Community Hospital (Shamokin, PA), VA Medical Center (Wilkes Barre, PA), Susquehanna Health System (Williamsport, PA), Evangelical Hospital (Lewisburg, PA), Geisinger Health South (Danville, PA), Robert Packer Hospital (Sayre, PA), Center City Medical Complex (Hazelton, PA), Family Practice Center (Mifflinburg, PA), Geisinger Community Practice (Danville, PA), and Guthrie Clinic (Sayre, PA).

**Project Purpose:**

Create a regional partnership where, by targeted distance education of consumers and providers and by use of other telehealth methods, information is shared and used by all stakeholders to motivate and monitor change in stroke outcomes in rural Pennsylvania. This is needed to ultimately decrease response time from the onset of stroke, address gaps in training to manage stroke victims, and develop regional based triage protocols to optimize appropriate use of local hospitals, regional centers of care and clinical expertise.

**Outcomes Expected/Project Accomplishments:**

Assess needs to educate consumers and providers, to initiate work relevant to developing a rational rural network of care, and to initiate work for long-term evaluation of these efforts. This will be done through knowledge surveys, educational program development to address gaps, a partnership with each hospital using the distance education platform, which will assist in developing a model plan, and the creation of a blueprint for a stroke registry.

**Service Area:**

Care is provided to patients who reside in predominantly rural areas of Pennsylvania. Twenty-four of Geisinger's 31 county areas are officially designated as Medically Underserved Areas; the Office of Rural Health officially designated 15 of these as rural.

**Services Provided:**

Needs assessments, resource analysis, model plan for rural stroke care.

**Equipment:**

Five computer workstations, Software (MapInfo, MS Project, Reference Manager), one network printer, 2 PDAs.

**Transmission:**

Phone, fax, computers (including Internet).

Schuylkill Alliance for Health Care Access  
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**Network Partners:**

There are no network partners affiliated with this program. All participants in the project are members of the Schuylkill Alliance.

**Project Purpose:**

To identify and address unmet health needs of the uninsured population of Schuylkill County, PA and to provide access to primary and preventative medical, pharmaceutical, dental, and behavioral services. Major goals and objectives of the project will impact the quality of life of the uninsured and the community at large by integrating the rural health safety net through an Information Technology infrastructure.

**Outcomes expected/Project Accomplishments:**

A target population of 3,000 to be identified and having access to public and private healthcare services by end of 4<sup>th</sup> Q; increased enrollment of uninsured residents into the program; increased efficiency, effectiveness, coordination quality of care to the enrolled population.

Full use of iReach program to enroll and track clients; information exchange with the 4 partner/providing hospitals by the end of 4<sup>th</sup> Q.

**Service Area:**

Schuylkill County, Pennsylvania.

**Services Provided:**

Linkages between uninsured clients in need of health care services and health care providers in Schuylkill County. Enrollment in public assistance programs for those who qualify. Affordable health care provided by the Alliance partners for those who do not qualify for public programs. Completion of the linkage process will be by the end of the 4<sup>th</sup> quarter of the grant.

**Equipment:**

Personal computers, server, back-up server and specific software developed for the project.

**Transmission:**

Services will be available through personal contact, telephone and Internet. Network is available to authorized providers to access client information. Information and ITT is HIPAA-compliant and backed-up for safety.

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**Network Partners:**

Altoona Regional Health System—operational since 2003. JC Blair Memorial Hospital, Tyrone Hospital, UPMC Bedford Hospital—early 2007. Blair Medical/Blair Orthopedic—early 2007. Tyrone Hospital—mid 2007. 1 OCT 06 – 30 SEP 07 Patients served 221, encounters 4528. 1 OCT 07 – 30 SEP 08 estimated patients 350, estimated encounters 10,000.

**Project Purpose:**

Develop telehealth services in three rural counties in Pennsylvania, targeting the Medicare population. Provide patient education focusing on disease management of high volume diagnoses of CHF, DM and respiratory. Reduce acute care hospitalization rate and use of emergent care for patients utilizing telehealth. Improve efficiencies of nursing staff.

**Outcomes expected/Project Accomplishments:**

Health outcomes are obtained from OASIS assessments with the following accomplishments from October 2006 through February 2008: Hospitalizations decreased 1.8 percentage points; Emergent care visits decreased by 5.1 percentage points; and the patients ability to manage medications improved 18.2 percentage points. In addition 3.1 in-home nursing visits were saved per patient after implementing telemonitoring.

**Service Area:**

Home Nursing Agency has been funded for telehealth services in the following counties: Huntingdon, Bedford, and Fulton. These counties are served by the Huntingdon, Bedford, and Chambersburg branch offices.

**Services Provided:**

Home Nursing Agency provides in-home services, Remote Patient Monitoring, patient education, and teaching materials to improve self-management abilities and health outcomes.

**Equipment:**

92 store and forward telehealth units to be utilized in the patient homes provided by the vendor VitelNet. Results will be viewed from a Web-based application in the office.

**Transmission:**

Information is communicated from the patient's home to the office via POTS.

Reinventing Healthcare: the Application of the Pittsburgh Regional  
Healthcare Initiative's Perfecting Patient Care (PPC) System to Chronic  
Medical Conditions

**Jewish Healthcare Foundation**

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**Network Partners:**

Pittsburgh Regional Healthcare Initiative; Western PA Health Disparities Collaborative (FQHCs)-  
Primary Care Health Service, Inc., East Liberty Family Health Center, Sto-Rox Family Health Center,  
UPMC Matilda Theiss, Cornerstone Care Health Center, Primary Health-Net, Centerville Clinics,  
Community Health Net of Erie.

**Project Purpose:**

The purpose of the Collaborative is to 1) Improve patient care outcomes beginning with diabetics  
using the PPC System to implement the Chronic Care Model. 2) Develop cost-effective, dissemination  
tactics. This project will develop a community of learning supported by multiple technologies called  
the Pittsburgh Regional Learning Network.

**Outcomes expected/Project Accomplishments:**

1. Lower average HbA1c; 2. Documentation of self-management goal-setting; 3. Patients  
with BP 130/80; 4. Patients with LDL <100; 5. Dilated eye exam in past year; 6.  
Comprehensive foot exam in past year; 7. Microalbuminuria screening in past year.

**Service Area:**

The Western PA Health Disparities Collaborative consists of eight FQHCs serving low-income and  
minority populations. These eight centers manage a total of 50 sites delivering primary health care in  
9 counties in Western PA. Four of the health centers serve a predominantly urban population; the  
others serve predominantly rural patients.

**Services Provided:**

Education in PPC will be provided to the eight FQHCs to support the implementation of the Chronic  
Care Model. The first population of focus is patients with diabetes.

**Equipment:**

Not Applicable.

**Transmission:**

Requisite knowledge of interventions and methodology are communicated through a formal  
educational curriculum, on-site coaching by trained consultants, Web-based regional  
learning networks, formal peer-to-peer networks, PRHI Collaborative Platform including  
regional forums.

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**Network Partners:**

All Mercy affiliated physicians and clinics.

**Project Purpose:**

To automate the nursing assessment and documentation process. This information will populate the longitudinal, electronic patient record supplementing all patient results and reports already available. This information is available to all physicians and clinicians electronically in the hospitals, physician offices, and/or homes.

**Outcomes Expected/Project Accomplishments:**

Increase in number of electronic accesses has increased 82 percent over initial estimate of 10-15 percent. Nursing clerical time has been reduced 20-30 minutes per nurse, per shift. Amount of paperwork on chart has been reduced and this information is now presented both electronically and summary on chart in a standardized, legible format.

**Service Area:**

Lackawanna and Luzerne counties in Pennsylvania.

**Services Provided:**

Electronic nursing documentation.

**Equipment:**

Cisco Aironet wireless network infrastructure with NAW are mobile, wireless PC carts utilized at bedside.

**Transmission:**

Hospital high-speed network and Internet.

Information Services Division  
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**Network Partners:**

Not Applicable.

**Project Purpose:**

- Improve physician access to patient-level clinical result information in the hospital setting.
- Improve nursing access to patient-level clinical documentation in the hospital setting.
- Improve accuracy of patient care documentation in the hospital setting.
- Improve utilization of existing clinical workstations.

**Outcomes Expected/Project Accomplishments:**

Provide physicians with ready access to patient information at any time and basically anywhere in the hospital. Enable nurses and other non-physician caregivers to directly record patient care documentation at the point of care, halving the time required for this task while improving accuracy and availability. Expand wireless access coverage to all clinical areas and provide clinicians ready-access to computer devices, matched to their tasks and provide the requisite knowledge, skills, and abilities to optimize utilization of mobile technology.

**Service Area:**

Greater Pittsburgh area and surrounding counties.

**Services Provided:**

Mercy is an independent, academic medical center offering a broad range of medical, surgical, and home health services, which includes these centers of excellence: Mercy Heart Institute; Mercy Neuroscience Institute; Mercy Trauma and Burn Centers; Mercy Rehabilitation Center; Mercy Women's Health; Mercy Children's Medical Center; Mercy Diabetes Program; Mercy Cancer Institute; and Mercy Orthopedic Services.

**Equipment:**

Voice recognition technology was selected and will be implemented by the end of 2006. Wireless infrastructure was completed in 2006. Equipment included: rack-mounted computer servers and consoles.

**Transmission:**

Hardware devices will be connected to our software information systems using wireless (IEEE 802.11b,g standard), untethered in any fashion, communication protocols as the network connection.

The Venango Center for Healthcare Careers (VCHC)  
Oil Region Alliance of Business, Industry, & Tourism

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**Network Partners:**

Clarion University of Pennsylvania, Dubois Business College, University of Pittsburgh/Titusville, Venango Technology Center, Clarion/Venango Educational Resources Alliance

**Project Purpose:**

The purpose of this project is to address the educational/training needs of three distinct segments within the healthcare industry; Respiratory Therapy, Clinical Medical Assistant Program and Pre-Nursing Distance Learning Opportunities.

**Outcomes Expected/Project Accomplishments:**

Provide high-quality training programs to meet the needs of the vital health care industry, which will provide careers in health services offering career mobility, flexibility and security. The outcome will be to increase retention rates of those who do enroll by employing learner-centered instructional strategies.

