OFFICE FOR THE ADVANCEMENT OF TELEHEALTH

GRANTEE PROFILES

FY 2010 - 2011

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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 in the Acronyms and Glossary Section at the end of this document.**

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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 a division within the Office of Rural Health Policy (ORHP), which is a 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, 2009 through September 30, 2011. During this period, OAT administered 36 telehealth/telemedicine projects, totaling more than $10.3 million in funds awarded.

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

1. 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 TNGP is to help communities build the human, technical, and financial capacity to develop sustainable telehealth programs and networks. In 2009 and 2010, a total of seventeen projects were funded through the TNGP as part of 3-year awards.

2. The Telehomecare Grant Program (THC): The THC is a competitive grant program within the TNGP 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 2009 and 2010, nine projects were funded through the THC as part of 3-year awards.

3. The Telehealth Resource Center Grant Program (TRC): The TRC is a competitive grant program that provides support for the establishment and development of regional and national 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 2009 and 2010, nine projects were funded through the TRC as part of 3-year awards.

4. Licensure Portability Grant Program (LPGP): The LPGP 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 2009, one project was funded through the LPGP as part of a 3-year award.

OAT Grantee Organizations

The Office for the Advancement of Telehealth's (OAT) "Grantee Profiles 2010-2011" 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 2010 is the period October 1, 2009 through September 30, 2010.
*FY 2011 is the period October 1, 2010 through September 30, 2011.

This section contains a list of 2010–2011 OAT Grantee Organizations and their project names

State	Grantee
AK	**Alaska Native Tribal Health Consortium**
	• *Alaska Federal Healthcare Partnership*
AR	**University of Arkansas for Medical Sciences**
	• *Arkansas START (System to Access Rural Telecolposcopy)*
	• *South Central Telehealth Resource Center*
AZ	**Arizona Board of Regents University of Arizona**
	• *Southwest Telehealth Resource Center*
CA	**California Telemedicine and eHealth Center**
	• *Western Regional Telehealth Resource Center*
CA	**Regents of the University of California Davis Children's Hospital**
	• *Pediatric Emergency Telemedicine Network*
DC	**Center for Telehealth and E-Health Law**
	• *National Telehealth Resource Center*
GA	**Georgia Partnership for Telehealth**
	• *Southeastern Telehealth Resource Center*
GA	**Ware County Health Department**
	• *Southeast Telehealth Network Teledentistry Project*
HI	**University of Hawaii at Manoa**
	• *Pacific Basin Telehealth Resource Center*
IA	**Iowa Chronic Care Consortium**
	• *Iowa Diabetes Tel-Assurance Program*
ID	**St. Alphonsus Regional Medical Center**
	• *IDA/ORE Telehealth Network Emergency Specialist Program*
IL	**St. John's Hospital of the Third Order**
	• *St. John's Hospital Springfield and Prairie Heart Institute*
IN	**Union Hospital, Inc.**
	• *Wabash Valley Rural Telehealth Network*
KS	**University of Kansas Medical Center**
	• *Heartland Telehealth Resource Center*
	• *Kansas Comprehensive Telehealth Services for Older Adults*
LA	**Building Healthy Communities, Inc.**
	• *Louisiana Rural Mobile Telemammography Project*
ME	**Eastern Maine Medical Center**
	• *Eastern Maine Telehealth Network: Expanding Access to Specialty Care*
MN	**University of Minnesota**
	• *Great Plains Telehealth Resource and Assistance Center (GPTRAC)*
MS	**Delta Health Alliance, Inc.**
	• *Delta Telepyschiatry Network*
MT	**Billings Clinic Foundation**
	• *Montana and Wyoming Diabetes Outreach Program: Expanding Access through Telehealth*
MT	**Saint Vincent Healthcare Foundation**
	• *Healing Montana's Children: A Rural Pediatric Telehealth Project*
	• *Northwest Regional Telehealth Resource Center (NRTRC)*
NC	**FirstHealth of the Carolinas**
	• *FirstHealth of the Carolinas*

State	Grantee
NC	**Roanoke Chowan Community Health Center (RCCHC)**
	• *RCCHC Telehealth Network*
NE	**NE Hospital Association Research and Education Foundation**
	• *Nebraska Statewide Telehealth Network*
OK	**Sequoyah County – City of Sallisaw Hospital Authority**
	• *Telehealth Outreach Program at Sparks (TOPS)*
OR	**Asante Health System**
	• *Telehomemonitoring: Improving Outcomes for Discharged Hospital Patients*
SD	**Avera Health**
	• *Avera Health*
TN	**Community Health Network, Inc.**
	• *Health Education and Access for Rural Tennesseans (HEART)*
TN	**Mountain States Health Alliance**
	• *Southern Appalachia TeleHomecare Program*
TX	**Driscoll Children's Health Plan**
	• *ALCANCE Telehealth Network*
TX	**Federation of State Medical Boards of the United States, Inc.**
	• *Medical Licensure Portability to Facilitate Multi-State Telehealth Practice*
UT	**University of Utah**
	• *Utah Remote Monitoring Project*
VA	**University of Virginia**
	• *Rheuban High Risk Perinatal Telehealth*
WI	**Marshfield Clinic Telehealth Network**
	• *Marshfield Clinic Telehealth*

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 Network Grant Program (TNGP), Telehomecare Grant Program (THC), Telehealth Resource Center Grant Program (TRC), and the Licensure Portability Grant Program (LPGP). Funding years for current grantees are also provided.

Telehealth Network Grant Program (TNGP)
FY 2010-12 Grantees

State	Name	Previously Funded
CA	Regents of the University of California	-
GA	Ware County Board of Health	RTGP 00-02, TNGP 03-05, 06-09
IN	Union Hospital, Inc.	-
LA	Building Healthy Communities	-
ME	Eastern Maine Medical Center	TNGP 06-09
SD	Avera Health	RTGP 94-99

Telehomecare Grant Program (THC)
FY 2010-12 Grantees

State	Name	Previously Funded
IL	St. John's Hospital of the Third Order	-
NC	Roanoke Chowan Community Health Center, Inc.	-
UT	University of Utah	-

Telehealth Network Grant Program (TNGP)
FY 2009-11 Grantees

State	Name	Previously Funded
AR	University of Arkansas for Medical Sciences	RTGP 97-99
ID	St. Alphonsus Regional Medical Center	-
KS	University of Kansas Medical Center	RTGP 00-02, TNGP 03-05, 06-08
MS	Delta Health Alliance, Inc.	-
MT	Billings Clinic Foundation	-
MT	St. Vincent Healthcare Foundation	-
NE	NE Hospital Association Research and Education Foundation	-
OK	Sequoyah County – City of Sallisaw Hospital Authority	-
TN	Community Health Network	-
VA	University of Virginia	-
WI	Marshfield Clinic Telehealth Network	RTGP 97-99, 00-02, TNGP 03-05, 06-08

Telehomecare Grant Program (THC)
FY 2009-11 Grantees

State	Name	Previously Funded
AK	Alaska Native Tribal Health Consortium	-
IA	Iowa Chronic Care Consortium	-
NC	FirstHealth of the Carolinas	-
OR	Asante Health System	-
TN	Mountain States Health Alliance	-
TX	Driscoll Children's Health Plan, Inc.	-

Telehealth Resource Center Grant Program (TRC)
FY 2010-12 Grantees

State	Name	Previously Funded
AR	University of Arkansas for Medical Sciences	-
GA	Georgia Partnership for Telehealth, Inc.	-
HI	University of Hawaii	-
KS	University of Kansas Medical Center Research Institute	-

Telehealth Resource Center Grant Program (TRC)
FY 2009-11 Grantees

State	Name	Previously Funded
AZ	Arizona Board of Regents, the University of Arizona	-
CA	California Telemedicine & eHealth Center	TRC 06-08
DC	Center for Telehealth & E-Health Law	TRC 06-08
MN	Regents of the University of Minnesota	-
MT	Saint Vincent Healthcare Foundation	TRC 06-08

Licensure Portability Grant Program (LPGP)
FY 2009-2011 Grantees

State	Name	Previously Funded
TX	Federation of State Medical Boards of the United States, Inc.	LPGP 06-09

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 the Project

ST	Grantee	Clinical Telemedicine Services	Distance Learning			Information Systems/Electronic Health Records (**See Category Definitions Below)							Health Information Exchange Network / Other (please specify)
			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	
AK	**Alaska Native Tribal Health Consortium**												
	Alaska Federal Healthcare Partnership	•				•	•	•	•	•			*ViTel Care Website AFCAN T-Consult*
CA	**University of California Davis Children's Hospital**												
	Pediatric Emergency Telemedicine Network	•											
GA	**Ware County Board of Health**												
	Southeast Telehealth Network Teledentistry Project	•											
IA	**Iowa Chronic Care Consortium**												
	Iowa Diabetes Tel-Assurance Program	•				•	•			•			
ID	**Saint Alphonsus Regional Medical Center**												
	IDA/ORE Telehealth Network Emergency Specialist Program	•	•	•									
IN	**Union Hospital, Inc.**												
	Wabash Valley Rural Telehealth Network	•				•	•	•	•		•		*Yes- Local RHIO*
KS	**University of Kansas Medical Center**												
	Kansas Comprehensive Telehealth Services for Older Adults	•	•	•							•	•	
LA	**Building Healthy Communities, Inc**												
	LA Rural Mobile Telemammography Project	•											*Yes/between medical center and 14 rural hospitals*
ME	**Eastern Maine Medical Center – Eastern Maine Telehealth Network: Expanding Access to Specialty Care**												
	Expanding access to Emergency Department care in Eastern and Northern Maine	•										•	*Maine InfoNet in development, EMHS Together Project with shared EMR*
	Expanding Access to trauma, general surgery and cardiology specialist	•					•	•	•		•	•	
MS	**Delta Health Alliance, Inc.**												
	Delta Telepsychiatry Network	•	•										
MT	**Billings Clinic**												
	Montana and Wyoming: diabetes Outreach Program: Expanding Access Through Telehealth	•		•									

MT	**St. Vincent Healthcare Foundation**													
	Healing Montana's Children: A rural pediatric telehealth project	•							•					
NC	**FirstHealth of the Carolinas**													
	FirstHealth of the Carolinas	•				•	•		•	•	•	•		
NC	**Roanoke Chowan Community Health Center (RCCHC)**													
	RCCHC Telehealth Network	•							•					
NE	**NE Hospital Association Research and Education Foundation**													
	Nebraska Statewide Telehealth Network	•	•	•			•							
OR	**Asante Health System**													
	Telehomemonitoring: Improving Outcomes for Discharged Hospital Patients	•								•		•		
SD	**Avera Health**													
	Avera Health	•								•				
TN	**Mountain States Health Alliance**													
	Southern Appalachia TeleHomecare Program	•				•			•	•				
	Community Health Network, Inc.													
	Healthcare Education and Access for Rural Tennesseans (HEARTS)	•	•	•										
TX	**Driscoll Children's Health Plan**													
	Alcance Telehealth Network	•												
UT	**University of Utah**													
	Utah Remote Monitoring Project	•				•								
VA	**University of Virginia**													
	Rheuban High Risk Perinatal Telehealth	•	•	•		•								
WI	**Marshfield Clinic Telehealth Network**													
	Marshfield Clinic Telehealth and Rural Elderly	•												

**** Electronic Health Records Definitions**

Key Data	**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.**
Results Reporting	**Includes Laboratory, Microbiology, Pathology, Radiology Reports, and Consults.**
Computerized Provider Order Entry	**Includes availability of Electronic Prescribing, Laboratory, Microbiology, Pathology, Radiology, Nursing, Supplies, Consults, and Ancillary.**
Electronic Integrated Medical Record	**Defined as the extent to which a single record integrates data from different sources within an institution for each patient.**
Reporting and Population Health Management	**Includes Patient Safety and Quality Reporting (*Routine reporting of key quality indicators to clinicians, External accountability reporting, and Ad hoc reporting*), Public Health Reporting (*Reportable diseases and Immunization*), De-Identifying Data, and Disease Registries.**
Scheduling Management	**Includes Appointments, Admissions, Surgery/procedure scheduling.**
Electronic Billing	**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)	Otorhinolaryngology	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	**Alaska Native Tribal Health Consortium**																										
	Alaska Federal Healthcare Partnership			I/14; P/18	I/14; P/18															I/14; P/18							Obesity/Weight Mgmt I/14 P/18
CA	**University of California Davis Children's Hospital**																										
	Pediatric Emergency Telemedicine Network									P/10																P/10	
GA	**Ware County Board of Health**																										
	Southeast Telehealth NetworMak Teledentistry Project																										Preventive Pediatric Dental Services: I/2;P/2
IA	**Iowa Chronic Care Consortium**																										
	Iowa Diabetes Tel-Assurance Program				I/1																						Depression Screening and Referral
ID	**Saint Alphonsus Regional Medical Center**																										
	IDA/ORE Telehealth Network Emergency Specialist Program			1/10															1/3	1/10						1/10	I/8 = TeleToxicolog P/10 = TeleStroke Consultations P/11 = TeleBurns

ST	Grantee	Allergy	Asthma Control	Cardiology	Diabetes Care and Management	Dermatology	Endocrinology (not diabetes)	Otorhinolaryngology	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)
IN	**Union Hospital, Inc.**																										
	Wabash Valley Rural Telehealth Network		P/2	P/1	P/2		P/3				P/2									P/4							
KS	**University of Kansas Medical Center**																										
	Kansas Comprehensive Telehealth Services for Older Adults			I/1	I/1; P/1				P/3		I/6; P/2		I/2		I/3		I/3, P/6			P/3							Palliative Care-P/10; Wound Care P/10; Support Group, I/2, P/2; Geriatric Medicine I/10
LA	**Building Healthy Communities, Inc.**																										
	Louisiana Rural Mobile Telemammography Project																										Screening mammograms-I/5 health info and cancer support-P/5
ME	**Eastern Maine Medical Center – Eastern Maine Telehealth Network: Expanding Access to Specialty Care**																										
	Expanding access to ED care in Eastern, Northern Maine.										I/4															I/ 11; P/4	
	Expanding access to trauma/ general surgery& cardiology specialists.			P/4											I/1												

ST	Grantee	Allergy	Asthma Control	Cardiology	Diabetes Care and Management	Dermatology	Endocrinology (not diabetes)	Otorhinolaryngology	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)
MS	**Delta Health Alliance, Inc.**																										
	Delta Tele-psychiatry Network										1/8																
MT	**Billings Clinic Foundation**																										
	Montana and Wyoming Diabetes Outreach Program: Expanding Access Through Telehealth				I/ 21																						
	St. Vincent Healthcare Foundation																										
	Healing Montana's Children: A Rural Pediatric Telehealth Project										P/ 11; I /3							P /15; I/ 4									
NC	**Roanoke Chowan Community Health Center**																										
	Roanoke Chowan Community Health Center Telehealth Network Grant Program																						I/4 P/3				
	FirstHealth of the Carolinas																										
	FirstHealth of the Carolinas																						I/13				
NE	**NE Hospital Association Research and Education Foundation**																										