**Service Area:**

Initially, this project is targeted to serve a multi-county region in northwest Pennsylvania with the potential of drawing residents from every county in northwest Pennsylvania.

**Services Provided:**

Core services provided within the scope of the project include a focus on education for health care career opportunities. This education will primarily be provided via distance learning opportunities.

**Equipment:**

Laptop computers, video conferencing equipment, 12 ITV classrooms w/Pictur-tel and Polycom equipment, ISDN and IP technology.

**Transmission:**

ISDN 128K, ATM 512K and above IP 712K and above, DSL, Broadband Cable Modem & Wireless.

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**Network Partners:**

Penn State Milton S. Hershey Medical Center has 10 University Physician Groups across Central Pennsylvania. Care provided at those sites include primary care, advanced specialty care, and services such as laboratory work and diagnostic radiology. The sites were established approximately 12 years ago and are located in Centre, Cumberland, Dauphin, Lancaster, Lebanon, and Luzerne counties.

**Project Purpose:**

The purpose is to recruit physician-scientists who can translate basic science discoveries into new prevention and treatment strategies. In addition to fostering a multidisciplinary approach to care, the project will also develop essential animal models of human disease and create new clinical research biostatistical tools, outcome measures, and clinical end points to enhance the quality of clinical trials.

**Outcomes Expected/Project Accomplishments:**

The goal is to train and facilitate the research of two physician-scientists per year for 3 years. Four (4) have been hired and are actively engaged in research. The Advisory Committee continues to mentor current physician-scientists and identify new candidates for the project. Participants are encouraged to seek a joint appointment in a basic science department and participate in the graduate program.

**Service Area:**

The project will impact approximately 3,000,000 residents in Central Pennsylvania spanning 10 counties. Much of this region is in Appalachia, which has been designated as a medically underserved area.

**Services Provided:**

The physician-scientist program will provide the special mechanism to assist in improved medical care and research into new treatments. Primary care clinical trials network will be established to provide opportunities for these research and patient care opportunities along with prevention education for the service area.

**Equipment:**

Videoconferencing between clinical network sites will use Tandberg Coded units, desktop Polycom units, SM fiber transceivers, high-resolution video data projectors, and videoconference cameras..

**Transmission:**

Transmission will be achieved using the Internet and videoconferencing.

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**Network Partners:**

Not Applicable.

**Project Purpose:**

To allow physicians to enter orders online; have a Medication Administration Checking system; and to provide online access, including remote access to patient records/charts allowing for focus on patient safety and reduction of medical errors. Automation of these processes is part of the electronic health record and allows for implementation of additional telehealth programs.

**Outcomes Expected/Project Accomplishments:**

This project is expected to increase remote health record access, reduce medical errors and increase patient safety. Tracking will be accomplished through use of reports generated from the Medication Administration Checking system, Risk Management systems, and Data Warehouse.

**Service Area:**

Pinnacle Health System's primary service area covers five counties—Cumberland, Dauphin, Lebanon, Perry, and Northern York. Dauphin County includes the City of Harrisburg, which has a significant low-income, underserved population. Also served are a number of rural areas for which Pinnacle Health System is the sole provider of health care.

**Services Provided:**

Pinnacle Health System is comprised of four hospitals; more than a dozen family practice and urgent medical centers; two outpatient surgery centers; home health and hospice agencies; and additional health services.

**Equipment:**

The program will utilize notebook computers; information carts with monitors and PCs; wall mounted units; and bed arm units with servers and software. Additionally, cables and switchports will accommodate wireless expansion.

**Transmission:**

Within facilities, wireless and 1GB fiber backbone with 100mb to the computers will be utilized. Remote providers gain access through secure, encrypted Internet links.

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**Network Partners:**

Not applicable.

**Project Purpose:**

Establish an informatics resource supporting the development of Integrative Medicine (IM) practice standards by developing a website accessible to healthcare professionals and institutions supporting work toward the creation of IM practice standards. Activities involve development of: demonstration protocols in the field of clinical oncology for evidence-based integration of complementary therapies into conventional cancer care; demonstration protocols for safe use of nutraceuticals as part of an Integrative Medicine practice; and prototype digital repository for Integrative Medicine documents that supports Integrative Medicine best practices.

**Outcomes Expected/Project Accomplishments:**

External access enabled to web content developed during the course of this project.  
Measurement tools will include an inventory of products developed during the course of this project.

**Service Area:**

Intramural and National.

**Services Provided:**

Web Based Distance Learning-ongoing additions to educational and research content.  
Digital Repository for Integrative Medicine Documents-ongoing update and additions.

**Equipment:**

Computer.  
Software applications which may be used on this project include: Cold Fusion MX, MySQL and Access database systems, and Perl/CGI scripting.

**Transmission:**

Internet.

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Email: [sgildea@tyronehospital.org](mailto:sgildea@tyronehospital.org)

**Network Partners:**

Tyrone Hospital; Tyrone Medical Associates.

**Project Purpose:**

Through the use of Health Information Technology in the clinical setting at Tyrone Hospital, patient safety, the quality of care, and the efficiency of providing care will dramatically improve. The Tyrone Hospital Health Information Network project is an 18 month effort to develop and implement remotely accessible healthcare informatics that will provide caregivers with automation, freeing them from inefficient methods of documenting and coordinating patient care.

**Outcomes Expected/Project Accomplishments:**

Improved quality of care and patient safety—All inpatient charts on EMR by 2007. Improved patient safety through elimination of errors due to illegible handwriting—All patient test and medication orders automated by 2007. Enhanced ability to monitor the progress of patients and check test results, improving the quality of patient care—50 percent of attending physicians with access to EMR by 2007. Improved patient safety and quality of care—All physicians, nurses, and other caregivers have access to EMR by 2007.

**Service Area:**

Counties and communities served are the counties surrounding Blair County: Centre, Huntingdon and Cambria. The communities include all surrounding communities.

**Services Provided:**

The Tyrone Hospital Information Network is newly formed to provide Patient Health Information to providers that are located within the Tyrone area. This information will be in electronic format. Services include Primary Care, Radiology, Lab, Physical Therapy, Respiratory Therapy, Pharmacy, Emergency Medicine and Surgery.

**Equipment:**

Physician Offices and other care providers will access Electronic Patient Records and Electronic Medical Records via a secure VPN connection. Technology includes Cisco Network equipment, Microsoft Windows Operating Systems, and software from Medical Information Technology, Inc.

**Transmission:**

A partial T1 line exists today, with capacity up to a Full T1 line. Remote offices will be connecting via either DSL or Cable Broadband where available.

Wayne Memorial Hospital  
601 Park Street  
Honesdale, PA 18431  
<http://www.wmh.org>

Thomas Hoffman/David Hoff  
John Dennis  
Ph: 570-251-6533  
Fax: 570-253-8993  
Email: [dennis@wmh.org](mailto:dennis@wmh.org)

**Network Partners:**

No network partners.

**Project Purpose:**

Purpose of Project-It is the premise of this proposed project that a significant aspect of patient safety that can be improved is the medication use process. The introduction of information systems automation and standardization of the medication process of ordering, transcribing, dispensing and administering drugs and other pharmaceuticals can be improved substantially. The project will include introducing automation and information systems in the following areas: inpatient units, operating rooms, and emergency services.

**Outcomes Expected/Project Accomplishments:**

The ultimate goal of the project is an improvement in patient safety. This shall be achieved through a reduction in medication errors by 50 percent over the previous year's events.

**Service Areas:**

The service area for this phase of the project is the county of Wayne in Pennsylvania, which includes 4 MUAs, 7 Geographic HPSAs, 12 Low-Income HPSAs, a county-wide Mental Health HPSA and a county-wide Dental HPSA.

**Services Provided:**

The principle activities of the project will be: (1) implementation of a Medical Reconciliation Process through the installation of a new Pharmacy Computer System; (2) implementation of medication surveillance and automated dispensing of medication; (3) implementation of a bar-coded patient armband program to interface with the Pharmacy System verifying medication, dosage and route.

**Equipment:**

Siemens Pharmacy Application/Database Server (HP Alpha Server DS25); custom interfaces (Third party Lab results one way; PYXIS 2000 Demographics and ADT, charge/credit 2-way).

**Transmission:**

10/100 MBIS switched LAN.

Healthcare and Emergency Awareness Response for Telehealth (HEART)  
Phase II

**Advanced Technology Institute (ATI)**

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Advanced Technology Institute (ATI)  
5300 International Blvd.  
North Charleston, South Carolina 29418  
<http://www.aticorp.org/hc.htm>

Joseph E. Jones, MS, MPA  
Ph: 843-760-3649  
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**Network Partners:**

CareSouth Comprehensive Health Clinics, Family Health Centers, Inc., St James-Santee Family Health Center, Margaret J Weston Community Health Centers, Healthcare Outreach, LLC., Joslin Diabetes Center and Estenda Solutions Inc.

**Project Purpose:**

The purpose of the HEART Program (Phase II) is to establish and evaluate telehealth technology to address the need to manage diabetes in rural and underserved areas. The HEART Program disease management goals are to:

1. Examine and implement Intelligent Care Manager technologies.
2. Identify extensions to Intelligent Care Manager technology to support care management for other related chronic diseases
3. Identify and implement diabetic retinopathy diagnostic procedures that meet the needs for care delivery in CHCs.

**Outcomes Expected/Project Accomplishments:**

The outcome of this program will be an expanded use of telehealth technology to improve the quality of diabetes care, increase wellness initiatives and reduce the adverse impact of diabetes for patients served by Community Health Centers (CHCs). Special focus is on the prevention of blindness due to diabetic retinopathy

**Service Area:**

Nine rural and underserved counties in South Carolina: Charleston, Darlington, Georgetown, Orangeburg, Calhoun, Aiken, Florence, Bamberg, Williamsburg,

**Services Provided:**

Providing services in identifying CHC requirements, conducting diabetic retinopathy diagnostic procedures and implementing diabetes disease management initiatives.