ST	Grantee	Allergy	Asthma Control	Cardiology	Diabetes Care and Management	Dermatology	Endocrinology (not diabetes)	Otorhinolaryngology	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)
	Nebraska Statewide Telehealth Network				I/5				I/2		I/26	I/1			I/6										I/3	I/1	Neurology: I/2, Adult Psychiatry: I/17, Chronic Disease: I/3, Nephrology: I/5, Gastroenterology: I/2 Pediatric Echocardiology: I/1; Genetics: I/0;Cardiovascular Surgery: I/0
OR	**Asante Health System**																										
	Telehomemonitoring: Improving Outcomes for Discharged Hospital Patients			I/3	I/3															I/3			I/3				
SD	**Avera Health**																										
	Telehealth Network Grant Program			I/5	P/16	I/10	I/4	P	I/25	I/27	I/5	I/5	P/16	P/3	I/5			I/5	I/19	I/10						I/26	Wound Care I/1: Smoking Cessation P/16
TN	**Mountain States Health Alliance**																										
	Southern Appalachia TeleHomecare Program			I/9	I/9																		I/9				
TN	**Community Health Network, Inc.**																										
	Healthcare Education and Access for Rural TennesseanS (HEARTS)				I/4						I/5																Weight Management I/4 Perinatology I/1
TX	**Driscoll Children's Health Plan**																										
	Alcance Telehealth Network		1/10		1/10																						

ST	Grantee	Allergy	Asthma Control	Cardiology	Diabetes Care and Management	Dermatology	Endocrinology (not diabetes)	Otorhinolaryngology	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	**University of Utah**																										
	Utah Remote Monitoring Project			P/6	P/6																		P/6				
VA	**University of Virginia**																										
	Rheuban High Risk Perinatal Telehealth													1/10													

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

Sources of Reimbursement

State	Organization	Medicare	Medicaid	Private Payor (Please Specify)	Other Contract (Please Specify)	Other Source
AK	Alaska Native Tribal Health Consortium	Telehomecare Grantee				
IA	Iowa Chronic Care Consortium	Telehomecare Grantee				
ID	IDA/ORE Telehealth Network Emergency Specialist Program (does not bill for ED consults)	•	•	Oregon Insurance Companies, Regence Blue Shield	IDA/ORE Telehealth Network Emergency Specialist Program (but we do not bill for ED consults)	
IN	Union Hospital, Inc.	•	•	Paid by other insurances on case by case basis	Fee for service contracts	
IL	St. John's Hospital of the Third Order	Telehomecare Grantee				
KS	University of Kansas Medical Center	•	•	Blue Cross Blue Shield Of Kansas Coventry Health Care of Kansas Preferred Health Systems United HealthCare Please is reimbursement goes to the clinical department, not to the telemedicine department.	University of Kansas Medical Center	
LA	Building Healthy Communities, Inc.	•	•			
ME	Eastern Maine Medical Center	•	•	CIGNA/AETNA		
MT	Billings Clinic Foundation	•	•	Blue Cross/Blue Shield New West		
	St. Vincent Healthcare Foundation		•	Private Insurance paid on a case-by-case basis		Patient
NC	Roanoke Chowan Community Health Center	Telehomecare Grantee				
	FirstHealth of the Carolinas	Telehomecare Grantee				
NE	NE Hospital Association Research and Education Foundation	•	•	AARP, Advantra F, Aetna, Aflac, American Family, Assurant Health, BC/BS Kansas and Nebraska, Combined Insurance, Continental, Coventry, Humana Gold, MC Mountain Health, Medico Life Insurance, Meritain Health, Midlands Choice, Mutual of Omaha, Mutually Preferred, Physician Mutual, Pioneer Life, Preferred Health, Principal Life, Title XIX of Nebraska, Tricare for Life, Unicare, United American, United Com Traveler, United Health, United Teachers, WPS, Zenith Administrators	Nebraska Statewide Telehealth Network	
OR	Asante Health System	Telehomecare Grantee				
SD	Avera Health	•	•	Blue Cross/Blue Shield, Dakota Care, Avera Health Plans		
TN	Mountain States Health Alliance	Telehomecare Grantee				
	Community Health Network, Inc.					
	Vanderbilt	•	•	Blue Cross/Blue Shield, United Healthcare		Patient
	ETSU	•	•	Clinic does not accept insurance		Patient
	Regional Obstetrical Associates	•	•	Blue Cross/Blue Shield, Cigna, United Healthcare, Aetna, Cariten, Tricare, Humana, Cariten		Patient

State	Organization	Medicare	Medicaid	Private Payor (Please Specify)	Other Contract (Please Specify)	Other Source
	Meharry Medical Group	•	•	Blue Cross/Blue Shield; United Healthcare; Aetna		Patient
TX	**Driscoll Children's Health Plan**	Telehomecare Grantee				
UT	**University of Utah**	Telehomecare Grantee				
VA	**University of Virginia**		•	VA mandated insurance coverage 01/11 for telemedicine		Departmental Grant

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

Program Settings

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
AK	**Alaska Native Tribal Health Consortium**																
	Alaska Federal Healthcare Partnership	14	HPSA: 8 MUA: 1 POP: 80,000					14/90									
CA	**University of California Davis Children's Hospital**																
	Pediatric Emergency Telemedicine Network	10	HPSA: 7 MUA: 2 OTHERS: 1 POP: 1,125,160						10								
GA	**Ware County Board of Health**																

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
	Southeast Telehealth Network Teledentistry Project	4	HPSA:3 MUA: 4 POP: 33,000												4		
IA	**Iowa Chronic Care Consortium**																
	Diabetes Tel-Assurance Program	**>200**	Total HPSAs: 118 MUA: 85 2,703,000					>200									
ID	**Saint Alphonsus Regional Medical Center**																
	IDA/ORE Telehealth Network Emergency Specialist Program	**10**	9 HPSA 9 MUA POP: 200,000						**10**								
IN	**Union Hospital, Inc.**																

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
	Wabash Valley Rural Telehealth Network	14	HPSA: 7 MH HPSA: 2 MUA: 6 POP: 235,841		2	5			5					2			
KS	**University of Kansas Medical Center**																
	Kansas Comprehensive Telehealth Services for Older Adults	**13**	POP: 303,299				3		4		5						1 Assisted Living
MS	**Delta Health Alliance, Inc.**																
	Delta Telepsychiatry Network	**8**	HPSA:3 MUA:8 POP: 127,000														8 Community Mental Health Centers
MT	**Billings Clinic Foundation**																
	Montana and Wyoming Diabetes Outreach Program: Expanding Access Through Telehealth	21	HPSA: 15 POP: 500,000											21			
	St. Vincent Healthcare Foundation																

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
	Healing Montana's Children: A Rural Pediatric Telehealth Project	**16**	HPSA: 15 MUA: 13 Population: 66,868		**1**	**7**			**7**								1 Mental Health Clinic
NC	**Roanoke Chowan Community Health Center**																
	Roanoke Chowan Community Health Center Telehealth Network Grant Program	4	HPSA: 2 MUA: 2 POP: 321,384		3				1								
	FirstHealth of the Carolinas																
	FirstHealth of the Carolinas	15	HPSA: 2 POP: 70,000 MUA:4 POP: 199,000			**6**		2/2336	**3**				**3**				1/Diabetes Self Management

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
NE	**NE Hospital Association Research and Education Foundation**																
NE	*Nebraska Statewide Telehealth Network*	**115**	*Mental Health HPSA: 89 counties/Population 1,509,304* *Primary Care HPSA: 47 counties/Population: 1,047,711* *Dental HPSA: 19 counties/Population: 916,090* *MUAs: 73 counties/Population: 1,426,537*			**5**			**82**				**19**	**5**			DHHS-1 Mental Health Centers - 3

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
OR	**Asante Health System**																
	Telehomemonitoring: Improving Outcomes for Discharged Hospital Patients	**5**	HPSA: 5 MUA:5 POP:232,538					5/93									
TN	**Community Health Network, Inc.**																
	Healthcare Education and Access for Rural TennesseanS (HEARTS)	7	HPSA: 7 MUA: 7 Dental HPSA: 7 Mental Health HPSA: 7		7												
	Mountain States Health Alliance																
	Southern Appalachia TeleHomecare Program	**9**	HPSA: 7(+7 Partial) MUA:13(+7 Partial) Pop: 931,718					9/150									

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
TX	**Driscoll Children's Health Plan**																
	Alcance Telehealth Network	**10**			**1**	**5**			**1**				**1**	**1**	**1**		
UT	**University of Utah**																
	Utah Remote Monitoring Project	**6**	HPSA:4 MUA:2 Pop: 1,158,275		**1**			4/70							**1**		

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
VA	**University of Virginia**																	
	Rheuban High Risk Perinatal Telehealth	4	HPSA:1 MUA: 0 Pop: 1,213,727										4				

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

Technology and Transmission

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
AK	**Alaska Native Tribal Health Consortium**						
	Telehealth Network Grant Program	Blood Glucose, Blood Pressure, Weight, Pulse Blood Oxygen	Blood Glucose, Blood Pressure, Weight, Pulse Blood Oxygen				
CA	**University of California Davis Children's Hospital**						
	Pediatric Emergency Telemedicine Network		IP for clinical services		Cellular Wireless to connect specialist to provide teleconsultations from remote locations	Broadband to connect specialist to provide teleconsultations from remote locations	
GA	**Ware County Board of Health**						
	Southeast Telehealth Network Teledentistry Project		All technology set to recognize IP-Network composed of direct point to point T-1 lines used to link sites			Broadband LAN to connect Telehealth sites for dental consultations	
IA	**Iowa Chronic Care Consortium**						
	Iowa Diabetes Tel-Assurance Program			Patient self report data reports for care management			POTS for AVR System and care manage-ment communicat ions
ID	**Saint Alphonsus Regional Medical Center**						

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
	IDA/ORE Telehealth Network Emergency Specialist Program	Training sessions recorded to DVD & uploaded to secure website	IP over internet (secure) for education & clinical services	InTouch Remote Presence over web	802.11 a/g wireless network connectivity at all sites for InTouch Remote Presence	Metro-E fiber to near regional sites, broadband web for remote sites	
IN	**Union Hospital, Inc.**						
	Wabash Valley Rural Telehealth Network	Endocrinology	H323 protocol for real-time voice/video transmissions. IP for S&F clinical services.	Internet used for Store & Forward (S&F) with encryption	Systems use encrypted wireless within hospitals	T1 and T3 lines for compressed video transmission. Transmit real-time voice/video to all sites.	
KS	**University of Kansas Medical Center**						
	Kansas Comprehensive Telehealth Services for Older Adults		IP for clinical and educational services	For patient and community educational programs			
LA	**Building Healthy Communities, Inc.**						
	Louisiana Rural Mobile Telemammography Project	mammograms				Planning to transmit mammograms for real live interpretation	
ME	**Eastern Maine Medical Center**						
	Eastern Maine Telehealth Network: Expanding Access to Specialty Care		IP for clinical services and for education over T1 terrestrial lines to rural towns				
MS	**Delta Health Alliance, Inc.**						

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
	Delta Telepsychiatry Network		Tele-mental health services delivered using H.323 and TCP/IP protocols		Mobile tele-mental health services delivered over Cellular CDMA wireless network	Dedicated 1.5Mb T1 connecting each site to host site for tele-mental health consultations	
MT	**Billings Clinic Foundation**						
	Montana and Wyoming Diabetes Outreach Program: Expanding Access Through Telehealth		IP for clinical services and for education over T1 terrestrial lines to rural towns				
	St. Vincent Healthcare Foundation						
	Healing Montana's Children: A Rural Pediatric Telehealth Project		IP for clinical services and for education over T1 terrestrial lines to rural towns				
NC	**Roanoke Chowan Community Health Center**						
	Roanoke Chowan Community Health Center Telehealth Network Grant Program	Encrypted data		Biometric data transmitted to a secure web server. Accessible by Nurse and PCP	Bluetooth transmission- Biometric data transmitted from peripherals to connecting hub for data transmission via pots or internet		POTs - Biometric data transmitted to a secure web server. Accessible by Nurse and PCP

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
	FirstHealth of the Carolinas						
	FirstHealth of the Carolinas Telehealth Network Grant			Vital sign monitoring of home care patients and education delivery	Wireless technology gives the clinician access to patient data		Patient data is sent via POTS from the patient's home to a central server; this data is then viewed via secure Internet/WWW based software
NE	**NE Hospital Association Research and Education Foundation**						
	Nebraska Statewide Telehealth Network					IP for transmission of store and forward diagnostic imaging over T1 terrestrial lines	
OR	**Asante Health System**						
	Telehomemonitoring: Improving Outcomes for Discharged Hospital Patients	Home Telemonitoring	T1 Lines for compressed video transmission	Continuing patient education for home care		Transmit real-time voice/video to all sites	
SD	**Avera Health**						
	Telehealth Network Grant Program		CMA, T1				

State	Program(s) Name	Store and Forward	Internet Protocols (IP)	Internet/World Wide Web	Wireless Technology	Broadband Transmission	Other Transmission
TN	**Community Health Network, Inc.**						
	Healthcare Education and Access for Rural Tennesseans (HEARTS)		TCP/IP: clinical services, education and transmission of ultrasound images to PECs system(s)	TCP/IP: Education sessions and clinical services			
	Mountain States Health Alliance						
	Southern Appalachia TeleHomecare Program	Telemonitoring equipment	Sharing of EMRs between HomeHealth and Primary care providers				Telemonitoring and Telereporting of CHF Factors
UT	**University of Utah**						
	Utah Remote Monitoring Project			Remote home monitors and kiosks may use Internet	Remote home monitors may use cellular or bluetooth technology		Remote Home Monitors may use POTS
VA	**University of Virginia**						
	Rheuban High Risk Perinatal Telehealth		T1 Lines for compressed video transmission			Transmit real-time voice/video to all sites	

****Technology Definitions**

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.
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). 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.
World Wide Web	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.
Broadband	For purposed 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 Megabits/sec T3; voice, data, and/or video communications at rates greater than 1.544 Megabits/sec T1, but has been Federally defined as data transmission <u>each way</u>, of 200 kilobits/second or more.
Broadband LAN	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.
Broadband ISDN	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. Grantee responses are indicated in this section.