**Equipment:**

4 IP-based Videoconference systems from Polycom connecting ATI with three (3) community health centers. 1 Topcon and 2 Canon Non-Mydriatic Retinal Fundus Cameras, Comprehensive Diabetes Management Program (CDMP) technology and associated computer workstations and/or servers. home telehealth equipment as appropriate.

**Transmission:**

T1 serving ATI's main location and DSL, cable modem and Frame relay serving the various community health center sites as well as other facilities.

Developing a Telehealth Infrastructure to Address Health Disparities  
Through Education and Training

Voorhees College

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Voorhees College Telehealth Network  
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Denmark, SC 29042  
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Leroy Davis, PhD  
Ph: 803-703-1073  
Fax: 803-703-1084  
Email: [ldavis@voorhees.edu](mailto:ldavis@voorhees.edu)

**Network Partners:**

Arnold School of Public Health of the University of South Carolina, Columbia, SC;  
Medical University of South Carolina, Charleston, SC; Family Health Centers, Inc.,  
Orangeburg, SC.

**Project Purpose:**

A telehealth infrastructure will be developed to address health disparities in rural South Carolina. Partners will assist in conducting health seminars and workshops for rural residents and students at a distance. Telehealth technology will also be employed by Voorhees College to deliver a Healthy Living Course to two off-campus sites.

**Outcomes Expected/Project Accomplishments:**

A two-credit Healthy Living course to be offered to 50 off-campus adult students and 60 on-campus students (pre- and post- testing); Six health-related seminars and workshops will be conducted at various sites (evaluation of instructor and student satisfaction survey).

**Service Area:**

South Carolina Counties: Bamberg, Barnwell, Charleston, Lexington, Orangeburg, and Richland.

**Services Provided:**

Will provide education and training programs to help eliminate health disparities.

**Equipment:**

At all three sites (main and two remote) 1 WiredRed videoconferencing instruction/collaboration system (WebCall sound management equipment, two video workstations with pan/scan and whole room cameras); 5 client videoconferencing units for remote participants (webcams and microphone headsets). At the main site: 1 Dell server with WiredRed videoconferencing software.

**Transmission:**

1 Full T1 line at the main site for static VPN with remote sites. Business grade broadband service at the two remote locations for dedicated VPN with main site. Remote participants utilize existing connectivity for client units (POTS, DSL, Cable).

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610 W. 23<sup>rd</sup> Street  
Yankton, SD 57078  
[www.avera.org](http://www.avera.org)

Mary DeVany  
Ph: 605-322-6038  
Fax: 605-322-6006  
Email: [mary.devany@mckennan.org](mailto:mary.devany@mckennan.org)

**Network Partners:**

The Great Plains Telehealth Resource and Assistance Center (TRAC) began in October of 2006 and is a partnership of Avera Health, South Dakota; The Evangelical Lutheran Good Samaritan Society, South Dakota; North Dakota State University Telepharmacy Network, North Dakota; Saint Elizabeth Health System, Nebraska; and University of Minnesota Telehealth Network, Minnesota.

**Project Purpose:**

Increase telehealth utilization among rural and frontier health care providers by breaking down both geographic and experiential barriers. This center will serve telehealth programs in this region and nationally by focusing on individualized coaching services; providing information, assistance and direction as requested and needed; an on-line toolbox; and a regional telehealth conference.

**Outcomes Expected/Project Accomplishments:**

1. Increase the knowledge of applications, practices and research findings relating to telehealth.
2. Increase the quality and quantity of standards-based information regarding the best utilization of telehealth technologies.
3. Increase the number of contacts initiated by providers.
4. Improve the skill level of key staff members to conceptualize, plan, implement, and evaluate telehealth programs.
5. Increase the number of providers that utilize telehealth technology.

**Service Area:**

The Great Plains TRAC serves the five states of South Dakota, North Dakota, Minnesota, Iowa and Nebraska. Assistance will also be provided to other entities in other locations as requested or needed.

**Services Provided:**

Services provided include: general one-on-one assistance and direction in topics such as telehealth policies/procedures, licensure, scheduling, evaluation, research, and others; on-line resource toolbox; annual regional conference; identify key regional issues; in general, help rural facilities acquire the skills/expertise to implement telehealth programs.

**Equipment:**

This project is primarily a collaboration project utilizing one-to-one communications (phone, email, etc.) in cooperation with on-line resources. No special equipment is anticipated.

**Transmission:**

No special transmission needs/specifications are required under this project.

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**Network Partners:**

University of Mississippi Medical Center

**Project Purpose:**

To demonstrate the value of a health information technology (HIT) intervention that delivers best practices care to an underserved population. This HIT intervention will consist of telehealth coupled with an electronic health record (EHR) system. This project will demonstrate that a telehealth-based diabetes disease management (THDDM) program can lower overall costs of care and access barriers by reducing care delays, and improving patient self-care practices, self-care efficacy and satisfaction with care. This program will improve access to care for rural patients with diabetes and, as a result of this improved access, patients in the program will enjoy higher quality care and better health outcomes.

**Outcomes Expected:**

*Diabetes self-management education; Medical Nutrition Therapy (MNT)* – Modification of diet to attain and maintain normal blood glucose, lipid, and pressure levels; *Glycemic control* – average HgA1C of ~ 7 %; *Blood pressure control* – lower blood pressure to < 140 mmHg systolic and < 80 mmHg diastolic; *Lipid control* – Use of nutritional assessment and intervention, increased physical activity, and statins as needed to maintain target lipid levels; *Monitoring* – Patient self-monitoring of blood glucose levels; *Care Teams* – Care from a physician-coordinated, collaborative and integrated team that includes (but is not limited to) physicians, nurses, dietitians, and mental health professionals with expertise in diabetes; *Individual management plans* – Plans should consider patient age, school or work schedule, physical activity, eating patterns, social situation and personality, cultural factors, and the presence of complications or comorbid conditions. Goals and treatment plans must be reasonable. Effective implementation requires that each aspect of the plan be understood and agreed upon by the patient and the care team.

**Service Area:**

Jackson, Mississippi (inner city are a Primary Care HPSA); Greenville, Mississippi (Primary Care HPSA); Clarksdale, Mississippi (Primary Care HPSA); Lexington, Mississippi (Primary Care HPSA)

**Services Provided:**

The UTHSC Telehealth Network has been operational since 2001. Specialty services include: allergy, dermatology, endocrinology, ENT, infectious disease, mental health, nutrition, pediatrics, surgery and neurology; Bioterrorism/disaster preparedness training for healthcare professionals; Patient and provider-centered education.

**Equipment:**

At remote sites: 5 Polycom videoconferencing systems, which include stethoscopes, otoscopes, dermoscopes and document cameras. In Memphis: Polycom, ACCORD bridge, satellite, server and network.

**Transmission:**

Full T1 lines between Mississippi clinics and hub in Jackson, MS; Full T-1 to Memphis from Jackson hub with an ISDN option; Internet and Internet2.

TENNESSEE, Shelby County  
Mid-Appalachia Telehealth Project  
University of Tennessee Health Science Center

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RTGP 97-99, RTGP 00-02, TNGP 03-05

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90 Madison Avenue, Suite 434  
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Sydney Gray, MA  
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**Network Partners:**

Rural Education and Community Health Services (FQHC), Jacksboro, TN; Morgan County Medical Center (FQHC), Wartburg, TN; Mountain People's Health Councils (FQHC), Huntsville, TN; Ridgeview Psychiatric Hospital and Center, Oak Ridge, TN (provider).

**Project Purpose:**

Develop telehealth services in three underserved counties in the traditionally coal mining Appalachian region of Tennessee. Provide disease management services from county clinic nurses to asthmatic and diabetic patients. Asthmatic children in schools in each county will use peak flow meters daily and record data. County clinic nurses will have videoconferences with each student at least weekly. Clinic nurses will receive data transmitted by Type 2 diabetic patients in each county. Counseling will be provided to patients having black lung disease.

**Outcomes Expected/Project Accomplishments:**

Pediatric asthmatic disease management-increase appropriate treatment with anti-inflammatory medication from typical level <70 percent to target level of >95 percent, and reduce lost school days per six weeks from typical two to <1. Diabetes disease management-reduce average HbA1C readings from typical >9 percent to <7 percent and increase patients having dilated eye exams from typical <30 percent to target of >70 percent. Black lung clinics-increase access of coal miners to black lung benefits and education.

**Service Area:**

Counties served are contiguous in Tennessee: Campbell (Jacksboro), low income HPSA, dental HPSA, and a full county MUA; Morgan (Wartburg), full county HPSA, dental HPSA, and a full county MUA; and Scott (Huntsville), low income HPSA, dental HPSA, and a low-income MUA. Ridgeview provides mental health services for all counties with huge waiting lists for services.

**Services Provided:**

UT Telehealth Network has been operational since September 1995 and is providing services in dermatology, rehabilitation medicine, pre-anesthesia evaluation, emergency mental health, home agency care, disease management in diabetes, congestive heart failure, and pediatric asthma; black lung benefits consultations; and practitioner and patient education; bioterrorism/disaster preparedness training for healthcare professionals. As of 2004, specialty services have expanded to include: allergy, dermatology, endocrinology, ENT, infectious disease, mental health, nutrition, pediatrics, and neurology.

**Equipment:**

At remote sites: 5 Polycom videoconferencing systems, 9 component POTS videoconferencing systems, 90 Roche Accu-Chek glucometers with modems, and 3 PCs. Knoxville campus: Polycom and POTS CODEC, Polycom bridge, and server and network for data collection.

**Transmission:**

Full T-1 lines between clinics and UTTN office (distance independent UT contract), POTS to homes and schools, ISDN to mental health provider and hospital, Internet and Internet 2 for medical staff and patient education.

Medical Licensure Portability to Facilitate Multi-State Telehealth Practice  
Federation of State Medical Boards of the United States, Inc.

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Federation of State Medical Boards of the United States, Inc.  
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Euless, TX 76039-3856  
<http://www.fsmb.org>

Timothy C. Miller  
Ph: 817-868-4052  
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Email: [tmiller@fsmb.org](mailto:tmiller@fsmb.org)

**Network Partners:**

State medical boards: Colorado, Connecticut, Idaho, Iowa, Kansas, Maine, Massachusetts, Minnesota, New Hampshire, North Dakota, Oregon, Rhode Island, Vermont, and Wyoming; Four Corners Telehealth Consortium; University of Maine.

**Project Purpose:**

Reduce the redundancies that complicate and delay the process of obtaining medical licensure in multiple jurisdictions. Promote the utilization and expansion of telehealth services across state lines while not compromising the level of protection for patients that is provided by state licensure.

**Outcomes Expected/Project Accomplishments:**

Reduced amount of time and paperwork required to issue a license. Improved cooperation among state medical boards. Reduced variation in policies across states. Improved information technology capability. Reduced licensure barriers to telemedicine.

**Service Area:**

The states of Colorado, Connecticut, Idaho, Iowa, Kansas, Maine, Massachusetts, Minnesota, New Hampshire, North Dakota, Oregon, Rhode Island, Vermont, and Wyoming.

**Services Provided:**

The projects will streamline the licensing process by developing and maintaining a centralized interactive system wherein information about physicians will be maintained and accessible to participating boards. Previously obtained and verified evidence of physicians' qualifications will be shared and relied upon by participating boards.

**Equipment:**

The two proposed regional projects will streamline the licensing process by developing and maintaining a centralized interactive data management system (CIDMS) wherein information about physicians will be securely maintained and accessible to all participating SMBs within each region.

**Transmission:**

Not applicable.

TEXAS, Harris County  
Specialty Access Through Telemedicine (SA++)  
Harris County Hospital District

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CMP FY 05

Harris County Hospital District  
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Houston, TX 77054  
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**Network Partners:**

University of Texas Health & Science Center at Houston Medical School; Baytown Community Health Center; El Centro de Corazon Health Center since September 1, 2005. Actual number of patients served 1 OCT 05-30 SEP 06: 87.

**Project Purpose:**

To provide patients seen in primary care clinics with access to specialist/diagnostic expertise using digital cameras and telemedicine equipment.

**Outcomes Expected/Project Accomplishments:**

- Scheduled 87 patients; 64 percent appointment compliance. Telepsychiatry: has seen 25 patients; 57 percent
- appointment compliance. Tele-dermatology: has scheduled 41 patients; 76 percent compliance. 92 percent of
- patients surveyed graded us excellent/good for telemedicine services. 100 percent of patients would use our
- services again.

**Service Area:**

Baytown Community Health Center: Harris County; El Centro de Corazon Health Center: Harris County.

**Services Provided:**

Tele-psychiatry, Tele-dermatology.

**Equipment:**

Digital still cameras and memory cards. The vendor was CDW.

**Transmission:**

We are using full T1 lines.

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San Antonio, TX 78229-3900  
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**Network Partners:**

Rio Grande City Consolidated Independent School District (RGCCISD)

**Project Purpose:**

The program implements a comprehensive diabetes screening program in the school system and then enrolls children at high risk for type II diabetes into a treatment program. The children at risk are randomized into either a group that receives traditional treatment available in Rio Grande City or they are enrolled in a group receiving telemedicine consultations with a Pediatric Endocrinologist, Behavioral Therapist, and Pediatric Dietitian located at the University of Texas Health Science Center at San Antonio, 250 miles away.

**Outcomes Expected/Project Accomplishments:**

Access to specialized therapy via telemedicine will affect the following measurable parameters:  
Weight (measure)—Scale (tool)  
Blood Pressure (measure)—Blood pressure machine (tool)  
Blood lipid, glucose and insulin levels (measure)—Blood work (tool)  
Self Concept (measure)—Piers-Harris 2 Children's Self-Concept Scale (tool)

**Service Area:**

The UTHSCSA/RGC Telehealth Network serves children in the RGCCISD. This school district encompasses the communities of Rio Grande City, La Grulla and Graciasville: all located within Starr County. Starr County is designated a single county HPSA, a single county dental HPSA, a single county Mental Health HPSA, and MUA named Starr Service Area.

**Services Provided:**

The UTHSCSA/RGC Telehealth Network has provided clinical telemedicine services and distance learning beginning in October, 2003. The Pediatric Endocrinologist, Behavioral Therapist and Pediatric Dietitian provide consultations to patients and families via interactive video-conferencing.

**Equipment:**

The equipment at UTHSCSA is a 27" Trinitron color television with PolyCom 512 Viewstation Videoconferencing unit, RGCCISD elementary schools use a PolyCom VSX 7000 unit with a 32" Toshiba color television.

**Transmission:**

Connections are made using IP and/or ISDN connections at 384 band width.

UTMB Center to Eliminate Health Disparities  
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**Network Partners:**

The University of Texas Medical Branch.  
The University of Texas at Brownsville.  
The University of Texas Health Center at Tyler.

**Project Purpose:**

The primary purpose of this proposal is to reduce or eliminate disparities in health care through the development of a telehealth network in three distinct and geographically distant areas of Texas: Galveston (Galveston County), Brownsville (Cameron County), and Tyler (Smith County).

**Outcomes Expected/Project Accomplishments:**

Community assessment outcomes identifying health conditions or delivery system components and acceptance of telehealth solutions. Established telehealth delivery pilot projects aimed at reducing site-specific health disparities identified by community collaborations.

**Service Area:**

3 Counties across Texas: Galveston County PMSA 12, CMSA 79; Cameron County MSA 6, HPSA and MUA; Smith County MSA 24.

**Services Provided:**

Project at UTHCT site to provide specialist consultations to rural clinic from UT-Tyler medical center clinicians. Development of clinical data repository collaborative effort in Galveston County. Initiation of telepsychiatry consult clinic in Cameron County.

**Equipment:**

At UTHCT site equipment is Polycom IP based videoconferencing between UTHCT and a TCart at the rural site in Overton, Texas.

**Transmission:**

OC-3 at 20MBps from UTMB out to subsites. Subsites have full T1 capabilities and ISDN to pilot project applications in communities.

UTAH, Salt Lake County  
Association for Utah Community Health Telehealth Program  
**Association for Utah Community Health (AUCH)**

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CMP FY 04, 05

Association for Utah Community Health (AUCH)  
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[www.auch.org](http://www.auch.org)

Alan Pruhs  
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Fax: 801-974-5563  
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***Network Partners:***

Members of the Association for Utah Community Health (AUCH) include 11 community, migrant, and homeless center organizations (FQHCs) operating 24 comprehensive, primary health care delivery sites throughout the state of Utah. Additional members included Planned Parenthood of Utah, a Title X funded reproductive health organization and the Indian Walk-In Center, a Title V funded urban Indian health organization. Six organizations operate in urban environment and seven operate in rural/frontier areas. Additional network partners include the Utah Telehealth Network, Northwest Regional Telehealth Network, Retina Associates of Utah, Wire One Technology, Inc., and Utah Imaging, LLC.

***Project Purpose:***

The AUCH Telehealth Program will improve delivery of and access to specialty care by supplying telehealth equipment and resources to all association members. A videoconferencing network will be implemented to increase participation in distance learning activities including training and technical assistance. Additionally, the telehealth program will support an expansion of on-line resources and digital tools to enhance training/technical assistance and peer-to-peer interaction to strengthen existing health center operations. These enhanced technologies will improve the delivery and access to quality specialty care, reduce geographical barriers to rural patients and health care providers, enhance distance learning opportunities and improve peer to peer interaction.

***Outcomes Expected/Project Accomplishments:***

The AUCH telehealth program will be evaluated using the following criteria: (a) completion of tasks, (b) tracking and measurement of equipment utilization, (c) clients-served statistics, (d) identification of resources for expansion of the telehealth program, and (e) client satisfaction and follow up statistics.

***Service Area:***

The service area for the AUCH Telehealth Program will correspond to the service areas for each of its member sites. Those sites' service areas include the counties of Box Elder, Cache, Rich, Weber, Salt Lake, Utah, Carbon, Emery, Iron, Washington, San Juan, and Wayne.

***Services Provided:***

Services to be provided include the implementation of telehealth projects including: diabetes care and management, ophthalmology, radiology, videoconferencing, and website enhancement.

***Equipment:***

Current and planned AUCH telehealth projects use: Kowa fundus retinal camera and software, Polycom videoconferencing equipment, and AMRAD CR teleradiology equipment and software.

***Transmission:***

The AUCH Telehealth Program will utilize current health center connectivity (T1, DSL) whenever possible. AUCH will assist health centers in expanding their bandwidth, if needed, and will assist in modifying current firewall, router, and other equipment to accommodate necessary IP traffic.

**UTAH, Salt Lake County**

**CMP FY 05**

**HRSA Telemedicine Pilot Program for Interpreting Services for the Deaf  
Intermountain Healthcare**

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IHC Health Services  
3930 Parkway Boulevard  
Salt Lake City, UT 84120  
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Shaun Morgan  
Ph: 801-442-1513  
Fax: 801-442-1132  
Email: [shaun.morgan@imail.org](mailto:shaun.morgan@imail.org)

***Network Partners:***

Not Applicable.

***Project Purpose:***

Implement pilot technology to provide appropriate communication to deaf and hearing impaired patients for meaningful access to Intermountain's services that are compliant with Americans with Disabilities Act regulations. Evaluate the technology with the Project Team's key personnel for resolution and ASL-level interpretations. Provide efficient and timely interpretation services for the deaf that enhance the quality of care and reduce health system waste.

***Outcomes Expected/Project Accomplishments:***

Decrease the length of time patients must wait for an interpreter by at least 50% and decrease the overall costs of providing interpretation services by 20%. Further, this will provide a setting that the patient perceives as less intrusive since a third person (the interpreter) will not be in the room. In addition, maximize the cost and administrative advantages of a combined IP infrastructure for both video and telephone.

***Service Area:***

The project service area includes all of Utah and Cassia, Idaho.

***Services Provided:***

On-demand video interpretation for deaf patients, this service will be available 24 hours a day. It will help decrease wait times for patients who need interpreting services and will provide patients with more options to address their communication needs.

***Equipment:***

The Polycom Practitioner Cart utilizes the Polycom VSX™ 7000 as the core for real time interactive voice and video communications. It includes two 17" LCD's in the dual monitor version.

***Transmission:***

Intermountain has DS3 connections from the main hospitals to the central hub that has a DS3 connection to the internet.