N/A = Not applicable / Not available

Homeland Security

State	Organization	Description of Activity	Sites	Role in Federal, State or Local Emergency Planning	Other entities associated within Emergency Planning
GA	**Ware County Board of Health**	State and local emergency preparedness planning, exercises, and training	20	Public Health Emergency Preparedness staff participates in statewide planning via linkage with Georgia GVNS network. Planning, exercises, and training for Public Health staff occurs via videoconferencing within network	
ME	**Eastern Maine Healthcare Systems**	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, Sebasiticook Valley Hospital, The Aroostook Medical Center, The Acadia Hospital and Eastern Maine Healthcare Systems
MN	**University of Minnesota**				
MT	**Billings Clinic Foundation**	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
NC	**Roanoke Chowan Community Health Center**	Member Of Hertford County Health Authority Preparedness Committee Participate in all Committee Strategic National Stockpile Plan and distribution Pandemic Influenza Activities, Public Health Bioterrorism and Emerging Health Treats Plan, Public Health Information and Crisis Communication Prep, Public Health Emergency Preparedness Exercises Monthly Radio checks of 800 MHz State System Annual Fit Testing of all RCCHC staff		Liaison between Public Health Emergency Preparedness Committee and RCCHC that includes handling and distribution of antiviral, H1N1, surveillance and all reports to RCCHC CEO, CMO, and Clinic site managers	Hertford County Health Authority Roanoke Chowan Hospital Hertford County School System State Highway Patrol Hertford County Sheriff Dept Hertford County EMS Hertford County Social Services Chowan University NC Epidemiology and Nurse Consultant

State	Organization	Description of Activity	Sites	Role in Federal, State or Local Emergency Planning	Other entities associated within Emergency Planning
	NE Hospital Association Research and Education Foundation	N/A	N/A	N/A	N/A
NE	*Nebraska Statewide Telehealth Network*	Health Alert Network Testing	115 planned	To test the ability of the NSTN and its members to connect all sites within 1-2 hours notice for a disaster or public health emergency communication	Department of Health & Human Services, health departments, hospitals
NE	*Center for Preparedness Education*	Incident Command Roles	TBD (planned education)	To train hospitals, health departments and others in Incident Command specific roles and responsibilities	Nebraska Hospitals and Health Departments
NE	*Center for Preparedness Education*	Blast Injuries and Burns Educational Series	21	Training on blast injuries and burns that could occur in a disaster	Nebraska Hospitals
NE	*Center for Preparedness Education*	Disaster Preparedness Hospital Summit	34	Information and education for hospitals about preparedness activities and upcoming education. Forum for discussion	Nebraska Hospitals
NE	*Center for Preparedness Education*	Statewide education on Negative Air Pressure units	17	Bioterrorism (BT) money paid for the equipment and education was needed to make use of it.	Nebraska Hospitals

State	Organization	Description of Activity	Sites	Role in Federal, State or Local Emergency Planning	Other entities associated within Emergency Planning
NE	*Center for Preparedness Education*	Initial Planning Conferences for Hospital Exercises	7	Disaster Exercises in Nebraska Hospitals	Nebraska Hospitals
NE	*Center for Preparedness Education*	Needs assessment focus group	1	Assess training needs for the state of Nebraska preparedness personnel.	Hospital, EMS
NE	*Center for Preparedness Education*	Crisis Communication Plan Training	8	Training on planning workbook	Hospital, Public Health
NE	*Center for Preparedness Education*	BioSecure EMS: Transport of Patients with Serious Communicable Diseases, Presentation from Dr. Isakov	12	Training for hospitals on safe transport of an infectious patient	Hospitals, EMS, Emergency Management, Public Health
NE	*Tri-Cities Medical Response System (TRIMRS)*	Routine meetings of the TRIMRS organization for planning and education purposes	16	Bringing together of multiple agencies for joint preparedness to plan for and respond to disaster and public health emergencies that threaten the well being of the population; TRIMRS' is under contract by the State DHHS through the Hospital Preparedness Program utilizing funds from the National Bioterrorism Hospital Preparedness Program	Hospital, EMS, Emergency Management, Public Health, Behavioral Health, Funeral Homes

State	Organization	Description of Activity	Sites	Role in Federal, State or Local Emergency Planning	Other entities associated within Emergency Planning
NE	*Rural Region One Medical Response Systems (RROMRS)*	Routine meetings of the RROMRS organization for planning and education purposes	10	Bringing together of multiple agencies for joint preparedness to plan for and respond to disaster and public health emergencies that threaten the well being of the population; RROMRS' is contract by the State DHHS through the Hospital Preparedness Program utilizing funds from the National Bioterrorism Hospital Preparedness Program	Hospital, EMS, Emergency Management, Public Health, Behavioral Health, Funeral Homes
NE	*Panhandle Regional Medical Response Systems (PRMRS)*	Routine meetings of the PRMRS organization for planning and education purposes	10	Bringing together of multiple agencies for joint preparedness to plan for and respond to disaster and public health emergencies that threaten the well being of the population; PRMRS' is a contract by the State DHHS through the Hospital Preparedness Program utilizing funds from the National Bioterrorism Hospital Preparedness Program	Hospital, EMS, Emergency Management, Public Health, Behavioral Health, Funeral Homes
NE	*West Central Regional Medical Response System (WCMRS)*	Routine meetings of the WCMRS organization for planning and education purposes	7	Bringing together of multiple agencies for joint preparedness to plan for and respond to disaster and public health emergencies that threaten the well being of the population; WCMRS' is contract by the State DHHS through the Hospital Preparedness Program utilizing funds from the National Bioterrorism Hospital Preparedness Program	Hospital, EMS, Emergency Management, Public Health, Behavioral Health, Funeral Homes
NE	*Tri-Cities Medical Response System (TRIMRS)*	Multi-agency exercise	22	In October, 2007, telehealth was used for a full scale exercise to prepare at the state level, regional level and organizational level for a pandemic influenza. Telehealth was used for gathering organizations to meet with the State offices and health departments to disburse important pandemic information and ask questions.	Hospitals, EMS, Emergency Management, State of Nebraska DHHS, State of Nebraska Epidemiologist, State of Nebraska Public Health Lab

State	Organization	Description of Activity	Sites	Role in Federal, State or Local Emergency Planning	Other entities associated within Emergency Planning
NE	*Rural Region One Medical Response System (RROMRS)*	Multi-agency exercise	10	In July, 2008, telehealth was used for a full scale exercise to prepare hospitals, emergency management, health departments, Indian health services and Indian health departments for response to a pandemic influenza. Telehealth was used for gathering organizations to meet with State offices and health departments to disburse important pandemic information and to ask questions.	Hospitals, EMS, Emergency Management, State of Nebraska DHHS, State of Nebraska Epidemiologist, State of Nebraska Public Health Lab, Indian Health Services (by phone)
NE	*Panhandle Regional Medical Response System (PRMRS)*	Multi-agency exercises	20/5	In 2008, telehealth was used in two separate PRMRS area tabletop exercises. The first included 20 sites and was multistate involving a disaster that required response from private and public entities. The second was an H1N1 recovery tabletop exercise and included 5 telehealth sites across 3 emergency management regions.	Public health, State DHHS, emergency management, local hospitals, law enforcement, county officials, water managers, schools, businesses and citizen corps networks.
OR	**Asante Health System**	Participate in the emergency preparedness activities through Jackson and Josephine County. These are designed to meet specific requirements for emergency response within the hospital and public health.	2 Counties	Safety officer coordinates and delivers response training for hospital entities that includes education and training.	
SD	**Avera Health**	Avera facilities provide response for any local disaster situations requiring healthcare assistance; participate in training efforts for disaster response, mass casualty response, surge capacity planning and implementation for local community and state regional efforts; develop and implement response plans for Weapons of Mass Destruction (WMD), Chemical Biological Radiological Nuclear Explosive (CBRNE) and other terrorist type situations in conjunction with local law enforcement agencies	50	Each Avera facility works with its city or county Emergency Operations Center or Local Emergency Operations Planning Council to develop local emergency preparedness efforts; participates in local and state regional disaster exercises; collaborates with local or state public health departments; and collaborates with local law enforcement or sheriff's office on homeland security planning.	Each Avera facility works with its city or county EOC; the State of SD Department of Health Hospital Preparedness Partners planning group; all hospitals, clinics and long term care facilities in its region as designated by the state.

State	Organization	Description of Activity	Sites	Role in Federal, State or Local Emergency Planning	Other entities associated within Emergency Planning
TN	**Community Health Network, Inc.**				
VA	**University of Virginia**	Sites are part of the Virginia Department of Health Network.			

Demographics of Population Served

All OAT grantees were asked whether their projects served ≥ 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

Demographics of Population Served

State	Organization	African-American	Hispanic/ Latino	American Indian/ Alaska Native	Asian American or Pacific Islander
AK	**Alaska Native Tribal Health Consortium**				
	Telehealth Network Grant Program			•	
CA	**University of California Davis Children's Hospital**				
	Pediatric Emergency Telemedicine Network		•		
GA	**Ware County Board of Health**				
	Southeast Telehealth Network Teledentistry Project	•			
IA	**Iowa Chronic Care Consortium**				
	Iowa Diabetes Tel-Assurance Program		**Potentially**		
LA	**Building Healthy Communities, Inc.**				
	Louisiana Rural Mobile Telemammography Project	•			
MS	**Delta Health Alliance**				
	Delta Telepsychiatry Network	•			
MT	**St. Vincent Healthcare Foundation**				
	Healing Montana's Children: A Rural Pediatric Telehealth Project			•	
NC	**Roanoke Chowan Community Health Center**				
	Roanoke Chowan Community Health Center Telehealth Network Grant Program	•			
TN	**Community Health Network, Inc.**				
	Healthcare Education and Access for Rural TennesseanS (HEARTS)	•	•	•	•
TX	**Driscoll Children's Health Plan**				
	Alcance Telehealth Network	•	•		
UT	**University of Utah**				
	Utah Remote Monitoring Project		•		•

Patient Encounters

All OAT grantees were asked to indicate the total number of patients served by their programs. They were also asked to provide other information including the Total Number of Encounters, the Total Number of Interactive, Patient-Present Encounters, the Total Number of Interactive Patient-Not-Present Encounters, the Total Number of Store-and-Forward (Other Than Biometric Monitoring) Encounters, and the Total Number of Biometric Monitoring Interactions Encounters. (Definitions are provided at the end of the table). Their responses are indicated in the following section.

N/A = Not Applicable/Not Available

Patient Encounters

State	Program(s) Name	Total # of patients served 1 OCT 10-30 SEP 11	Total # of encounters 1 OCT 10-30 SEP 11	Total # of Interactive, Patient-Present Encounters 1 OCT 10-30 SEP 11	Total # of Interactive, Patient-Not-Present Encounters 1 OCT 10-30 SEP 11	Total # of Store-and-Forward (Other Than Biometric Monitoring) Encounters 1 OCT 10-30 SEP 11	Total # of Biometric Monitoring Interactions Encounters 1 OCT 10-30 SEP 11
AK	**Alaska Native Tribal Health Consortium**						
	Alaska Federal Healthcare Partnership	90	3994	0	0	0	3994
GA	**Ware County Board of Health**						
	Southeast Telehealth Network Teledentistry Project	432	432	432	N/A	N/A	N/A
IA	**Iowa Chronic Care Consortium**						
	Iowa Diabetes Tel-Assurance Program	154	N/A	N/A	N/A	N/A	N/A
ID	**Saint Alphonsus Regional Medical Center**						
	IDA/ORE Telehealth Network Emergency Specialist Program	4	4	4	N/A	N/A	N/A
IN	**Union Hospital, Inc.**						
	Wabash Valley Rural Telehealth Network	680	740	660	0	20	0
MS	**Delta Health Alliance, Inc.**						
	Delta Telepsychiatry Network	240	360	360	0	0	0

State	Program(s) Name	Total # of patients served 1 OCT 10-30 SEP 11	Total # of encounters 1 OCT 10-30 SEP 11	Total # of Interactive, Patient-Present Encounters 1 OCT 10-30 SEP 11	Total # of Interactive, Patient-Not-Present Encounters 1 OCT 10-30 SEP 11	Total # of Store-and-Forward (Other Than Biometric Monitoring) Encounters 1 OCT 10-30 SEP 11	Total # of Biometric Monitoring Interactions Encounters 1 OCT 10-30 SEP 11
MT	**Saint Vincent Healthcare Foundation**						
	Healing Montana's Children: A Rural Pediatric Telehealth Project	162	208	208	N/A	N/A	N/A
	Billings Clinic Foundation						
	Montana and Wyoming Diabetes Outreach Program: Expanding Access Through Telehealth	4	4	4	N/A	N/A	N/A
NC	**Roanoke Chowan Community Health Center – Remote Monitoring & Chronic Care Management Program**						
	Roanoke Chowan Community Health Center Telehealth Network Grant Program	52	4,080				
	FirstHealth of the Carolinas						
	FirstHealth of the Carolinas	2336	3279	N/A	N/A	N/A	28088

State	Program(s) Name	Total # of patients served 1 OCT 10-30 SEP 11	Total # of encounters 1 OCT 10-30 SEP 11	Total # of Interactive, Patient-Present Encounters 1 OCT 10-30 SEP 11	Total # of Interactive, Patient-Not-Present Encounters 1 OCT 10-30 SEP 11	Total # of Store-and-Forward (Other Than Biometric Monitoring) Encounters 1 OCT 10-30 SEP 11	Total # of Biometric Monitoring Interactions Encounters 1 OCT 10-30 SEP 11
NE	**NE Hospital Association Research and Education Foundation**						
	Nebraska Statewide Telehealth Network		555	555			
OR	**Asante Health System**						
	Telehomemonitoring: Improving Outcomes for Discharged Hospital Patients	93	4500	192	0	0	0
TN	**Mountain States Health Alliance**						
	Southern Appalachia TeleHomecare Program	150	153,000	70,800	16,800	0	65,400
	Community Health Network, Inc.						
	Healthcare Education and Access for Rural TennesseanS (HEARTS)	33	45	45			
TX	**Driscoll Children's Health Plan**						
	Alcance Telehealth Network	30,164	N/A	N/A	N/A	N/A	N/A

State	Program(s) Name	Total # of patients served 1 OCT 10-30 SEP 11	Total # of encounters 1 OCT 10-30 SEP 11	Total # of Interactive, Patient-Present Encounters 1 OCT 10-30 SEP 11	Total # of Interactive, Patient-Not-Present Encounters 1 OCT 10-30 SEP 11	Total # of Store-and-Forward (Other Than Biometric Monitoring) Encounters 1 OCT 10-30 SEP 11	Total # of Biometric Monitoring Interactions Encounters 1 OCT 10-30 SEP 11
UT	**University of Utah**						
	Utah Remote Monitoring Project	65	0	0	0	0	3,000
VA	**University of Virginia**						
	Rheuban High Risk Perinatal Telehealth	51 as of 02/1/11 Project 204 total patients	152 as of 02/1/11 Project 607 total encounters	152 as of 02/1/11 Project 607 total encounters	N/A	N/A	N/A

**** Encounters Definitions (per Government Performance and Result Act)**

Interactive, Patient-Present	Encounters done in an interactive (real-time) video-conferencing format where the patients is present during the consultation.
Interactive, Patient-Not-Present	Interactive encounters where the patient is not present during the consultation.
Store and Forward (Other Than Biometric Monitoring)	Encounters done in a format where information/images are gathered and sent electronically to be viewed at a later time by a telehealth provider. Encounters are not interactive and are not in real time.
Biometric Monitoring Interactions	Store-and-Forward interactions used for telemetry or patient monitoring, most commonly for home-bound patients. Every 'patient day' (a day in which a patient received care) should be counted as a separate interaction. However, within a day, measurements reported multiple times should only be counted as one.