Utah Telehealth Network  
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**Network Partners:**

Spencer S. Eccles Health Sciences Library, Utah Diabetes Center, Intermountain Spinal Cord Injury Program, Bear Lake Community Health Center, UTN sites including Utah Navajo Health System, Montezuma Creek and Monument Valley; San Juan Hospital, Monticello; Gunnison Valley Hospital; Beaver Valley Hospital; South Davis Community Hospital.

**Project Purpose:**

- Upgrade network infrastructure to support expanding telehealth activity.
- Implement telehealth services for diabetes management, diabetic retinopathy, spinal cord injury patients.
- Expand continuing education modalities and offerings.
- Implement a process to provide access by rural hospitals to centralized patient-related IT resources.

**Outcomes Expected:**

- Improved network management & staff efficiency—automated reporting via integrated database.
- Patient/Provider and Education Participant Satisfaction—Likert surveys.
- Quantify Patient Usage of Services Provided—OAT GPRA Performance Measures.
- Quantify Education Participation—OAT GRPA Performance Measures.

**Service Area:**

Current project serves five counties (Rich, San Juan, Sanpete, Beaver, Davis) which include 4 full county HPSAs, 1 partial county HPSA, 3 full county MUAs, and 1 partial county MUP. Network serves 18 Utah counties, all of which are full or partial HPSAs.

**Services Provided/Project Accomplishments:**

Dermatology; psychiatry (medication management); developmental disabilities; cardiology; infectious disease; orthopedics; pediatric orthopedics; acute stroke intervention; burn; pharmacy; radiology; continuing education & training; nursing oncology doctoral program; bioterrorism preparedness; diabetes services (2006); spinal cord injury patient management (2006).

**Equipment:**

Accord MGC100 bridge, Polycom videoconferencing systems (Viewstation, VS 4000, VSX7000 VSX3000, Via Video and PVX); Madge multiplexer; Cisco routers; HP Procurve switches; Netscreen firewalls; Pyxis pharmacy dispensing system.

**Transmission:**

Dedicated T1 & T1 frame relay; DS3s, ISDN PRI; DSL.

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**Network Partners:**

Formed in 1997, the Northwest Telehealth network is host to 67 participating sites. The TeleER project in existence for several years, was funded to expand participation to both urban trauma facilities in Spokane (Sacred Heart Medical Center and Deaconess Medical Center), a regional air medical transport communications center (Northwest MedStar), and 12 rural hospitals in Washington State.

**Project Purpose:**

- 1) To provide 24/7 access to specialists for consultations between urban trauma centers and rural providers.
- 2) Provide easy-to-use, fixed conferencing equipment in rural emergency departments.
- 3) Increase utilization by providing access to wound care, pediatric emergency, and physician intensivists.
- 4) Incorporate availability of shared EMR and imaging with video consultations.

**Outcomes Expected/Project Accomplishments:**

- 1) Improved outcomes through timely access to specialists paired with utilization of patient conditions.
- 2) To improved coordination of care prior to transport.
- 3) Demonstrate the value of shared electronic medical record data to the clinical consultation process over telehealth.

**Service Area:**

Serving 67 sites within Washington and Idaho, including 23 counties.  
TeleER project sites include 7 HPSA/MUAs.

**Services Provided:**

Northwest TeleHealth has been operational since 1997 and provides services in mental health, diabetic education, neurology, emergency services, dermatology, wound care, employee assistance programs, telepharmacy, distance learning, practitioner, and patient education, support groups, satellite downlinks.

**Equipment:**

Polycom video conferencing systems, Polycom MCU, AMD Telemedicine General Exam Cameras, wireless headsets.

**Transmission:**

Full T1 and broadband connections between telehealth network sites, ISDN and IP off-network.

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**Network Partners:**

Seattle Cancer Care Alliance, Alaska Federal Health Care Access Network, Nisqually Tribe, Skokomish Tribe, Squaxin Island Tribe, Shoalwater Bay Tribe, Makah Tribe, Quinault Tribe, Northwest Indian College sites. Chehalis Tribe to be added March 2008. UW Telehealth Network operational since mid-1990's. Estimations for 10/07 – 9/08: 100-200 patients served, and more than 200 patient encounters.

**Project Purpose:**

Expert physicians and Native faculty from Seattle Cancer Care Alliance partners provide post-diagnosis cancer care services to Native children & adults, including consultations, support and/or training on follow up care, pain, mental health problems, dermatological issues, and end-of-life issues for cancer patients & survivors. The NPCCTN also supports provider/patient education.

**Outcomes Expected/Project Accomplishments:**

Establishment of collaborative and sustainable network of tele-oncology services to promote better post diagnosis cancer care for American Indians and Alaska Natives, improve support services for cancer sufferers, survivors and families, and increase awareness of telehealth as a viable tool for efficient delivery of cancer care. Various self-report measures and utilization measures will be implemented.

**Service Area:**

UW and the Seattle Cancer Care Alliance (King County), Alaska Federal Health Care Network (Anchorage Borough and beyond), Nisqually Tribe (Thurston County), Skokomish Tribe (Mason County), Squaxin Island Tribe (Mason County), Shoalwater Bay Tribe (Pacific County), Quinault Tribe (Gray's Harbor County), Makah Tribe (Clallum County), Chehalis Tribe (Gray's Harbor County).

**Services Provided:**

Seattle Cancer Care Alliance, Alaska Federal Health Care Access Network, Nisqually Tribe, Skokomish NPCCTN services include consultations, support and/or training/education on follow up care, pain, mental health problems, dermatological issues, and end-of-life issues for cancer patients & survivors. The NPCCTN also supports provider/patient education. UW Telehealth Network services include: telepsychiatry, teleradiology, tele-echocardiography services, and numerous educational and continuing educational programs supporting practicing rural health care professionals and UW medical students.

**Equipment:**

Hub sites (UW and SCCA) uses existing video conferencing facilities to link with the new tribal sites in Washington (each newly equipped with a Polycom VSX 7000) and existing Alaska sites.

**Transmission:**

Full T1 lines between hub sites and tribal sites within Washington; use of Internet2 to connect with AFHCAN bridge, with services to be transported across the AFHCAN network to remote sites.

**WEST VIRGINIA, Cabell County**

**CMP FY 05**

**Marshall University Southern West Virginia Rural Outreach Project**

**Robert C. Byrd Center for Rural Health**

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***Network Partners:***

Walter Reed Army Medical Center, Tug River Health (381 encounters), Lincoln Primary Care Center (30 encounters), JW Endicott MD, Mason County Health Department (759 encounters), Pleasant Valley Hospital, Larry J Harless Community Center (50 encounters), Southwestern Area Health Education Center

***Project Purpose:***

The purpose of this project is to increase access to preventive health care for Southern West Virginia utilizing a comprehensive chronic disease assessment, community focused interventions, and deployment of mobile medical units focusing on pediatrics and preventive medicine.

***Outcomes Expected/Project Accomplishments:***

Improved prevention, detection, and management of the most prevalent and debilitating chronic diseases of the region such as heart disease, diabetes, selected cancers, and obesity. Provide families in underserved rural communities access to healthcare services currently unavailable by designating and implementing targeted intervention programs.

***Service Area:***

Southern West Virginia; primarily Mason County Health Department: Mason County, Lincoln Primary Care Center: Lincoln County, Larry J. Harless Community Center: Mingo County and Tug River Health Associates: McDowell County

***Services Provided:***

The services in this project are the development and deployment of a comprehensive chronic disease and colorectal cancer screening program; emphasizing a comprehensive chronic disease assessment; continued and expanded operations of the Center's pediatric mobile medical unit, in addition to the deployment of a preventive medicine mobile medical unit (April 2007).

***Equipment:***

V-Tel Galaxy Class video conferencing; H.323 video conferencing is available with a roll-about Polycom ViewStation FX unit, and 384 KB/sISDN-based video conferencing

***Transmission:***

Dedicated T-1 lines, Internet Protocols (IP)

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**Network Partners:**

Gundersen Lutheran Medical System, Western Technical College, Viterbo University, Franciscan Healthcare, University of Wisconsin—La Crosse, Black River Falls Memorial Hospital, Tomah Memorial Hospital, Hess Memorial Hospital, Vernon Memorial Hospital, Prairie du Chien Memorial Hospital, Rural Wisconsin Health Cooperative, Ho Chunk Health Care Center—Black River Falls and Ho Chunk House of Wellness—Baraboo, Reedsburg Area Medical Center, Moundview Memorial Hospital, Krohn Clinic, Mile Bluff Clinic, Tri-County Memorial, Boscobel Area Health Care.

**Project Purpose:**

Develop distance education partnerships among the Consortium's educational institutions, rural hospitals, and clinics. Focus is on delivery through interactive two-way video and Web-based health programs for health professions education and professional development.

**Outcomes Expected/Project Accomplishments:**

Focus on:

- (1) Degree to which the project is able to address shortages in allied health personnel in the region;
- (2) The professional development and continuing education needs of health professionals throughout the region; and
- (3) Development of online courses in the health professions.

Measurement is by the quantification of attendance at/or participation in the respective programs.

**Service Area:**

Counties in which network participants are located include: Jackson, Monroe, LaCrosse, Vernon, Crawford, Sauk, and Juneau counties.

**Services Provided:**

Credit Courses, noncredit and CEU courses, certificate programs and special workshops for nursing and allied health professionals and students pursuing health careers, in addition, nursing lectureships.

**Equipment:**

Teaching Station with AMX room control that controls the video projector, visualizer, audio, and computer. Classrooms and lecture halls in the Health Science Center (opened 2000) were designed specifically for distance education.

**Transmission:**

In designated rooms there is access to ISDN, Video Over IP, DS-3 connections. Polycom Viewstation Bridge allows to connect multiple locations simultaneously. For line Interconnections, T1 is used.

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**Network Partners:**

22 Marshfield Clinic Rural Health Centers (1998-2007), Indianhead Community Action Agency (10 Head Start Classrooms—start date Jan 2007), Great Lakes Intertribal Council (2 Indian Health Centers—start date Jan 2007), 2 SNFs (2000-2004), 1 School, 1 Jail (2000). Approximately 3000 encounters in 2006 and 15 percent increase expected each year through 2010.