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.

ALASKA, Anchorage County THC FY 09-11

Telehealth Network Grant Program

Alaska Native Tribal Health Consortium

Alaska Federal Healthcare Partnership
1919 Bragaw Street
Anchorage, AK 99508
www.afhcp.org

Principal Investigator: Samuel Johnson
Primary Point of Contact: Mark Malagodi
Ph: 907-729-4045
Fax: 907-429-4490
Email: msmalagodi@anthc.gov

Network Partners:

Department of Defense, Department of Veterans Affairs, Department of Homeland Security, US Coast Guard, Alaska Area Native Health Service (Indian Health Service), Alaska Native Medical Center. Network formed 1995. Approximate patient encounters per year – 3994.

Project Purpose:

Evaluate the effectiveness of home telehealth monitoring of individuals with chronic illnesses with respect to effect on blood glucose levels, blood pressure, HgbA1c levels, weight and cost of medical service. To allow for effective evaluation, grant funds will be used to increase the number of home telehealth monitors placed in rural homes from 125 to 250.

Outcomes Expected/Project Accomplishments:

(1) Increase the number of adults with diabetes who perform self blood glucose monitoring at least once daily. (2) Increase the number of adults who receive diabetes education. (3) Reduce coronary heart disease deaths. (4) Reduce hospitalizations of older adults with Congestive Heart Failure as a principle diagnosis. The ViTel Care Turtle 400 monitor will be the data collection tool.

Service Area:

Alaska - Statewide

Services Provided:

Diabetes Care and Management, Cardiology, Pulmonology

Equipment:

ViTel Care Turtle 400 Monitors

Transmission:

POTS to homes

ARIZONA, Pima County RTGP FY 97-99, TNGP FY 03-05, TRC FY 09-11

Southwest Telehealth Resource Center

Arizona Board of Regents, University of Arizona

University of Arizona
PO Box 3308
Tucson, AZ 85722-3308
Email: krupinski@radiology.arizona.edu

Elizabeth A. Krupinski, PhD
Ph: 520-626-4498
Fax: 520-626-4376
http://www.southwesttrc.org/

Network Partners:

Major sites/partners: Arizona Telemedicine Program; Four Corners Telehealth Consortium, University of Colorado, University of New Mexico, University of Utah, University of Arizona; FLEX programs in AZ, UT, NM, NV, CO.

Project Purpose:

The purpose of the Southwest Telehealth Resource Center (SWTRC) was to advance the effective use of telemedicine services throughout the Southwest. It is one of 8 Regional Telehealth Resource Centers in the United States, each serving a distinct geographic region. The SWTRC serves hospitals, clinics, public health offices, and private-practice healthcare providers in the broader Southwest region.

Outcomes Expected/Project Accomplishments:

Development of core outreach programs for consultations to aid in the establishment and growth of telemedicine programs in the southwest region. As a result of this, it is anticipated that there will be an increase in the number of telemedicine operations in the southwest region, resulting in more patients being served by telemedicine.

Service Area:

The SWTRC is based in Tucson, AZ (Pima County) and its service area includes the rest of Arizona, Colorado, New Mexico, Utah, and Nevada. All types of medical facilities are free to utilize the services provided by the SWTRC, from hospitals to small independent clinics and private practitioners. There are no restrictions on providing advice/service to anyone contacting the SWTRC from other states.

Services Provided:

On-site training programs, online learning modules (English, Spanish Navaho), help desk, technical assistance, program development tools, business model tools, evaluation tools, best practices tools, clinical operations tools and protocols, sustainability advice, equipment recommendations, program operation and personnel tools.

Equipment:

Private Asynchronous Transfer Mode (ATM) network based on T1 carriers. Real-time and store-and-forward systems including Tandberg, Second Opinion, AFCHAN; and a variety of digital telehealth devices.

Transmission:

Private ATM network based on T1 carriers; Internet to all sites connected for non-clinical consultations/meetings/education etc.

ARKANSAS, PULASKI COUNTY RTGP FY 97-99, TNGP FY 09-11

Arkansas START (System To Access Rural Telecolposcopy)

University of Arkansas for Medical Sciences

University of Arkansas for Medical Sciences
Office of Research and Sponsored Programs
4301 West Markham #812
Little Rock, AR 72205-7199

P.I: Wilbur C. Hitt, MD
Project Manager: Gordon Low
Ph: 501-296-1277
Fax: 501-526-5892
wchitt@uams.edu

Network Partners:

Cross County Health Unit, Hempstead County Health Unit, and Johnson County Health Unit has a collaborative project that was formed and operational since 2004. It incorporates both the UAMS network and the Arkansas Department of Health Network. There have been 364 patients served and 375 patient encounters during October 1, 2010 to February 2, 2011.

Project Purpose:

To develop telehealth sites in three underserved rural communities and provide telecolposcopy services to women served by these regional sites who are in need of evaluation and management for abnormal pap smears. Real-time telecolposcopic evaluations are provided though weekly, half-day clinics at the three sites.

Outcomes Expected/Project Accomplishments:

We expect to show an increase in the number of women receiving colposcopic follow up for abnormal pap smears and a decrease in patient anxiety related to telecolposcopy comparable to traditional colposcopy. Between 10/1/10 and 9/30/11 we expect to schedule approximately 1440 patients and see approximately 864.

Service Area:

Cross County Health Unit; Hempstead County Health Unit; Johnson County Health Unit. All three telehealth sites are funded by the grant.

Services Provided:

Telecolposcopy is the only service provided by this grant at these sites.

Equipment:

Remote Sites: Tandberg clinical teleconferencing systems and Welch-Allyn Video colposcopes.

Transmission:

Both the UAMS network and the Arkansas department of Health network utilize T1 lines.

South Central Telehealth Resource Center

University of Arkansas for Medical Sciences (UAMS)

UAMS Center for Distance Health
4301 W. Markham St., #518
Little Rock, AR 72205
www.uams.edu/cdh
www.learntelehealth.org

Sarah Rhoads, DNP, APN
Ph: 501-240-5268
Fax: 501-603-1716
SRhoads@uams.edu

Network Partners:

The South Central Telehealth Resource Center will expand the University of Arkansas for Medical Sciences Center for Distance Health partnership with health care providers out to two additional states, Mississippi and Tennessee.

Project Purpose:

The South Central Telehealth Resource Center will offer telehealth technical assistance to individuals, organizations, and groups representing a spectrum of healthcare and educational entities to promote and support telehealth integration in health care settings and classrooms throughout the south central region.

Outcomes Expected/Project Accomplishments:

Interactive, hands-on training center, providing custom-designed clinical and educational telehealth guidance, access to various telemedicine and distance learning equipment and applications, guidance in telehealth planning, implementation, management, and sustainability, and collaboration in telehealth business and strategic planning

Technical assistance website, on-line toolbox featuring resources needed in telehealth development, eLearning modules on the utilization, establishment, and maintenance of telehealth, help desk with on-line Q&A with a telehealth expert.

Quarterly, virtual conference, providing instructional presentations focusing on topics in telehealth, telehealth equipment, applications, and their potential in medical and educational settings, education for all individuals, groups, or organizations interested in telehealth, and networking opportunities for existing and developing regional telehealth efforts through online social media.

Service Area:

Arkansas, Mississippi and Tennessee

Services Provided:

Website – learntelehealth.org, toll free number, eLearning modules, virtual conferences, and tailored technical assistance.

Equipment:

Tandberg and Polycom video-conferencing equipment, 323 Link, GoSignMeUp and Blackboard.

Transmission:

Internet, video-conferencing

CALIFORNIA, Sacramento County TNGP FY 10-12

Pediatric Emergency Telemedicine Network

Regents of the University of California Davis Children's Hospital

Pediatric Telemedicine Program
2516 Stockton Blvd
Sacramento, CA, 95817

James P. Marcin, MD, MPH
Madan Dharmar, MBBS
Ph: 916-734-2354
Fax: 916-456-2235

Network Partners:

Ten new network partners from several counties in Northern California will join the existing pediatric emergency telemedicine network of eight emergency departments (EDs) which has been operational since 1999. The inclusion of these new sites will expand the pediatric critical care / emergency medicine clinical services to a network of 18 EDs in Northern California.

Project Purpose:

Improve the level of emergency care provided to children presenting to rural and/or underserved hospitals in Northern California. The project will 1) increase access to pediatric critical care and emergency medicine specialists; 2) improve the quality of health care delivered; 3) provide appropriate disposition to children; 4) improve the efficiency in the health care dollars spent in these EDs.

Outcomes Expected/Project Accomplishments:

We aim to objectively measure the impact of the proposed program by determining the effect of access to telemedicine consultations on the following four outcomes: 1) the utilization of pediatric specialists; 2) the quality of care provided; 3) the appropriateness of care and transport/disposition; and 4) the cost-benefit of this model of care.

Service Area:

All ten EDs are located in different counties among the 33 counties served by the University of California Davis Children's Hospital (UCDCH). All of the EDs are either "underserved" according to the HRSA definitions of Health Professional Shortage Area and/or Medically Underserved Areas or Medically Underserved Populations. The EDs are relatively small, but diverse, ranging from small (annual volume of 3,776 patients) to medium (annual volume of 23,980 patients).

Services Provided:

As part of their participation in the Pediatric Emergency Telemedicine network, the 10 new EDs will receive 24/7 access to pediatric specialists at the University of California Davis Children Hospital. Each telemedicine consultation will involve live interactive audiovisual communications from the pediatric emergency medicine, critical care, and other specialty physicians to the patient, referring providers, and the parent/guardians of the patient.

Equipment:

Each site in the pediatric emergency telemedicine network will connect to these pediatric specialists at UCDCH using high resolution video-conferencing units with embedded encryption.

Transmission:

Each site in the pediatric emergency telemedicine network will connect to these pediatric specialists at UCDCH over the internet using Internet Protocols (IP). We use a Virtual Private Network (VPN) tunnel to establish an encrypted, secure link between the two sites.

CALIFORNIA, Sacramento County — TRC FY 06-09, TRC FY 09-11

Western Regional Telehealth Resource Center

California Telemedicine and eHealth Center

California Telemedicine and eHealth Center (CTEC)
1215 K Street, Suite 800
Sacramento, CA 95814
www.cteconline.org

Christine Martin, MBA, PMP
Ph: 916-552-7679
Fax: 916-552-7526
Email: cmartin@calhealth.org

Project Purpose:

The purpose of CTEC's Telehealth Resource Center (TRC) is 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. The regional TRCs serve as a focal point for advancing effective use of telehealth technologies in their respective communities and region.

Outcomes Expected/Project Accomplishments:

CTEC's primary goals are to: 1) Expand telehealth resources and access to those resources for rural and underserved communities throughout California and 2) Provide ongoing technical support and assistance to organizations in California interested in or developing a telemedicine program.

Service Area:

CTEC is a statewide organization that provides telehealth resources to the 58 counties located in California, as well as to others outside of the state requesting assistance.

Services Provided:

Current services available include: Customized one-on-one assistance and support; Up-to-date information on telemedicine activity in California, Telehealth Practice Guides, Online Resource Library, Telemedicine Reimbursement Handbook, Online Telehealth Training Modules, and Support with program planning and development.

Equipment:

Videoconferencing systems from Polycom and Tandberg.

Transmission:

Internet Protocol

National Telehealth Resource Center

Center for Telehealth and E-Health Law

Center for Telehealth & E-Health Law
1500 K Street, NW Suite 1100 Washington, D.C. 20005
www.ctel.org

Principal Investigator: Greg Billings
Phone: 202.230.5104
Fax: 202.842.8465
E-Mail Address: Greg@ctel.org

Network Partners:

The Center for Telehealth & e-Health Law (CTeL) will continue its long tradition of convening and consulting with telehealth leaders from across the Nation to discuss key legal and regulatory issues facing the telehealth industry. The National Telehealth Resource Center (NTRC) will continue to collaborate with the 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 Office for the Advancement of Telehealth (OAT) and Health Resources and Services Administration (HRSA) grantees and those that seek grant funding for telehealth programs. Critical legal and regulatory information will be available at www.ctel.org.

Outcomes Expected/Project Accomplishments:

We have inventoried the material developed by the Office For the Advancement of Telehealth 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 in the telehealth community.

Services Provided:

The NTRC is a national resource center and provides information to current OAT and HRSA grantees and those in the telehealth community.

Equipment:

Polycom video-conferencing system; Microsoft Live Webinar Platform

Transmission:

Internet, video-conferencing; Vendors: Polycomdirect technical assistance.

Equipment:

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

GEORGIA, Ware County RTGP FY 00-02, TNGP FY 03-05, TNGP FY 06-09, TNGP FY 10-12

Southeast Telehealth Network Teledentistry Project

Ware County Board of Health

Southeast Health District
1101 Church Street
Waycross, GA, 31501-3525
www.SEHDph.org

Jacquelyn Woodard
Ph: 912-287-4960
Fax: 912-287-5875
Email: jewoodard@dhr.state.ga.us

Network Partners:

Medical College of Georgia School of Dentistry, Augusta; Brantley County Board of Education; Charlton County Board of Education; Clinch County Board of Education. Southeast Telehealth Network operational since March 2000. Teledentistry services began in February 2009 with pilot Project. Projected number of children served is 432 in year one and 648 in year two.

Project Purpose:

To provide preventive dental services (cleaning, sealants, x-rays, and education) to school aged children in rural areas of Southeast Georgia, address barriers such as lack of providers transportation, and funding that hinder dental follow-up, and provide parents with education and resources related to dental care.

Outcomes Expected/Project Accomplishments:

Dental services provided to 432 children in year one, including follow-up with recommended providers as identified during screening process and dental education for students and parents; Offer services to 100% of 1st-3rd grade students in targeted schools; and assist 100% of children needing dental treatment will be offered assistance, and 50% of children needing treatment will receive services.

Service Area:

Brantley County Schools: Brantley County; Charlton County Schools: Charlton County; and Clinch County Schools: Clinch County.

Services Provided:

Southeast Telehealth Partners Teledentistry Project provides cleaning, sealants, x-rays, and education for children while at school. Referrals are made for additional services needed and case management provided to assist with access to care and resources. Primary focus is children in grades 1-3 without a dental home.

Equipment:

Remote sites: 1 Tandberg EX90; 1Tandberg Tactical Unit; 1 Tandberg Intern MXP; laptop computer; Patterson dental equipment.

Transmission:

Dedicated point to point T-1 circuits between sites for transmission.

Georgia Partnership for Telehealth

Georgia Partnership for TeleHealth
914 Memorial Dr.
Waycross, GA 31501
http://www.setrc.us

Rena Brewer, RN, MA
Ph: 888-738-7210
Fax: 912-285-0938
Email: rena.brewer@gatelehealth.org

Network Partners:

The Southeastern TeleHealth Resource Center (SETRC) began in September of 2010. SETRC partners will include the Georgia statewide telehealth network which consists of over 175 specialty and presenting sites, the GA, FL, and SC State Offices of Rural Health, the California Telemedicine and eHealth Center (CTEC), and the other regional TeleHealth Resource Centers.