**Project Purpose:**

Provide preventative dental and health services, case management, and public health services to address the needs of people with chronic conditions such as Diabetes in a variety of settings including rural health clinics, Head Start classrooms, and Native American health centers. Distance education will be provided for health care professionals, patients, and families as well as clinical services.

**Outcomes Expected/Project Accomplishments:**

To increase the number of children and elderly who have access to dental services and participating in sealant programs by age 6 and 10; To provide preventative dental care or early oral health detection for residents of nursing homes; To decrease the delay in receiving timely retinal screening in high-risk populations; To increase the detection rate of hidden diabetic retinal damage in asymptomatic diabetic populations; To increase access to specialty services in remote based and disparate populations with unmet health needs.

**Service Area:**

Marshfield Clinic Centers: Marshfield (Wood), Ladysmith (Rusk), Park Falls (Price), Minocqua (Oneida), Phillips (Price), Radisson (Sawyer), Chippewa Falls (Chippewa), Rice Lake (Barron), Wausau (Marathon), Eau Claire (Eau Claire), Menomonie (Menomonie), WI Rapids (Portage); County Jail, Phillips, WI (Price); Marshfield Clinic Research Foundation, Marshfield, WI, (Wood). CESA 11 Dental Clinic, Hayward, WI (Sawyer), Flambeau Hospital, Park Falls, WI (Price), Satterwhite Dental Center, Phillips, WI (Price). Indianhead Community Action Agency (Sawyer, Rusk, Barron, Clark, Wood, Portage); Peter Christensen Indian Health Center (Vilas); Sokoagon Indian Health Center (Forest).

**Services Provided:**

Dermatology, Psychiatry, Child Psychiatry, Psychotherapy, Oncology, Cardiology, Speech Pathology, Orthopedics, Pathology, Pharmacy, Physical Therapy, Nutrition—Diabetes Mgt., Nutrition—all others, Diabetes Management (RN), Endocrinology, Neurology, Pain Management, ENT, Pulmonary Medicine, Plastic Surgery, Long Term Care, School Telehealth, Cancer, Prostate, Diabetes, and Chronic Pain Support Group, Research Oncology, Infectious Diseases, Occupational Medicine, Wound Therapy, Anticoagulation Management, Nurse Triage, and Diabetes Management.

**Equipment:**

Primarily a Polycom network for patient sites and VCON products on the PC for providers. AMD patient peripherals with the exception of patient exam cameras—use commercially available high-end video camcorders. Standard TV monitors and video switchers in exam rooms. Video bridge—ACCORD.

**Transmission:**

IP video at 512 kbps over proprietary lines, IP video at 384 kbps over proprietary lines, ISDN video at 384 kbps over leased lines.

Regional Expansion of Telehealth and Distance Learning

Memorial Hospital of Laramie County dba Cheyenne Regional Medical Center

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**Network Partners:**

Platte County Memorial Hospital, Wheatland, WY; Community Hospital, Torrington, WY; Iverson Memorial Hospital, Laramie, WY; Memorial Hospital of Converse County, Douglas, WY; Niobrara Health and Life Center, Lusk, WY.

**Project Purpose:**

Development and Implementation of a video conferencing system to include clinical telehealth applications, and enhance distance education opportunities within the region. This will be accomplished by engineering appropriate connectivity with facilities in the region, deploying necessary endpoints and clinical application peripherals and creating interactive educational programs.

**Outcomes Expected/Project Accomplishments:**

Deployment of necessary infrastructure and peripheral equipment to accommodate clinical telehealth and educational services, and development of network organization dedicated to the implementation of clinical and educational services in the region.

**Service Area:**

The project will serve the following Wyoming Counties: Albany; Laramie; Platte, HPSA for primary care; Goshen, MUA; Converse, HPSA for primary care; and Niobrara, HPSA for primary care.

**Services Provided:**

Currently there is no functioning health care related video-conferencing network in the region. Services provided will include clinical applications such as wound care, cardiology, surgery follow-up, disease management, home monitoring, and Clinical Medical Education. Other services will be developed as identified by network providers.

**Equipment:**

Video conferencing units and peripheral clinical equipment at remote sites based on specific applications. Peripheral equipment to include general exam cameras, and electronic stethoscopes.

**Transmission:**

IP for clinical and educational programs using T1 lines, and public InterNet.

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**Network Partners:**

Center for Rural Health Research and Education, University of Wyoming, Institute for Rural Health, Idaho State University, VHA, Wyoming: Southeastern Wyoming Telehealth Network, Cheyenne Regional Medical Center; Northwest Regional Telehealth Resource Center; and other community partners and locations to be determined

**Project Purpose:**

Improve access to and quality of Wyoming's health care through the application of technology. Use a three-pronged approach: (a) increase care opportunities through telemedicine; (b) increase the number, types, and skills of health professionals through distance delivery of health care education; and (c) increase access to information to support direct care and the administration of care through informatics.

**Outcomes Expected/Project Accomplishments:**

Cultural change through increased use of telemedicine, distance education, and informatics among health-care providers in Wyoming. Gather encounter data from initial pilots, as well as evaluate access to services and quality of a care through recipient and provider surveys. Monitor representative sites for client health status and quality of care, implicit/explicit review of processes and outcomes.

**Service Area:**

The entire State of Wyoming (23 counties) is served by this project. 18 of 23 counties are designated or contain service areas designated as HPSAs. 3 counties are designated MUAs as well. All 23 counties are designated as mental health PSAs. Pilot project areas represent a variety of geographic and demographic locations. Charter Member, Northwest Regional Telehealth Resource Center.

**Services Provided:**

Web portal provides telehealth information and resources. Provide access for all hospitals and clinics in the state (37) to on-line, evidence-based medical library; real time primary care follow-up; telemental health; home health monitoring. Anticipated services include videoconference and Web-based continuing education, store and forward applications, and legal and policy resources and information.

**Equipment:**

Includes 8 Polycom VSX 3000 units; (1) Tandberg Intern, (4) 1700 MXP, and (2) 1500 MX units; 1 Dell Web server; 4 Dell PCs.

**Transmission:**

Includes Internet, telephone lines (POTS), and commercial grade DSL services. This project is not providing transmission services, which are the responsibility of the partner sites.

# **Acronyms And Glossary**

## Acronyms

<b>ADSL</b>	Asymmetrical Digital Subscriber Line
<b>ATM</b>	Asynchronous Transfer Mode
<b>BRI</b>	Basic Rate Interface
<b>CATV</b>	Cable television
<b>Dental HPSA</b>	Dental Health Professional(s) Shortage Area
<b>DSL</b>	Digital Subscriber Line
<b>DDN</b>	Defense Data Network
<b>DS</b>	Digital telecommunications channels
<b>Gbps</b>	Gigabits per second
<b>HF</b>	High frequency
<b>HPSA</b>	Health Professional(s) Shortage Area
<b>IP</b>	Internet Protocol
<b>ISDN</b>	Integrated Services Digital Network
<b>K</b>	Kilo
<b>Kbps</b>	Kilobits per second
<b>LAN</b>	Local Area Network
<b>MAN</b>	Metropolitan Area Network
<b>MB</b>	Megabyte
<b>Mbps</b>	Megabits per second
<b>MCU</b>	Multipoint control unit
<b>MHPSA</b>	Mental Health Professional(s) Shortage Area
<b>Mhz</b>	Megahertz
<b>MUA</b>	Medically Underserved Areas
<b>MW</b>	Microwave
<b>OC</b>	Optical Carrier
<b>PACS</b>	Picture Archiving and Communications System
<b>POTS</b>	Plain Old Telephone Service
<b>PRI</b>	Primary Rate Interface
<b>TCP/IP</b>	Transmission Control Protocol/Internet Protocol
<b>VLAN</b>	Virtual local area network
<b>VPN</b>	Virtual Private Network
<b>VTC</b>	Video teleconference (ing)
<b>WAN</b>	Wide Area Network
<b>WWW</b>	World Wide Web

## Glossary

### **Analog**

An electrical signal that varies constantly in voltage, unlike a digital signal which varies between two constant values (typically denoted as 0 and 1). The value of the analog signal varies all the time during transmission, whereas a digital signal changes only between two set values without intermediate variations.

### **Asymmetrical Digital Subscriber Line (ADSL)**

ADSL refers to a pair of modems connected by a copper line that yields asymmetrical transmission of data.

### **Asynchronous Transfer Mode (ATM)**

A way of transmission where a start signal precedes individual characters and one or more stop signals follow it. Due to this start/stop system, delays may occur between characters. Also denotes the complete system of protocols and equipment associated with cell-based communications networks. These networks have the ability to transmit voice, data, and video traffic simultaneously using a statistical multiplexing scheme. This type of switching is expected to bridge the gap between packet and circuit switching. ATM uses packets referred to as cells that are designed to switch cells so rapidly that there is no perceptible delay.

### **Audio-teleconferencing**

Two-way electronic voice communication between two or more people at separate locations.

### **Backbone**

The high-traffic density connectivity portion of any communications network. In packet-switched networks, a primary forward-direction path traced sequentially through two or more major relay or switching stations. Note: In packet-switched networks, a backbone consists primarily of switches and interswitch trunks.

### **Bandwidth**

Measures the ability of a communications channel to carry information. The capacity of information increases relative to a higher megahertz (cycles per second) in an analog transmission, and in megabits/second (Mbps) for digital transmission.

### **Basic Rate Interface (BRI)**

An ITU-T Integrated Services Digital Network (ISDN) multipurpose user interface standard that denotes the capability of simultaneous voice and data services provided over two clear 64 kilobits/second (Kbps) channels and one clear 16 kbps channel (2B+D) access arrangement to each user location.

### **Bit**

Binary digit, the smallest possible unit of information making up a character or a word in digital code processed by computers.

### **Bridge**

Device connecting two separate networks at the OSI Data Link Layer (Level Two Media Access Control Layer). Once bridging is accomplished, the bridge makes interconnected LANs look like a single LAN, passing data between the networks and filtering local traffic. There are two key classifications of bridge: those supporting Spanning Tree and,

for Token Ring networks, those supporting Source Routing. Bridges connect networks using dissimilar protocols and do not interpret the data they carry. They control network traffic and security, filtering where necessary to boost network performance and contain sensitive data to particular LAN areas.