Project Purpose:

To provide an applied approach to technical assistance services and telehealth education to health care providers, facilities, and organizations in order to streamline implementation and better utilize telehealth applications and technology, and to be a resource to promote early adoption of telehealth technology for new and developed programs.

Outcomes Expected/Project Accomplishments:

To have GA, FL, and SC working together to achieve improved access to care and health outcomes through relevant statewide telehealth programs measured by establishing a baseline level of activity then evaluating client satisfaction and the efficiency / effectiveness of services. The development of a virtual "School for Applied Telehealth" in collaboration with CTEC.

Service Area:

Rural and medically underserved communities in the Southeastern Region of the United States; targeting rural health care providers, facilities, and organizations in Georgia, South Carolina and Florida.

Services Provided:

TeleHealth technical, educational, and clinical development assistance in topics such as policies and procedures, credentialing, scheduling, and equipment evaluation. Educational services / certifications through The National School of Applied TeleHealth.

Equipment:

This project is primarily a collaboration project utilizing one-to-one and one-to many communications (phone, email, video-conferencing, tele-conferencing, etc.) in cooperation with on-line resources.

Transmission:

No special transmission needs/specifications are required under this project. However, with the GA network, some are connected by ISDN, some use T-1 lines for Internet Protocol based videoconferencing.

HAWAII, Honolulu County — TRC FY 10-12

Pacific Basin Telehealth Resource Center

University of Hawaii at Manoa

Telehealth Research Institute
John A. Burns School of Medicine
651 Ilalo Street
Honolulu, HI 96813
www.jabsom.hawaii.edu / www.pbtrc.org

Sven-Erik Bursell, PhD
Deborah Birkmire-Peters, PhD
Ph: 808-692-1090
Fax: 808-692-1250
E-mail: dbpeters@hawaii.edu

Network Partners:

The Pacific Basin Telehealth Resource Center (PBTRC) began in October 2010 and is a partnership formed by the University of Hawaii Telehealth Research Institute (TRI), John A. Burns School of Medicine, the Telecommunications and Information Policy Group (TIPG), College of Social Sciences, and the University of Guam.

Project Purpose:

The PBTRC will provide assistance to health care organizations, health care networks, and health care providers to implement cost-effective telehealth programs to serve rural and medically underserved people in Hawai`i and the US-affiliated Pacific Islands.

Outcomes Expected/Project Accomplishments:

1. Increased knowledge of methods of health care delivery via telehealth.
2. Increased use of telehealth applications.
3. Reduced legislative and regulatory barriers to the use of telehealth.
4. Improved Centers for Medicare and Medicaid Services (CMS) and third party payer reimbursement policies for telehealth services.

Service Area:

The PBTRC will support telehealth applications in the State of Hawai`i and the US affiliated Pacific Islands. The US affiliated Pacific Islands include: the US territories of American Samoa and Guam; the countries of The Republic of Marshall Islands, Federated States of Micronesia, and the Republic of Palau each of which has a compact of free association with the United States; and the Commonwealth of the Northern Marianas Islands (CNMI).

Services Provided:

Educational and technical assistance for the selection and implementation of telehealth applications assistance seeking funding for telehealth applications; and consultation and educational programs on telehealth legislative and regulatory policies, licensure issues, and evaluation methodologies.

Equipment:

A mixture of room-sized and desktop videoconferencing systems will be used throughout the region.

Transmission:

Protocols supported - IP, ISDN; Capacity - Multiple T1s, broadband Ethernet connections; Variable Transmission bridging capabilities - multipoint conferencing, video streaming, webcasting, and vide recording.

IDAHO, Ada County **TNGP FY 09-11**

IDA/ORE Telehealth Network Emergency Specialist Program

Saint Alphonsus Regional Medical Center

Saint Alphonsus Regional Medical Center
1055 North Curtis Road
Boise, ID, 83706
www.saintalphonsus.org/outreach

PI: Michael Ward
Ph: 208-367-7180
Fax: 208-367-7238
E-mail: michward@sarmc.org

Network Development:

The Emergency Specialist Program initiative includes a hub based at a tertiary acute care hospital (Saint Alphonsus) and eight active end-user emergency departments (all but one of which is Critical Access). To date, 48 hub specialists have been recruited into ESP; 76 end-user providers are equipped to activate ESP for consults.

***Needs, Objectives, and Projected Outcomes*:**

ESP was designed in response to the shortage of emergency medicine specialists staffing rural Idaho and Oregon emergency departments. The American College of Emergency Physicians has ranked Idaho 46th in the U.S. for care of critical patients; this ranking is based on capacity deficits, access barriers (less than 50 percent of residents live within 60 minutes of a Level II Trauma Center), and a pronounced shortage of health professionals. ESP supplies physicians and physician extenders staffing rural emergency departments with real-time guidance for the best-practice assessment, treatment, and potential transport of critically ill and injured patients. ESP employs robotic tele-health technology to facilitate consults from hub-based specialists to end-user attending physicians. ESP is expected to increase the acuity level capacity of rural emergency departments, elevating care quality, increasing the number of patients retained "at home," and optimizing clinical outcomes.

Service Area:

The IDA/ORE Network extends from central and southwestern Idaho to eastern Oregon. (The geographic area and number of proposed end-user sites has remained unchanged; one original site has opted out, and an additional site has opted in.) Home to 120,000 rural residents, the ESP service area extends more than 150 miles east to west and 250 miles north to south, and includes both rural and frontier tracts. Of the rural counties served, 100% contain designated MUA and HPSA tracts (primary care and/or dental and/or mental health); only two counties do not contain primary care HPSAs. ESP communities report lower incomes, higher rates of un-insurance, and greater barriers to healthcare access than their urban counterparts.

Actual Patients/Persons Served:

Fifteen patients from 6 sites have benefited from ESP, with 36 new patients projected to be served by August 31. Volume is expected to increase to more than 100 patients annually (years two and three). Cases have included cardiac emergencies (15%); strokes (15%); trauma events (25%) and other conditions (45%). The greatest utilization has been by physicians (66%), followed by physician's assistants (27%) and nurse practitioners (7%).

St. John's Hospital Springfield and Prairie Heart Institute

St.John's Hospital of the Third Order

Saint John's Hospital
800 East Carpenter Street
Springfield, IL 62769-0002
www.prairieheart.com

PI: Claire Call
Ph: 217-544-6464 ext. 67828
Fax: 217-757-6006
Email: Claire.Call@st-johns.org

Network Development:

The collaborative project, part of a 13-hospital Care Integration strategy, manages Congestive Heart Failure (CHF) patients in their homes using telehomecare technology to closely monitor symptoms and provide support between office visits. The predominantly rural patient population lives between 50 to 250 miles from their care facility and will include referrals from eight Illinois hospitals and several rural clinics.

Project Purpose:

This project will establish a controlled study to measure and validate health care cost savings (from reduced readmissions and emergency department visits) with a definitive Prairie Education and Research Cooperative (PERC) analysis to produce results that are widely disseminated and published to improve systems and advance a replicable telehomecare Heart Failure model in Illinois, Wisconsin and other states. Patients in the target population (based on admission/ED visit history and risk) receive a monitoring Telescale that measures daily weight and symptoms and transmit key data via telephone to St. John's RNs for evaluation. When results exceed parameters, a phone call to the patient for re-education or medication changes according to established protocols can often avoid complications, emergency department visits and re-hospitalizations. This expanded telehomecare project will serve more than 930 heart failure patients per year (for each 60-day episode service period). Over three years, the program could serve as many as 2,800 patients (an unduplicated patient estimate using the standard 60-day episode).

Outcomes Expected/Project Accomplishments:

The project will impact the quality of care by reducing costs, increase efficiency and accessibility of telehomecare heart failure services. Data collected will enhance the evaluation of the effectiveness of the technology in care delivery with demonstrated improvements in health care delivery to a rural Heart Failure patient population.

Services Provided:

Daily Telehomecare Monitoring to Reduce Unplanned Readmissions and Manage a Long-Distance Rural Illinois Heart Failure Population.

INDIANA, Vigo County — TNGP FY 10-12

Wabash Valley Rural Telehealth Network

Union Hospital, Inc.

Union Hospital, Inc
1606 N. 7th Street
Terre Haute, IN 47804
http://www.lugarcenter.org

Joseph Biggs, Ph.D.
Ph: 812-238-7479
Fax: 812-238-7439
Email: bhjrb@uhhg.org

Network Partners:

Major spoke sites: Greene County General Hospital (GCGH); Sullivan County Community Hospital (SCCH); Union Hospital Clinton (UHC); Hamilton Center; Vermillion Parke Community Health Center (CHC); Clay City Center for Family Medicine (CCCFM); Cork Medical Center (Cork). Network formalized since June, 2010.

Project Purpose:

To offer additional specialties to existing network spoke sites including pulmonology, ventilation management and endocrinology; expand existing specialties to new network sites including cardiology and chronic disease management; expand newly developed specialties to new sites including child psychiatry; and develop and implement a return on investment program for the network.

Outcomes Expected/Project Accomplishments:

Pulmonology: demonstration of fewer days in intensive care, fewer ventilator-dependent days, and a decreased incidence of ventilator-related pneumonia. Child Psychiatry: decrease in clinical psychopathology measured by the Vanderbilt ADHD Diagnostic Parent Rating Scale and Children's Beck Depression Inventory measurements. Endocrinology: HbA1C <7% among participants.

Service Area:

Clark County, IL: Cork; Clay County, IN: CCCFM, St. Vincent Clay Hospital; Greene County, IN: GCGH, Hamilton Center; Parke County, IN: UHC, Vermillion Parke CHC; Sullivan County, IN: Hamilton Center, SCCH; Vermillion County, IN: UHC, Vermillion Parke CHC; Vigo County, IN: Union Hospital, Providence Medical Group, Union Associated Physicians Clinic.

Services Provided:

Pulmonology/ventilation management, endocrinology, cardiology, chronic disease management education (diabetes, asthma, smoking cessation), child psychiatry. Other pre-existing services include behavioral health care and pediatric burn care.

Equipment:

Spoke sites: Tandberg Edge 85 MXP codecs, Planar monitors, and Ergotron carts; Hub Sites: Tandberg 1700 MXP codecs. Cardiology and pulmonology spoke and hub sites: AMD 3700 Digital stethoscopes.

Transmission:

Full or fractional T1 and T3 lines, DSL, Internet, and a Tandberg Border Controller.

IOWA, Polk County **THC FY 09-11**

Iowa Diabetes Tel-Assurance Program

Iowa Chronic Care Consortium

Iowa Chronic Care Consortium
5550 Wild Rose Lane, Suite 400
West Des Moines, IA 50266
www.iowaccc.com

William Appelgate, Ph.D.
Ph: 515-661-6350
Fax: 515-661-6101
E-mail: william.appelgate@iowaccc.com

Network Partners:

Iowa Medicaid Enterprise; Iowa/Nebraska Primary Care Network; Pharos Innovations; Magellan Behavioral Health; Iowa Diabetes Prevention and Control Program; Iowa Department of Public Health. 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 diagnosis of Diabetes. Eligible members will be enrolled in a daily auto voice response system (AVR), which prompts self-reporting of daily blood sugars, concerning symptoms and potential for infections. The goal is to identify and mitigate early complications of diabetes, such as poorly managed blood sugar control and infections. In addition, because participants do not often "feel bad" with elevated blood sugars, the system serves to increase awareness of blood sugar levels on a daily basis. Additional care management, as needed, will be provided through Iowa Medicaid care managers, with referral to state certified Diabetes Education Programs encouraged.

Outcomes Expected/Project Accomplishments:

Clinical Improvement: Clinical parameters (measure): Telehealth data management technology. Patient Satisfaction: Surveys will be completed with all patients in the program. Patient functionality: Will measure through the SF-12 Quality of Life 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 Screening for depression (through the AVR system) and referral per protocol

Equipment:

Telephones: Patient monitoring through the Pharos Tel-Assurance system

Transmission:

Telephone Service

KANSAS, Wyandotte County RTGP FY 00-02, TNGP FY 03-05, TNGP FY 06-09, TRC FY 10-12

Heartland Telehealth Resource Center

University of Kansas Medical Center Research Institute

University of Kansas Medical Center Research Institute
Mailstop Code: MS 1039, 3901 Rainbow Boulevard
Kansas City, KS 66103-2937
http://www.HeartlandTRC.org

Ryan J Spaulding
Ph: 913-588-2081
Fax: 913-588-2227
Email: rspaulding@kumc.edu

Network Partners:

KU Center for Telemedicine & Telehealth, University of Kansas Medical Center
Missouri Telehealth Network, University of Missouri Oklahoma Center for Telemedicine,
University of Oklahoma Health Sciences Center.

Project Purpose:

The Heartland Telehealth Resource Center (HTRC) pursues four primary aims: Provide telehealth technical assistance and resources, primarily in Kansas, Missouri and Oklahoma; share resources and experiences with all other regional TRCs; evaluate its services for effectiveness, efficiency, sustainability and satisfaction; and conduct a pilot study of direct-to-consumer marketing for the purpose of increasing public awareness of telemedicine availability, ultimately increasing physician utilization of telemedicine.

Outcomes Expected/Project Accomplishments:

The HTRC expects to increase telehealth awareness among rural populace and healthcare professionals in its tri-state service area, improve the level of telehealth services available in rural areas, evaluate successful telehealth resource strategies, and increase knowledge through the sharing of information among all other TRCs and the telehealth community.

Service Area:

The tri-state region in the heartland of the U.S. formed by Kansas, Missouri and Oklahoma.

Services Provided:

Telehealth technical assistance and information dissemination, TRC program evaluation design, investigation of new telehealth awareness-generating activities, telehealth educational programming and resource sharing.

Equipment:

The HTRC provides technical assistance on a variety of interactive and store-and-forward platforms. These include conference room, exam room and desktop videoconferencing systems such as the Polycom HDX and 4000 series, Logitech SD and HD cameras with Polycom PVX software; Canon Optura 600 or Canon DC40 for store-and-forward applications.

Transmission:

HTRC promotes and provides technical assistance primarily for H.323 (IP) videoconferencing but can also guide users on older H.320 (ISDN) systems. Cable modem, DSL and T1 connections are all familiar solutions for Internet Protocol videoconferencing purposes.

KANSAS, Wyandotte County TNGP FY 09-11

Kansas Comprehensive Telehealth Services for Older Adults

University of Kansas Medical Center

KU Center for Telemedicine & Telehealth (KUCTT)
2012 Wahl Annex, MS 1048, 3901 Rainbow Blvd.
Kansas City, KS 66160
http://www.kumc.edu
http://www2.kumc.edu/telemedicine/

Eve-Lynn Nelson, PhD
Ph: 913-588-2226
Fax: 913-588-2227
Email: enelson2@kumc.edu

Network Partners:

Horton Community Hospital, Sedan City Hospital, Goodland Regional Medical Center, El Dorado Correctional Facility (CF), Lansing CF, Hutchinson CF, Hays Medical Center, Windsor Place, Pleasant Valley Manor, Good Samaritan –Minneapolis & Ellsworth, Sunset Nursing Center, and Wheat Ridge. The program serves approximately 275 patients annually, with approximately 600 patient encounters a year.

Project Purpose:

The overall purpose is to utilize the telehealth technology for the joint purpose of education and clinical services related to health concerns of older adults, with a particular focus on palliative care topics. This includes: 1. to provide evidence-supported telemedicine services across specialties, and 2. to provide distance education focused on prevention, health maintenance, and leading care interventions for older adults.

Outcomes Expected/Project Accomplishments:

For the distance education component, the project is measuring pre and post measures of knowledge. For the clinical service component, the project is utilizing a Record of Consult form assessing satisfaction as well as a palliative care outcome scale for related consults. The project is also piloting a quality improvement program over telemedicine and assessing facility-level outcome measures at two sites funded through the office for the advancement of Telehealth.

Service Area:

Horton Community Hospital (Brown County), Sedan Hospital (Chautauqua Co.), Goodland RMC (Sherman Co.), El Dorado CF (Butler Co.), Lansing CF (Leavenworth Co.), Hutchinson CF (Reno Co.), Hays MC (Ellis Co.), Windsor Place (Montgomery Co.), Pleasant Valley Manor (Chautauqua Co.), Good Samaritan–Minneapolis (Ottawa Co.) & Ellsworth (Ellsworth Co.), Sunset Nursing Center (Cloud Co.), and Wheat Ridge (Sherman Co.).

Services Provided:

Current clinical services include palliative care, psychiatry, psychology, support group services, oncology, pain management, diabetes counseling, and cardiology. Clinical services expected in the next year on an ad hoc basis include geriatric medicine, wound care, neurology, and sepsis management. In conjunction, the Central Plains Geriatric Education Center delivers distance education focused on topics in these and other geriatric service areas.

Equipment:

Sites are equipped with a PolyCom F/X Viewstation, Polycom VSX 7000, Polycom HDX 7000 or Polycom HDX 8000 unit.

Transmission:

Consults are conducted at 384 kbps or higher with H.323 protocol over high speed broadband or T1 connections to the Internet or Kan-Ed Network.

Louisiana Rural Mobile Telemammography Project

Building Healthy Communities, Inc.

Building Healthy Communities, Inc.
14116 Denham Road
Pride, LA 70770
http://www.larhc.org

Donald Hines, MD
Ph: 318 346-7500
Fax: 318-346-2301
Email: dhines@larhix.org

Network Partners:

Feist Weiller Cancer Center (Partners in Wellness), Springhill Medical Center, Homer Memorial Hospital, Bienville Medical Center, Jackson Parish Hospital and Sabine Medical Center the network has been operational since Oct. 1, 2010. Estimated encounters between Oct 2011- and Sept 2012 will be 960.

Project Purpose:

Provide screening mammograms for uninsured population using mobile van. Eventually films will be transmitted via T_1 lines for real time interpretation**.**

Outcomes Expected/Project Accomplishments:

Establish show rate goal ›=80%
Return rate for abnormal ›=90%
Goal to screen patients who never had mammogram or ›5 yrs. since screened.

Service Area:

Springhill Medical Center, Webster Parish; Homer Memorial Hospital, Claiborne Parish; Bienville Medical Center, Bienville Parish; Jackson Parish Hospital, Jackson Parish; Sabine Medical Center, Sabine Parish.

Services Provided:

Screening mammograms for uninsured. Will add cancer support and health information sessions mid year 2011.

Equipment:

Wireless Networking Equipment (Cisco) Global Data System.

Transmission:

Wireless ethernet from van to LARHIX router.
Full T_1 from router to medical center.

Eastern Maine Telehealth Network: Expanding Access to Specialty Care

Eastern Maine Medical Center

Eastern Maine Medical Center
489 State St.
Bangor, ME 04401
www.emh.org

Robert Holmberg, MD
Primary Point of Contact: Wanda Pacifici
Ph: 207- 973-7700
Fax: 207-973-5649

Network Partners:

Eastern Maine Medical Center (EMMC); Penobscot Valley Hospital, Calais Regional Hospital, Downeast Community Hospital; Maine Coast Memorial Hospital - The Network was formed in 1996.

Project Purpose:

To improve access to trauma/general surgery and cardiology specialists for patients across Eastern and Northern Maine at rural Critical Access Hospitals. To expand EMMC existing TeleEd network and improve access to emergency department care in Eastern and Northern Maine.

Outcomes Expected/Project Accomplishments:

Improved access to outpatient specialty care for rural patients; increased medical specialty support for rural ED staff; reduction in unnecessary modes of transfer to EMMC; improved patient stabilization in transport; increased support for rural hospitals to care for patients locally, retaining much needed revenue. Improved patient/provider satisfaction as result of more patient centered and efficient care.

Service Area:

Eastern Maine Medical Center and Penobscot Valley Hospital: Penobscot County. Calais Regional Hospital and Downeast Community Hospital: Washington County and Maine Coast Memorial: Hancock County.

Services Provided:

Trauma/Emergency Services, TeleStroke, Pediatric Intensive Care, Pediatric Endocrinology/ Gastroenterology, Rehabilitation, Oncology, Cardiology, Psychiatry, patient consultations and general surgical follow up visits.

Equipment:

Tandberg Codec Cameras, Rubbermaid Medical Carts and Cisco wireless access points.

Transmission:

Internet Protocol (IP)

MINNESOTA, Hennepin County RTGP FY 94-96, RTGP FY 00-02, TNGP FY 03-05, TRC FY 09-11

Great Plains Telehealth Resource and Assistance Center (GPTRAC)

Regents of the University of Minnesota, the University of Minnesota

University of Minnesota
505 Essex Street SE
330 Diehl Hall
Minneapolis, MN 55455
www.gptrac.org

Stuart Speedie, Program Director
Primary Point of Contact: Zoi Hills
Ph: 612-625-9938
Fax: 612-626-7227
E-mail: hills069@umn.edu

Network Partners:

The Great Plains Telehealth Resource and Assistance Center (TRAC) began in October of 2006 and is housed within the Institute for Health Informatics at the University of Minnesota, Academic Health Center.

Project Purpose:

To increase telehealth utilization among rural and frontier health care providers, facilities and organizations by breaking down both geographic and experiential barriers.

Outcomes Expected/Project Accomplishments:

1. Increase the level of awareness of telehealth and the benefits it can bring to organizations within this six-state region utilizing electronics methods (website, blog, webinars, etc), enhancing relationships with organizations, improving both media and public relations; 2. Develop an on-line nurses certification course for nurses who present patients via telemedicine; 3. Provide one-on-one assistance to facilities interested in further developing their telehealth services; and 4. Provide access to an on-line listing of telehealth-related services being provided in the six-state services area.

Service Area:

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

Services Provided:

Services include: build general awareness of telehealth and the GPTRAC within the region and assist clients build a similar awareness within their own organizations; provide a range of telehealth-related educational opportunities for health care professionals and staff; offer consulting services to groups and organizations that are seeking assistance in funding, building business cases, setting up services, and evaluating telehealth services; and track the growth and dissemination of telehealth throughout the region through a telehealth inventory/survey.

Equipment:

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

Transmission:

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

MISSISSIPPI, Washington County **TNGP FY 09-11**

Delta Telepsychiatry Network

Delta Health Alliance, Inc.

Delta Health Alliance, Inc.
PO Box 277
435 Stoneville Rd
Stoneville, MS 38776
www.deltahealthalliance.org

Karen C. Fox, Ph.D
Kimberly G. Massey, MSW
Ph: 662-390-7040
Fax: 662-686-3522
kmassey@deltahealthalliance.org

Network Partners:

University of Mississippi Medical Center, Region 1 Mental Health (MH)-3 sites, Region 5 MH- 2 sites, Region 6 MH- 2 sites, MS State Hospital-provider site. The network was formed in January 2009 and added sites funded by the Office for the Advancement of Telehealth (OAT) in 2010. Estimated unduplicated patients: 240 in the second year and 325 in the third year. Estimated patient encounters in second year 360 and 488 in the third year.

Project Purpose:

To provide tele-mental health access in all Community Mental Health Centers in the MS Delta to provide psychiatric consultations and medication monitoring and to improve continuity of care for patients released from the MS State Hospital. This improves access to comprehensive care and will decrease in-patient admissions, reduce readmissions, improve productivity and overall quality of life.

Outcomes Expected/Project Accomplishments:

Outcomes include decreased wait time, improved access, decreased admissions and readmissions to in-patient care, reduced costs and lost productivity. Measurement tools include OAT Government Performance and Results Act (GPRA) measures, client and staff satisfaction surveys, and clinical data. To date, 100% of clients have expressed satisfaction, wait time has been reduced from months to weeks, and travel savings have been realized.

Service Area:

Tunica Region 1 MH (Tunica Co.), Marks Region 1 MH (Quitman Co.), Lexington LifeHelp (Holmes Co.), MS State Hospital (Rankin Co.), Cleveland Region 5 MH (Bolivar Co.), Rolling Fork Region 5 MH (Sharkey/Issaquena).

Services Provided:

Telepsychiatry consultations and medication management by Board certified Psychiatrists for adults and children. Discharge planning and remote case management and family visitation to MS State Hospital for Delta area CMHCs.

Equipment:

Remote sites: Tandberg high definition video conference systems; Host site: Tandberg (MCU) multipoint video control unit, Tandberg servers. Mobile: Dell notebooks equipped with Tandberg high definition USB cameras and Tandberg Movi mobile video conference client software. Cellular based Internet Data card.

Transmission:

Dedicated 1.5Mb MPLS T1 circuit connecting remote sites and host site to privatized wide area network. Mobile users connect to host site via broadband cellular network using Internet data cards.

MONTANA, Yellowstone County — TRC FY 06-08, TRC FY 09-11

Northwest Regional Telehealth Resource Center

St. Vincent Healthcare Foundation

St. Vincent Healthcare Foundation
175 North @7th Street, Suite 803
Billings, MT 59101
www.svfoundation.org

Doris T. Barta, MHA
Ph: 406-237-3602
Fax: 406-237-3615
doris.barta@svh-mt.org

Network Partners:

The Northwest Regional Telehealth Resource Center (NRTRC) is a region-wide (eight-state) consortium of healthcare organizations and educational institutions. St. Vincent Healthcare Foundation, located in Billings, Montana, is the recipient, fiscal agent and operations center for the project. 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 8 western states (Alaska, Idaho, Oregon, Montana, Nevada, Utah, Washington, and Wyoming. 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, training and education, 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:

Project partners utilize a mixture of room-based, set-top and desktop videoconferencing systems for the provision of clinical care and distance education. Technical assistance, training and education are provided through a mixture of video and web conferencing, phone and e-mail.

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.

MONTANA, Yellowstone County TNGP FY 09-11

Healing Montana's Children: A Rural Pediatric Telehealth Project

St. Vincent Healthcare Foundation

St. Vincent Healthcare Foundation
175 North 27th Street, Suite 803
Billings, MT 59101
www.svh-mt.org

Doris T. Barta, MHA
Ph: 406-237-3602
Fax: 406-237-3615
Email: doris.barta@svh-mt.org

Network Partners:

Fifteen rural partner sites primarily in Eastern Montana to include critical access hospitals, ambulatory care clinics, community health center and a mental health center. Four urban pediatric provider partners located in Billings, MT. St. Vincent Healthcare/Partners in Health Telemedicine Network is the hub and has been operational since 1996.

Project Purpose:

To Provide access to general, and specialty, and emergency care to pediatric patients in frontier areas. Offer providers increased access to information, support and peer consults; offer pediatric patients' families increased access to information and support; and offer 24/7 distance support for local management of emergency and trauma cases in rural Critical Access Hospitals.

Outcomes Expected/Project Accomplishments:

Access to general and specialist pediatric care using telehealth will increase-monthly encounter frequency with reason for encounter and relevant physiological measure; rural providers are more proficient in providing pediatric care-survey, continuing education attendance; patients' families will seek information regarding pediatric care issues-quantitative assessment of call center contacts, survey.

Service Area:

Absarokee Medical Center-Stillwater Co., Ashland Community Health Center and Northern Cheyenne Clinic-Rosebud Co., Central Montana Medical Center and Lewistown Mental Health Center-Fergus Co., Chief Red Stone Clinic and Verne E. Gibbs Health Center-Roosevelt Co., Fort Belknap Health Center-Phillips Co., Hardin Clinic and Crow/Northern Cheyenne Hospital-Big Horn Co., Holy Rosary Healthcare-Custer Co, Mountain View Clinic-Carbon Co., Roundup Memorial Hospital-Musselshell Co., St. James Healthcare-Butte-Silver Bow Co., Wheatland Memorial Healthcare-Wheatland Co. and 4 urban provider sites in Yellowstone Co.

Services Provided:

Partners in Health Telemedicine Network will support the provision of pediatric services to include general and specialty care (behavioral and mental health, neurology, endocrinology, perinatal care) and emergency care.

Equipment:

Remote sites: Polycom videoconferencing systems; digital otoscopes with pediatric/adult abilities; general exam cameras; digital stethoscopes. Urban sites: Polycom videoconferencing systems.

Transmission:

Full T1 lines between clinics and Partners in Health Telemedicine Network hub.

Billings Clinic Foundation

2800 Tenth Avenue North
PO Box 37000
Billings, MT 59107-7000

Patricia J. Coon, M.D.
Primary Point of Contact: Connie Koch
Phone: 406-238-2489
Fax: 406-238-5193
Email: ckoch@billingsclinic.org

Network Partners:

Billings Clinic Diabetes, Endocrinology and Metabolism Department, Billings Clinic Center for Clinical Translational Research, Eastern Montana Telemedicine Network, Billings Clinic Red Lodge, Billings Clinic Columbus, Billings Clinic Miles City, Billings Clinic Cody, WY, Fallon Medical Complex, Baker, MT, Pioneer Medical Center, Big Timber, MT, McCone county Health Center, Circle, MT, Colstrip Medical Center, Colstrip, MT, Roosevelt Memorial hospital and clinic, Culbertson, MT, Dahl Memorial healthcare Association, Ekalaka, MT, Rosebud Healthcare Center, Forsyth, MT , Frances Mahon Deaconess Hospital, Glasgow, MT , Glendive Medical Center, Glendive, MT, Big Horn Hospital Association, Hardin, MT, Livingston Health Care, Livingston, MT, North Big Horn Hospital and Clinic, Lovell, WY, Sidney Health Center, Sidney, MT, Philips County Hospital, Malta, MT, Sheridan Memorial Hospital, Plentywood, MT, Northeast Montana Health Services, Poplar, MT and Daniels Memorial Hospital and Clinic, Scobey, MT.

Project Purpose:

To expand access to important and needed diabetes management services to patients residing in rural and frontier areas of Montana and Northern Wyoming. Expanded access will occur through: 1) the provision of direct diabetes management services to rural patients via the Billings Clinic Eastern Montana Telemedicine Network, including patient diabetes education and counseling; and 2) education of rural providers and their clinical staff.