**Broadband**

A general term for a telecommunications medium of sufficient capacity to transmit high quality voice, data, and video transmissions. Broadband has been defined in many ways; e.g., a Wide Area Network (WAN) providing bandwidth greater than 45 Megabits/sec (T3); voice, data, and/or video communications at rates greater than 1.544 Megabits/sec (T-1), but has been Federally defined as data transmission each way, of 200 kilobits/second or more.

**Bundle(d)**

A group of optical fibers or electrical conductors, such as wires and coaxial cables, usually in a single jacket. *Note:* Multiple bundles of optical fibers or electrical conductors may be placed in the same cable.

**Byte**

A string or cluster of eight bits to represent a character.

**Cable**

An assembly of one or more insulated conductors, or optical fibers, or a combination of both, within an enveloping jacket. Note 1: A cable is constructed so that the conductors or fibers may be used singly or in groups. Note 2: Certain types of communications cables, especially long submarine cables but also terrestrial cables, whether the communications media are metallic or optical fiber, may contain metallic conductors that supply power to repeaters (amplifiers).

**Cable Modem**

In CATV systems, a bidirectional high-speed digital communications interface located on a subscriber's or user's premises and used, for example, for Internet access or other digital communications.

**Cable television (CATV)**

A transmission system that distributes broadcast television signals and other services by means of a coaxial cable.

**Codec**

A "code/decode" electrical device that converts an analog electrical signal into a digital form for transmission purposes and then converts it back at the other end.

**Dedicated T1**

A permanent telephone line reserved exclusively for one patient, accessible during all hours of the day. These lines usually offer better quality than standard telephone lines, but may not significantly augment the performance of data communications. May also be known as "leased," or "private" lines.

**Defense Data Network (DDN)**

Used generally to refer to Milnet, Arpanet and the TCP/IP protocols those networks use. More specifically refers to Milnet and associated parts of the connected Internet that link military installations.

**Dental Health Professional(s) Shortage Area (Dental HPSA)**

An area is so designated if the following three criteria are met: 1. The area is a rational area for the delivery of dental services. 2. One of the following conditions prevails in the area:(a) The area has a population to full-time-equivalent dentist ratio of at least 5,000:1, or(b) The area has a population to full-time-equivalent dentist ratio of less than 5,000:1 but greater than 4,000:1 and has unusually high needs for dental services or insufficient capacity of existing dental providers. 3. Dental professionals in contiguous areas are over-utilized, excessively distant, or inaccessible to the population of the area under consideration (*See <http://bhpr.hrsa.gov/shortage/hpsacritdental.htm>*).

**Digital Subscriber Line (DSL)**

In Integrated Services Digital Networks (ISDN), equipment that provides full-duplex service

on a single twisted metallic pair at a rate sufficient to support ISDN basic access and additional framing, timing recovery, and operational functions. Note: The physical termination of the DSL at the network end is the line termination; the physical termination at

the customer end is the network termination.

**Digital telecommunications channels (DS)**

These channels are capable of transmitting high volume voice, data or compressed video signals. DS1 and DS3 are also known as T1 and T3 carriers. Transmission rates are 64 Kbps for DS0, 1.544 Mbps for DS1, and 45 Mbps for DS3.

**Digitizer**

A device that converts an analog signal into a digital representation of the analog signal.

A digitizer usually samples the analog signal at a constant sampling rate and encodes each

sample into a numeric representation of the amplitude value of the sample.

**Direct Digital Imaging**

Involves the capture of digital images so that they can be electronically transmitted.

**DS1 (T1)**

A digital carrier capable of transmitting 1.544 Mbps of electronic information; the general term for a digital carrier available for high-value voice, data, or compressed video traffic.

**DS3 (T3)**

A carrier of 45 Mbps bandwidth. One DS3 channel can carry 28 DS1 channels.

**Duplex**

A transmission system allowing data to be transmitted in both directions simultaneously.

**Encryption**

A system of encoding data on a Web page or e-mail where the information can only be retrieved and decoded by the person or computer system authorized to access it. Often used on the web to protect financial data.

**Ethernet**

A communications protocol that utilizes various types of cable at a rate of 10 Mbps.

**Fiber optics**

Hair-thin, flexible glass rods encased in cables that use light to transmit audio, video, and data signals.

**Film Digitizer**

A device that allows scanning of existing static images so that the images can be stored, manipulated, or transmitted in digital form.

**Filmless Radiology**

Use of devices that replace film by acquiring digital images and related patient information and transmit, store, retrieve, and display them electronically.

**Fractional T1**

A portion of the 1.544 Mbps (T1-aggregate) bit stream; the available fractions being determined by the type of multiplexer used to achieve the T1 aggregate bit stream.

**Frame relay**

Created to improve the rate of data transfer compared to previous transmission protocols, frame relay is a streamlined process of sending and acknowledging transmitted packets of data.

**Full Duplex**

A communication channel over which both transmission and reception are possible at the same time.

**Full T1**

*See T1.*

**Gigabits per second (Gbps)**

A measure of bandwidth and rate of data flow in digital transmission.

**Health Professional(s) Shortage Area (HPSA)**

Means any of the following which the Secretary determines has a shortage of health professional(s): (1) An urban or rural area (which need not conform to the geographic boundaries of a political subdivision and which is a rational area for the delivery of health services); (2) a population group; or (3) a public or nonprofit private medical facility (See <http://bhpr.hrsa.gov/shortage/hpsacrit.htm>).

**Half-duplex**

A communication channel over which both transmission and reception are possible, but only in one direction at a time.

**H channel**

The ISDN packet switched channel on Basic Rate Interface, designed to carry user information streams at different speeds, depending on type: H11=1536Kbit/s, H0=384Kbit/s and H12= 1920Kbit/s.

**Hertz**

A measure of radio frequency. One Hz = one cycle per second.

**High frequency (HF)**

Frequencies from 3 MHz to 30 MHz.

**Image Processing**

Use of algorithms to modify data representing an image, usually to improve diagnostic interpretation.

**Informatics**

The deployment of systems that collect, organize, and report health data to improve the quality and cost-effectiveness of health care, public health, and providers and consumers decision-making about health care management (e.g., electronic medical record, integrated health care management systems, disease tracking systems).

**Integrated Services Digital Network (ISDN)**

A completely digital telephone system that is slowly enjoying more popularity throughout the United States which permits the integrated transmission of voice, video, and data to users at a higher speed than would be possible over typical telephone lines. It also provides connections to a universal network. It currently requires special installation and equipment.

**Internet (1)**

A group of networks that are interconnected so that they appear to be one continuous network, and can be addressed seamlessly at the Network Layer Three of the OSI model. Typical internets are built using routers, either to form a backbone network comprised of routers, or to link together LANs at the Network Layer.

**Internet (2)**

A collection of networks and gateways, including the Milnet and NSFNET, all using the TCP/IP protocol suite. It functions as a single, cooperative virtual network. The Internet provides universal connectivity and three levels of network services: connectionless packet delivery; full duplex stream delivery, and application level services, including electronic mail and EDI.

**Internet Protocol (IP)**

The messenger protocol of the TCP/IP (Transmission Control Protocol/Internet Protocol), describing software that tracks the Internet address of nodes, routes outgoing messages, and recognizes incoming messages. It facilitates the identification of the Internet Protocol Address (IP Address) of a computer or other device on the Internet (normally printed in dotted decimal form, such as 128.127.50.224).

**Interoperability**

The condition achieved among communications and electronics systems or equipment when information or services can be exchanged directly between them, their users, or both.

**Kilo**

$1,000 = 10^3$

**Kilobits per second (Kbps)**

A measure of bandwidth and rate of data flow in digital transmission. One Kbps is 1,024 kilobits per second.

**Local Area Network (LAN)**

A network of computers, generally small in number, whose reach is limited, typically within a building or campus, linked to allow access and sharing of data and computer resources by users. Differentiated from MAN and WAN by the size of the area, LAN is the smallest.

**Medically Underserved Areas (MUA)**

May be a whole county or a group of contiguous counties, a group of county or civil divisions or a group of urban census tracts in which residents have a shortage of personal health services. (see <http://bhpr.hrsa.gov/shortage/>)

**Megabits per second (Mbps)**

A measure of bandwidth and rate of data flow in digital transmission. One Mbps is equivalent to one million bits per second.

**Mental Health Professional(s) Shortage Area (MHPSA)**

An area is so designated if the following criteria are met:

1. The area is a rational area for delivery of mental health services;
2. One of the following conditions exists within the area:
  - a. population-to-core mental health professional ratio greater than or equal to 6,000:1 and a population-to-psychiatrist ratio greater than or equal to 20,000:1,
  - b. a population-to-core-professional ratio greater than or equal to 9,000:1, or
  - c. a population-to-psychiatrist ratio greater than or equal to 30,000:1;
3. The area has unusually high needs for mental health services, and has:
  - a. a population-to-core mental health professional ratio greater than or equal to 4,500:1, and a population-to-psychiatrist ratio greater than or equal to 15,000:1,
  - b. a population-to-core professional ratio greater than or equal to 6,000:1, or
  - c. a population-to-psychiatrist ratio greater than or equal to 20,000:1;
4. An area will be considered to have unusually high needs for mental health services if one of the following criteria is met:
  - a. 20 percent of the population (or of all households) in the area have incomes below the poverty level,
  - b. the youth ratio, defined as the ratio of the number of children under 18 to the number of adults of ages 18 to 64, exceeds 0.6,
  - c. the elderly ratio, defined as the ratio of the number of persons aged 65 and over to the number of adults of ages 18 to 64, exceeds 0.25,
  - d. a high prevalence of alcoholism in the population, as indicated by prevalence data showing the area's alcoholism rates to be in the worst quartile of the Nation, region, or State, or
  - e. a high degree of substance abuse in the area, as indicated by prevalence data showing the area's substance abuse to be in the worst quartile of the Nation, region, or State (See <http://bhpr.hrsa.gov/shortage/hpsaguidement.htm>).