Outcomes Expected:

To develop a practical and sustainable system of intensive diabetes management that will be effective in helping patients achieve and maintain goals within established treatment guidelines, regardless of geographic location. Disease-specific outcome goals are based on American Diabetes Association guidelines. Patients and provider satisfaction with the program and technology will be measured.

Service Area:

Central and eastern Montana; northern Wyoming

Services Provided:

A comprehensive list of diabetes patient services including education, clinical services, monthly staff education sessions and endocrinologist led monthly case study presentations.

Equipment:

22 Videoconferencing units, Clinical Information System Electronic Medical Records

Transmission:

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

NEBRASKA, Lancaster County TNGP FY 09-11

Nebraska Statewide Telehealth Network

NE Hospital Association Research and Education Foundation

NE Hospital Association Research & Education Foundation
3255 Salt Creek Circle STE 100
Lincoln, NE 68504
www.nhanet.org
www.netelehealth.net

Laura J. Redoutey
Primary Contact: Laura Meyers
Ph: 308-236-8974
Fax: 308-865-2765
Email: laurameyers@charter.net

Network Partners:

Major Network Partners: BryanLGH Medical Center; Faith Regional Health Services; Good Samaritan Hospital; Great Plains Regional Medical Center; Regional West Medical Center; Saint Elizabeth Regional Medical Center; Saint Francis Medical Center; University of NE Medical Center plus approximately 107 endpoint sites. The network has been operational since 2005.

Project Purpose:

The overall objectives of the project are to increase clinical consultations through the implementation of tele-emergency capabilities in remaining hospitals and videoconferencing capabilities in employed physician offices; facilitate educational conference and administrative meetings; initiate Health Alert Network Testing; and implement a network structure to ensure sustainability in the provision of telehealth services in Nebraska.

Outcomes Expected/Project Accomplishments:

During Grant Year 1 (Q1-Q4), 72 Nebraska Statewide Telehealth Network (NSTN) specialists provided 2,529 clinical consults to patients in Nebraska and elsewhere. The NSTN also provided 3,292 education, training, support group and administrative meetings at 109 sites, serving over 36,000 participants. During Q5, the network had 748 clinical encounters and had 930 "other" interactions (as listed above) serving 9,737 participants.

Service Area:

The project has the potential to serve residents of all 93 counties in the state of Nebraska as well border counties in Iowa, Kansas, Colorado and South Dakota.

Services Provided:

Services currently provide administrative, educational and clinical services. In addition, the NSTN continues discussions with the Veterans Administration to look at expanding access to veterans.

Equipment:

Tele-emergency equipment (remote sites): LifeSize Express 220 cameras. Tele-emergency equipment (tertiary care sites) and physician office equipment: LifeSize Passport System.

Transmission:

Full T-1 lines and/or fiber between remote sites and hub sites; Multiple T-1/DS3 between hub sites; potential T-1 or ISDN between physician offices and hub sites.

FirstHealth of the Carolinas

FirstHealth of the Carolinas
181-A Westgate Drive
West End, NC 27376

Patty Upham, RN
Phone 910-255-3620
Fax 910-255-3715
Email:pupham@firsthealth.org

Network Partners:

Major Sites: FirstHealth Emergency Departments (3), FirstHealth family care centers (6), Regional County Health Departments (3) and FirstHealth Diabetes Self Management (1). The FirstHealth Telehealth Grant Network was formed in September 2009. Estimated number of patients served since 01 Sept 09; 1,829. Estimated number of patient encounters (days); 20,894

Project Purpose:

To improve health outcomes among patients in the mid-Carolinas living with chronic diseases, with emphasis on disparate populations, by reducing barriers to care and improving treatment plan compliance through the establishment and use of a comprehensive regional telehomecare network.

Outcomes Expected/Project Accomplishments:

2,336 patients have received Telemonitoring since project implementation. The Hospitalization rate overall is 23.9% for patients on Telehealth and 24.1% for patients not on Telehealth. The greatest impact has been on chronic diseases: Heart Failure (Telehealth-30%, Non-Telehealth-46%), Chronic obstructive pulmonary disease (COPD) (Telehealth-25%, Non-Telehealth-33%), and Diabetes (Telehealth-22%, Non-Telehealth-32%).

Service Area:

FirstHealth Emergency Departments (Moore, Richmond, and Montgomery Counties), FirstHealth Family Care Centers (Moore, Hoke, Montgomery, and Richmond Counties), Regional County Health Departments (Hoke, Moore, and Richmond Counties).

Services Provided:

In home telemonitoring has been implemented. Specifically, the project assists those living with COPD (target implemented 10/2010), congestive heart failure (target implemented 10/2010), diabetes (target implemented 10/2010) and hypertension (target implemented 5/2011) through monitoring of condition-specific health indicators as a tool for effectively managing these conditions in the home.

Equipment:

120 Philips in-home monitors including peripheral options for blood pressure, pulse, temperature, pulse oxygen, blood glucose, and weight.

Transmission:

Patient data is sent electronically via POTS from the patient's home to a central online server; data can then be reviewed by the FirstHealth Home Care clinical staff through any secure Internet portal.

Roanoke Chowan Community Health Center (RCCHC)

Remote Monitoring & Chronic Care Management Program
113 Hertford County High Road
Ahoskie, NC 27910
www.rcchc.org

Bonnie Britton, MSN
Ph: 252-209-0215
Fax: 252-209-9082
Email: bbritton@pcmh.com

Network Partners:

Major sites: Roanoke Chowan Community Health Center (RCCHC), First Choice Health Center, Robeson Health Care Corporation, Piedmont Health Services and Chowan Hospital. Patients served from Oct. 1, 2010 to Jan.22, 2010: 52. Patient encounters from Oct. 1, 2010 to Jan.22, 2010: 4,080. RCCHC's Telehealth Network has been in operation since September 2006 serving patients at 5 CHC's, a rural hospital and a medical school.

Project Purpose:

To expand and replicate RCCHC's North Carolina Remote Monitoring and Chronic Care Management Network to Spoke Network Partners: First Choice Community Health Center, Robeson Health Care (RHC), Wake Health Services, Piedmont Health Services, and Hub Network Partner Chowan Hospital and East Carolina Heart Institutes Heart Failure Clinic.

Outcomes Expected/Project Accomplishments:

To expand access to cardiovascular disease, diabetes, hypertension, and mental health patients in underserved urban and rural North Carolina counties, expand and improve the quality of health information to health care providers, patients and their families, decrease emergency room visits, hospitalizations, reduce health care expenditures and improve clinical outcomes.

Service Area:

Alamance, Bertie, Caswell, Chatham, Chowan, Cumberland, Franklin, Gates, Hertford, Hoke, Moore, Northampton, Orange, Perquimans, Pitt, Robeson, and Wake counties in both rural and urban, Eastern and Central North Carolina.

Services Provided:

The Telehealth Network provides daily in-home Remote Monitoring and Chronic Care Management for cardiovascular disease, diabetes, hypertension patients. Nurses and Primary Care Providers communicate via an Electronic Health Record.

Equipment:

Equipment is purchased through Ideal Life, Inc.: 61 Pods (transmitting devices), 61 Blood Pressure Managers, 61 Body Mangers (scales), 19 Pulse Oximeters, and 21 Cellular Attachments.

Transmission:

Encrypted data is transmitted through the Plain Old Telephone System (POTS) from the patient's home to the vendors secured web server. Vendor: Ideal Life, Inc.

OKLAHOMA, Sequoyah County **TNGP FY 09-11**

Telehealth Outreach Program at Sparks (TOPS)

Sequoyah County – City of Sallisaw Hospital Authority

1001 Towson Avenue
Fort Smith, AR 72901

PI: Daniel Daws
Phone: 479-441-5678
Fax: 479-441-5420
Email: twoodrel@sparks.org

Network Development:

The Telehealth Outreach Program at Sparks (TOPS) includes ten independent hospital sites, nine of which are rural. TOPS expects to conduct 368 teleconsults annually.

Project Purpose:

1.) TOPS will provide clinical mental health services; and 2.) TOPS can measure its impact on controlling blood glucose levels in diabetics. Legislative*:* 1.) Services-TOPS is a telehealth network providing mental health; 2.) Coordination-TOPS coordinates services with a federally funded project (Native Americans/IHS clinic site); 3.) Network- TOPS provides clinical health care services to patients; 4.) Connectivity- TOPS promotes local connectivity across a geographic region; and 5.) Integration-TOPS integrates clinical health care information across systems.

Needs, Objectives, and Projected Outcomes:

The TOPS service area population has very high mortality rates from chronic disease when compared to the U.S. population. Death from cardiovascular disease exceeds that of the U.S. rate by as much as 51% and from chronic lower respiratory disease by as much as 71%. Diabetes mortality, a leading cause of death for Native Americans, exceeds the national rate by as much as 350%. TOPS will 1.) improve and expand access to care for medically underserved chronic disease patients; 2.) improve health outcomes for these patients; 3.) expand clinical/administrative data sharing across the region; and 4.) be sustained through reduced costs.

Service Area:

The service area encompasses ten counties in western Arkansas and eastern Oklahoma (Adair County, Haskell, Latimer, Le Flore, and Sequoyah Counties, OK; Johnson, Logan, Polk, Sebastian, and Yell Counties, AR), with an estimated population of 346,344. Seven of the 10 counties are rural. Five counties are full HSPAs/Mental Health HPSAs; three are Dental HPSAs. All are full MUAs. The service area includes two Indian Health Service sites (Choctaw and Cherokee Nations). One in four persons in the service area are uninsured; over 20% live below poverty.

Services Provided:

Medical treatment will be provided for acute chronic disease episodes to include Diabetes, Congestive Heart Failure, Chronic Obstructive Pulmonary Disease, Coronary Artery Disease, Stroke and Dementia.

Telehomemonitoring: Improving Outcomes for Discharged Hospital Patients

Asante Health System

Asante Health System
2825 E Barnett Rd
Medford, OR 97504
http://www.asante.org

Debra Flickinger
Ph: 541-789-4528
Fax: 541-789-4405
Email: dflickinger@asante.org

Network Partners:

Partners: Curry County Home Care; Riverside Home Care; Siskiyou County Home Care; Skylakes Medical Center Home Health; Three Rivers Home Care; operational since January 2010.

Project Purpose:

To develop telehealth services in three underserved counties in rural southern Oregon to improve quality care utilizing home telemonitors for homebound chronically-ill patients and utilizing telemonitoring and motivational interviewing for non-homebound chronically-ill patients to reduce home care and emergency room visits and hospital readmissions, and to increase medication compliance for chronically-ill patients.

Outcomes Expected/Project Accomplishments:

Home monitoring homebound chronic disease management is expected to reduce hospital readmissions by 2%, reduce hospital visits by 3%, and reduce home visits by average of .5 visits per week. Non-homebound chronic disease management-improve patient activation scores: not known to date. Reduce hospital readmissions: not known. Reduce costs: not known.

Service Area:

Home telemonitoring: Curry, Klamath County, Jackson, and Josephine Counties, OR and Siskiyou County, CA. Asante Health System provides central monitoring services for four-counties. Health Coaching Asante Health System: rural Jackson and Josephine counties.

Services Provided:

Asante Health System Network provides remote patient monitoring, in-home agency care, home-based health coaching, chronic disease management in cardiology, diabetes, pulmonary, congestive heart failure, hypertension and chronic obstructive pulmonary disease, and provides distance learning.

Equipment:

40 Lifeview Patient Station; 1 Lifeview Provider station; 3 video cams; 40 pulse oximeters; 40 scales; 40 blood pressure cuffs.

Transmission:

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

SOUTH DAKOTA, Minnehaha County **RTGP FY 94-99, TNGP FY 10-12**

Avera Health

Avera Health

Avera Health
3900 W Avera Drive
Sioux Falls, SD 57108
www.Avera.org

Mary Hughes
Ph: (605)322-6238
Fax : (605) 322-6285
Email: mary.hughes@avera.org

Network Partners:

Major sites: Avera Pulmonary Associates, since 1995, Avera Endocrinology since 1995, North Central Heart since January, 2011, Avera Wound Care, March of 2011, Avera Heart Hospital of South Dakota Nutrition, February 2011 and Avera Occupational Medicine (smoking cessation), February 2011.

Project Purpose:

To develop Cardiopulmonary and Endocrinology/Wound access for rural patients, and include a nutrition and smoking cessation educational component focused on the patient.

Outcomes Expected:

Major Outcomes Expected: Reduction of number of expressed specialty vacancies in the rural sites, 95% patient response with Very Good on satisfaction survey, less than 12% of patients with a diagnosis of Cardiovascular Disease are current smokers, 80% of patients with a history of cardiac disease are on daily aspirin therapy, 75% of patients have a HbA1c of less than 8%.

Service Area:

Major Sites: Avera Brookings Clinic: Pierre Hospital, Pierre Clinic, Marshall Hospital, Pierre Clinic, Marshall Hospital, Pipestone Hospital, Pipestone Clinic, Flandreau Clinic, Flandreau Hospital, Flandreau Clinic, Queen of Peace Hospital, Chamberlain Clinic, Gregory Clinic, Parkston Hospital, Parkston Clinic, Madison Hospital, and Sibley Hospital.

Services Provided:

Avera Pulmonary Associates provides pulmonary services, Avera Endocrinology provides Diabetic Care, North Central Heart provides Cardiology services, Avera Wound Care provides wound consultations, Avera Heart Hospital of SD provides nutritional therapy, and Avera Occupational Health provides smoking cessation counseling.

Equipment:

Polycom HDX 8000's, RNK stethoscopes, AMD exam cameras, laptops with camera, AMD otoscope, Polycom-Accord bridge.

T*ransmission*:

The Avera Network topology consists of T1 lines, ISDN, and some Internet connections.

Health Education and Access for Rural Tennesseans (HEART)

Community Health Network, Inc.

Community Health Network, Inc.
765A Florence Road
Savannah, TN 38372
www.communityhealth.net

Debra Gott, Interim CEO/Project Director
Ph: 423-794-7175
Fax: 866-523-7527
deb.gott@communityhealth.net

Network Partners:

Community Health Network (CHN), Vanderbilt University Medical Center, Regional Obstetrical Consultants and East Tennessee State University (ETSU) Department of Psychology, Meharry Medical Group, Lifespan Health, Perry County Health Center, Rural Medical Services and Rural Health Services Consortium. The project to date has served 33 patients and provided 45 encounters.

Project Purpose:

The rural health centers serve rural populations with high rates of childhood obesity, pediatric diabetes, low-birth weight/inadequate perinatal care, and related behavioral health problems. The project will provide clinical telehealth services to meet the specified needs and unmet demand for these services. In addition, Health Education and Access for Rural Tennesseans (HEARTS) will provide related patient and provider telehealth education.