**Metropolitan Area Network (MAN)**

A network of computers whose reach extends to a metropolitan area. MANs may be used to link telemedicine applications at a data rate similar to DS1. In some cases, MANs may be used by cable companies to offer links to off-network services such as the Internet, airline reservation systems, and commercial information services, in addition to data exchange abilities. Compared to LAN and WAN, MAN is in between the two.

**Megabyte (Mb)**

A measure of computer storage and memory capacity. One Mb is equivalent to 1.024 million bytes, 1,024 thousand bytes, or 1.024 Kbs. However, this term is also applied to the more rounded term of 1 million bytes.

**Megahertz (Mhz)**

A measure of bandwidth and rate of information flow for analog transmission. One Mhz equals 10 to the sixth power cycles per second.

**Microwave (MW)**

Loosely, an electromagnetic wave having a wavelength from 300 mm to 10 mm (1 GHz to 30 GHz). Note: Microwaves exhibit many of the properties usually associated with waves in the optical regime, e.g., they are easily concentrated into a beam.

**Modem (Modulator/De-modulator)**

A device that translates digital signals to pulse tone (analog) signals to enable transmission over telephone lines and reconverts them to digital form at the point of reception, thus permitting a computer to communicate with another computer over a regular telephone line. These devices are usually identified by the speed (in bits per second, or bps) of communication they permit. The higher the bps, the faster the modem.

**Multipoint Control Unit (MCU)**

A multipoint device, by means of which two or more audiovisual terminals may intercommunicate in a conference call. *Note:* A "principal MCU" has been assigned a superior controlling function in a call where two or more MCUs in that call are termed "satellite MCUs". The physical realization of an MCU may be such that two or more independent conferences may be set up within the same unit; logically, however, there is no relationship between these conferences; the text of this definition refers to an MCU only as a logical entity pertinent to the particular call of concern.

**Network**

A set of nodes, points or locations which are connected via data, voice, and video communications for the purpose of exchanging information. Interconnected telecommunications equipment used for data and information exchange. Consists of different types, LAN, MAN, and, WAN being examples.

**Open Systems Architecture**

A design that permits the interconnection of system elements provided by many vendors. The system elements must conform to interface standards.

**Optical Carrier (OC)**

The nomenclature for the line rate of the optical transmission signal.

**Optical Ring (Disk)**

A computer storage disk used solely for large quantities (Gbs) of data.

**Peripheral**

Any device that is attached to a computer externally. Scanners, mouse pointers, printers, keyboards, and monitors are all examples of peripherals. Scales, blood pressure cuffs, sphygmometers, and glucometers are also examples.

**Picture Archiving and Communications System (PACS)**

A system capable of acquiring, transmitting, storing, retrieving, and displaying digital images and relevant patient data from various imaging sources, and communicating the information over a network.

**Platform**

The type of computer on which a given operating system or application runs; the operating system in use on a given computer; or the application program in use on a given computer and operating system. The term cross-platform may be used to characterize an application program or operating system that may be run on more than one platform.

**Primary Rate Interface (PRI)**

An integrated services digital network (ISDN) interface standard that is designated in North America as having a 23B+D channels, in which all circuit-switched B channels operate at 64 kb/s, and in which the D channel also operates at 64 kb/s. *Note:* The PRI combination of channels results in a digital signal 1 (T1) interface at the network boundary.

**Push**

In networking, to send data from a server to a client in compliance with a previous request from (via) the client, as soon as the data are available.

**Real Time**

The capture, processing, and presentation of data, audio, and/or video signals at the time the data is originated on one end and received at the other end. When signals are received at rates of 30 frames per second, real time is achieved.

**Redundant or Redundancy**

Known as fault-tolerance, in data transmission, refers to characters and bits that can be removed from a transmission without affecting the message. In data processing and data communications, it means providing backup for components: should one of them fail, the system continues to run without operation. Total redundancy is usually impractical, but organizations with mission-critical applications attempt to install a high level of redundancy on the basis that downtime loses money, or possibly lives, depending on the business.

**Router**

In data communications, a functional unit used to interconnect two or more networks. Routers operate at the network layer (layer 3) of the ISO Open Systems Interconnection Reference Model. The router reads the network layer address of all packets transmitted by a network, and forwards only those addressed to another network.

**Satellite**

An electronic retransmission instrument serving as a repeater, which is a bi-directional device used to amplify or regenerate signals, placed in orbit around the earth in geostationary orbit for the purpose of receiving and retransmitting electromagnetic

signals. It typically receives signals from a single source and retransmits them over a wide geographic area, known as the satellite's "footprint."

**Server**

A network device that provides service to the network users by managing shared resources. The term is often used in the context of a client-server architecture for a local area network (LAN).

**Slow scan video**

A device that transmits and receives still video pictures over a narrow telecommunications channel.

**Store-and-forward**

Transmission of static images or audio-video clips to a remote data storage device, from which they can be retrieved by a medical practitioner for review and consultation at any time, obviating the need for the simultaneous availability of the consulting parties and reducing transmission costs due to low bandwidth requirements.

**Streaming**

A technique for transferring data (usually over the Internet) in a continuous flow to allow large multimedia files to be viewed before the entire file has been downloaded to a client's computer.

**Switch**

In communications systems, a mechanical, electro-mechanical, or electronic device for making, breaking, or changing the connections in or among circuits. Also known as the process by which one transfers a connection from one circuit to another. In a computer program, a conditional instruction and a flag that is interrogated by the instruction or a parameter that controls branching and that is bound, prior to the branch point being reached.

**Synchronous transmission**

The process by which bits are transmitted at a fixed rate with the transmitter and receiver synchronized, eliminating the need for start/stop elements, thus providing greater efficiency.

**T1 (DS1)**

A type of telephone line service offering high-speed data or voice access, with a transmission rate of 1.544 Mbps. It is also known as D1.

**T3 (DS3)**

A digital transmission system for high volume voice, data, or compressed video traffic, with a transmission rate of 44.736 Mbps. It is also known as D3.

**Telecommunications**

The use of wire, radio, visual, or other electromagnetic channels to transmit or receive signals for voice, data, and video communications.

**Teleconferencing**

Interactive electronic communication between multiple users at two or more sites which facilitates voice, video, and/or data transmission systems: audio, audiographics, computer, and video systems.

**Teleconsultation**

The physical separation between multiple providers during a consultation.

**Telediagnosis**

The detection of a disease as a result of evaluating data transmitted to a receiving station from instruments monitoring a remote patient.

**Telehealth**

The use of electronic information and telecommunications technologies to support and promote long-distance clinical health care, patient and professional health-related education, public health, and health administration.

**Telematics**

The use of information processing based on a computer in telecommunications, and the use of telecommunications to permit computers to transfer programs and data to one another.

**Telemedicine**

The use of electronic communication and information technologies to provide or support clinical care at a distance. Included in this definition are patient counseling, case management, and supervision/preceptorship of rural medical residents and health professions students when such supervising/precepting involves direct patient care.

**Telementoring**

The use of audio, video, and other telecommunications and electronic information processing technologies to provide individual guidance or direction. An example of this help may involve a consultant aiding a distant clinician in a new medical procedure.

**Telemonitoring**

The process of using audio, video, and other telecommunications and electronic information processing technologies to monitor the health status of a patient from a distance.

**Telepresence**

The method of using robotic and other instruments that permit a clinician to perform a procedure at a remote location, by manipulating devices and receiving feedback or sensory information, that contributes to a sense of being present at the remote site and allows a satisfactory degree of technical achievement. For example, this term could be applied to a surgeon using lasers or dental handpieces and receiving pressure similar to that created by touching a patient so that it seems as though s/he is actually present, permitting a satisfactory degree of dexterity.

**Transmission Control Protocol/Internet Protocol (TCP/IP)**

The underlying communications rules and procedures that allow computers to interact with each other on the Internet.

**Transmission Speed**

The speed at which information passes over a communications channel, generally given in either bits per second (bps) or baud.

**Videoconferencing**

Actual-time, generally two way transmission of digitized video images between multiple locations; uses telecommunications to bring people at physically remote locations together for meetings. Each individual location in a videoconferencing system requires a room equipped to send and receive video.

**Videophone**

A telephone that is coupled to an imaging device that enables the call receiver or the call originator, or both, to view one another as on television, if they so desire; a military communications terminal that has video teleconference capability, is usually configured as a small desktop unit, designed for one operator, and is a single, integrated unit.

**Video teleconference (ing) (VTC)**

A teleconference that includes video communications, specifically pertaining to a two-way electronic communications system that permits two or more persons in different locations to engage in the equivalent of face-to-face audio and video communications.

*Note:* Video teleconferences may be conducted as if all of the participants were in the same room.

**Virtual Private Network (VPN)**

The provision of private voice and data networking from the public switched network through advanced public switches. The network connection appears to the user as an end-to-end, nailed-up circuit without actually involving a permanent physical connection, as in the case of a leased line. VPNs retain the advantages of private networks but add benefits like capacity on demand.

**Virtual Local Area Network (VLAN)**

A computer network using inter-networks as data links that are transparent for users and that do not have restrictions on protocols, so that the network has the characteristics of a local area network.

**Virtual Reality**

A computer-based technology for simulating visual, auditory, and other sensory aspects of complex environments to create an illusion of being a three-dimensional world. The world is designed by the computer and viewed through a special headset that responds to head movements while a glove responds to hand movements. For example, while in a virtual room a person may move their hand up in order to fly or tap to change the color of a wall.

**Wide Area-Network (WAN)**

Data communication networks that links together distant networks and their computers to provide long-haul connectivity between separate networks located in different geographic areas.

**Wireless**

Descriptive of a network or terminal that uses electromagnetic waves (including rf, infrared, laser, visible light—and acoustic energy) rather than wire conductors for telecommunications.

**World-Wide Web (WWW)**

The universe of accessible information, including graphics, sound, text and video accessible through the Internet. The Web has a body of software, a set of protocols and defined conventions for accessing such information, including HTML (HyperText Markup Language), the Web's software language, and TCP/IP, a family of networking protocols providing communication across interconnected networks.

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