Outcomes Expected/Project Accomplishments:

Patients were asked to complete a short survey at the end of each visit. They reported that the HEARTS program allowed them to travel an average of 50 miles less than in person care. Those surveyed were confident in the security and care they were receiving. The behavioral health service expanded to give 2 open access days a week to allow practitioners and patients to speak to a psychologist on a walk in basis.

Service Area:

The geographic service area currently includes 6 rural counties in northeast and south central Tennessee with combined populations totaling 149,513, all representing designated Health Professional Shortage Areas (HPSAs), Medically Underserved Areas (MUAs), mental health and dental HPSAs. (Hardin, Wayne, Perry, Cocke, Hancock, Hawkins).

Services Provided:

The clinical services provided under this proposal include pediatric diabetes diagnosis, treatment and education; weight management education and treatment; perinatal diagnostic and treatment services; and psychiatric and psychological behavioral health services for patients diagnosed with the foregoing health conditions.

Equipment:

Tandberg Edge 85 and 95 codecs on mobile carts equipped with JedMed camera and light source and combination dermascope and otoscope, and Caretone digital stethoscopes. Codian bridge at CHN network, ETSU, and Vanderbilt along with Expressway and Controller equipment on the CHN and ETSU networks allow for secure communication between all sites and networks.

Transmission:

Most clinic sites have a dedicated T1 connection to the CHN data center; however, some use their own T1's internet connection to link to the CHN data center via its metro E pipe. Gateways are neighbored in order for ETSU to connect to the CHN sites. Vanderbilt and Meharry provider sites transmit via internet. All equipment is set to transmit securely via encryption to ensure privacy and security.

Mountain States Health Alliance

Mountain States Health Alliance
403 Princeton Rd, Suite 5
Johnson City, TN 37601
www.msha.com

Karen Cober
Ph: 423-431-7601
Fax: 423-431-7655
Email: CoberKH@msha.com

Network Partners:

Partners: East Tennessee State University College of Public Health
The Network was formed in1998. Estimated number of patients to be served between October 1, 2011and September 30, 2012: 2,025. Estimated number of encounters between October 1, 2011and September 30, 2012: 1725.

Project Purpose:

To address the cost of Congestive Heart Failure (CHF) and diabetes by expanding the availability of a proven, small-scale, tele-homecare CHF program to a larger population and a second chronic disease, diabetes mellitus.

Outcomes Expected/Project Accomplishments:

Program objectives include reducing re-hospitalizations by 50%, 33% reduction in ED visits and reduction of 25% in Medicare expenditures, while identifying cost-effectiveness of disease management in a rural setting. Patient Satisfaction (measure) – Likert survey (tool); Health Related Quality of Life (measure) – Minnesota Living with Heart Failure Questionnaire (tool); CMS hospitalization/discharge date (measure & tool)

Service Area:

Mountain States Health Alliance Home Health offices in Virginia serving the following counties: Buchanan, Dickenson, Grayson, Lee, Russell, Scott, Smyth, Tazewell,Washington, Wise,Wythe. MSHA Home Health offices in Tennessee serving the following counties: Carter, Cocke, Greene, Hamblen, Hancock, Hawkins, Johnson, Sullivan, Unicoi, Washington. The Medical Call Center serves all counties listed and is located in Johnson City, within Washington County, TN.

Services Provided:

The Sothern Appalachia Telehomecare (SATH) Program Project provides chronic disease management for congestive heart failure and diabetes mellitus using remote patient monitoring.

Equipment:

For Remote care: 50 Philips telemonitoring stations each with integrated weight scale and blood pressure cuff. 115 standard weight scales, and 120 One Touch Ultra 2 glucomters. All remote patients must have POTS.

Transmission:

POTS communications between Philips ASP and remote telemonitoring equipment. Internet TCP/IP between telehealth nurse and Philips ASP. POTS telephone communications between telehealth nurse and patient.

TEXAS, Nueces County — THC FY 09-11

ALCANCE Telehealth Network

Driscoll Children's Health Plan

Driscoll Children's Health Plan
615 N. Upper Broadway
Corpus Christi, TX 78488

Mary Dale Peterson, M.D. MSMHA, FACHE
Ph: 361-694-4889
Fax: 361-881-1349
Email: mary.peterson@dchstx.org

Network Partners:

The Network consists of 1 hub/site and 9 primary care clinics. Driscoll Children's Health Plan is the hub/site. The Network partners are the; Corpus Christi Independent School District, Community Action Centers of South Texas Rural Health Centers in Beeville, Mathis, Sinton, Kingsville and Alice, San Patricio County Health Department, Amistad Community Health Center, and Alice Pediatric Clinic.

Project Purpose:

The rural target population exhibits poverty, underinsurance, and chronic disease; especially diabetes, obesity and asthma at rates far in excess of national norms. The project's goals are to utilize tele-health to improve health outcomes for patients with Type 2 diabetes and asthma through the use of a broad based, social networking model of tele-homecare.

Outcomes Expected:

The Network intends to improve health outcomes for patients with a family relationship to diabetes and asthma through the use of a broad based self-care education and social networking model of tele-home care. Outcomes include more appropriate use of health services, patient/provider satisfaction, and cost-effectiveness of a health-focused social networking model. Capturing data from patients who already see a physician is one aspect of traditional telehealth; innovating new models of care to identify people in need of care yet living with unmanaged chronic health conditions, then to engage in self-care and physician care with hard outcomes data is entirely another and one which clearly has the potential to demonstrate impact on the traditional healthcare system.

Service Area:

The project serves rural residents and seven South Texas Counties. Those Counties are; Aransas, Bee, Jim Wells, Kleberg, Refugio and rural census tracts of Nueces and San Patricio Counties. Six of the seven Counties are primary care Health Professions Shortage Areas; all seven are Medically Underserved Areas.

Services Provided:

This project educates patients at home where they live using profile based education. This method of education has proven effective because it is simple, quick and accessible to nearly everyone. Further, because the project uses freely available technologies (email), and low cost technologies (cell phone, text messaging), it will be possible to cost effectively educate an entire community of patients, supporters, and influencers versus only those diagnosed patients willing to travel to a weekly support group, for example.

Equipment:

The intelligence built into the web based registry communicates and distributes educational messages/tips through the use of cell phones and email messaging.

***Transmission*:**

Not applicable.

Medical Licensure Portability to Facilitate Multi-State Telehealth Practice

Federation of State Medical Boards of the United States, Inc.

Federation of State Medical Boards of the United States, Inc.
400 Fuller Wiser Road, Suite 300
Euless, TX 76039-3856
http://www.fsmb.org

Principal Investigator/ Project Manager
Sandra Waters, Chief Operating Officer
Ph: 817-868-5030
Fax: 817-868-4149
Email: ihagemann@fsmb.org

Network Partners:

State medical boards: Connecticut, Idaho, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, North Carolina, New Mexico, Ohio, Oklahoma, Oregon, Rhode Island, South Dakota, Virginia, Wyoming; Administrators in Medicine; Four Corners Telehealth Consortium; University of Maine.

Project Purpose:

Reduce the redundancies that complicate and delay the process of obtaining 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:

Reduce amount of time and paperwork required to issue a license. Enhance online uniform application used by physicians to apply for licensure in multiple states. Increased utilization of centralized credential verification process by state medical boards and physicians.

Service Area:

State of Connecticut, Idaho, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, North Carolina, New Mexico, Ohio, Oklahoma, Oregon, Rhode Island, South Dakota, Virginia, Wyoming.

Services Provided:

Not applicable.

Equipment:

Not applicable.

Transmission:

Not applicable.

UTAH, Salt Lake County THC FY 10-12

Utah Remote Monitoring Project: Improving Healthcare One Patient at a Time

University of Utah

Utah Telehealth Network
585 Komas Drive, Suite 204
Salt Lake City, UT 84098
www.utahtelehealth.net

Marta J. Petersen, MD
Deb LaMarche
Ph: 801-587-6190
Fax: 801-585-7083
deb.lamarche@utahtelehealth.net

Network Partners:

Association for Utah Community Health (AUCH); Community Health Centers, Inc.; Utah Navajo Health System; and the following University of Utah organizations: Department of Internal Medicine, Department of Biomedical Informatics, Stansbury Health Center, and University of Utah Stroke Center.

Project Purpose:

To use remote monitoring tools and care management principles to expand and improve chronic disease management of diabetic and hypertensive patients in diverse rural and urban settings in Utah to (1) foster patient participation in their medical management and adherence to care plans and (2) improve efficiency and outcomes of healthcare delivery.

Outcomes Expected/Project Accomplishments:

Improved patient outcomes (HbA1c, blood pressure, weight); patient knowledge (pre- and post-test); patient compliance; process measures; financial indicators such as number of ER visits, number of hospitalizations, and number of readmissions; and project cost analysis. Project outcomes will be shared with other Utah efforts in patient care design and payment reform.

Service Area:

Stephen D. Ratcliffe Health Center, University of Utah Stroke Center, Salt Lake County; Clinica de Salud, Box Elder County; Stansbury Health Center, Tooele County; Whitehorse High School, Montezuma Creek Community Health Center, San Juan County.

Services Provided:

Remote monitoring of diabetic and hypertensive patients. Patients from four clinics will be monitored from home. Patients at a farm worker clinic and a high school will be monitored via kiosks on site.

Equipment:

Remote home/cell monitors and remote monitoring kiosks. Intend to use off-the-shelf or patients' own glucose meters, blood pressure devices, and scales.

Transmission:

POTS and/or cell technology to patients' homes; Internet for kiosks and the care manager.

VIRGINIA, Albermarle County **TNGP FY 09-11**

Rheuban High Risk Perinatal Telehealth

University of Virginia

Office of Sponsored Programs
1001 North Emmett Street, PO Box 400195
Charlottesville, VA 22904-4195
www.virginia.edu

Dr. Karen S. Rheuban
Ph: 434-924-5470
Fax: 434-982-1415
Email: ksr5g@virginia.edu

Network Partners:

Culpeper Health Department; since 10/1/10 - 31 patients and 114 encounters
Lexington Health Department; since 10/1/10 - 2 patients and 2 encounters
Staunton Health Department; since 10/1/10 - 6 patients and 10 encounters
Waynesboro Health Department; since 10/1/10 - 12 patients and 26 encounters

Project Purpose:

This region of Virginia has a high rate of late entry to prenatal care, preterm birth, and perinatal mortality, with significant attendant human and fiscal costs. The objective of this project is to improve access to high level prenatal care via our telehealth network, providing earlier access to prenatal care, improved disease control, and reduced preterm birth.

Outcomes Expected/Project Accomplishments:

We are able to report a favorable appointment compliance rate with prenatal telehealth visits which is an essential contributor to the other project outcomes, including reduced preterm birth, reduced incidence of gynecologic infections, control of diabetes, patient education regarding preterm birth, and combined cost of hospital care for mother-infant pairs.

Service Area:

This project serves the Central Shenandoah (Counties: Augusta, Bath, Highland, Rockbridge, Rockingham and Cities: Buena Vista, Harrisonburg, Lexington, Staunton and Waynesboro) and Rappahannock-Rapidan (Counties: Culpeper, Fauquier, Madison, Orange, Rappahannock) health districts in the West Central perinatal region of Virginia and impacts communities in the 5th, 6th and 7th Congressional districts.

Services Provided:

Health care providers in other specialties at the University of Virginia hub site will utilize the telehealth network to provide non-obstetric health care encounters. Patient education will be provided for obstetric patients with diabetes, and preterm birth education for all. The system may also be used for staff education and program planning meetings related to this Office for the Advancement of Telehealth funded program.

Equipment:

Culpeper–Polycom VSX 7000; All others-Polycom® HDX® 7000, NEC 32" HDTV, Bretford Cart, Elmo Visual Presenter HV-110u, Canon FS200 Flash Memory Camcorders, Cardionics E-Scope II.

Transmission:

A minimum bandwidth of 1.54 Mbs is made available to the sites. H.323 videoconferencing protocols used with a minimum of ½ T1 (768 kbps) for clinical encounters.

Marshfield Clinic TeleHealth and Rural Elderly

Marshfield Clinic

Marshfield Clinic
1000 N. Oak Avenue
Marshfield, WI 54449
www.marshfieldclinic.org/telehealth

Nina M. Antoniotti, RN, MBA, PhD
Ph: 715-389-3694
Fax: 715-387-5225
Email: antoniotti.nina@marshfieldclinic.org

Network Partners:

The network has 59 sites including 32 physician rural clinics (FQHCs included), three urban physician clinics, three critical access hospitals (CAH), eight skilled nursing facilities, 10 Head Start Centers, one Indian Health Center, seven tele-pharmacy sites, and one mental health center. The program serves approximately 15,000 pts/year.

Project Purpose:

To provide increased access to primary and specialty care to rural, remote, and underserved areas, serving disparate populations with emphasis on 46 clinical specialties, specifically for geriatric, pediatric, and special needs patients. Ninety percent of the care delivered via TeleHealth is in rural areas with the goal of improving clinical outcomes and quality of life, with reduced costs.

Outcomes Achieved/Project Accomplishments:

Evaluation includes patient and provider satisfaction; patient quality of life; cost savings to patients; Return on Investments for clinicians; reimbursement rates; impact of telemedicine on transfer trauma for Skilled Nursing Facility residents; added value - improving access to timely services; and improving access for CAHs inpatients, and quality of life, and health of people in rural areas. All quality and evaluation metrics have been met and improvement has been demonstrated. This program is actively sustained by strategic business planning that initiates services not dependent on grant funding by using grant funding only for start-up costs, with personnel and clinical support coming from respective partners. All services are billed to payers.

Service Area/Counties/Sites Served:

60 sites located in 25 rural counties in Wisconsin serving 350,000 persons. All of the area qualifies as primary, mental health, and dental Health Professional Shortage Areas (HPSAs) and Medically Underserved Areas (MUAs) with the exception of a small area in Rice Lake and Rhinelander that are partial-HPSAs and MUAs. Approximately 9% of people live below the poverty level and 17% are disabled.

Services Provided:

Allergy, Bariatric Surgery, Adult and Child Psychiatry, Clinical Psychology, Clinical Social Work, Adult and Child Cardiology, Cardiovascular Surgery, Dermatology, Endocrinology, Diabetes Management, ENT, Geriatrics, Infectious Disease, Mobile Retinal Clinic, Adult and Pediatric Neurology, Sleep Medicine, Neuropsychology, Nutrition Services, Nuclear Medicine, OBG/GYN, Occupational Health, Pain Management, Palliative Care, Adult and Pediatric Nephrology, Pulmonary Medicine, Tobacco Cessation, Speech Pathology, Orthopedics, Urology, Vascular Surgery, Wound Healing, Community Support Groups (3). Distance education, community meetings, supervision of practitioners, and family care options as needed.

Equipment:

The program uses primarily H.323 and .264 video equipment supplied by Polycom, Patient peripherals are consumer available SONY Handycams for patient exam camera, Welch-

Allyn video-otoscope, VideoLabs document cameras, and ATi Caretone Stethoscope and are testing the Littmann 3200 stethoscope.

Transmission:

The network is a combination of 10-400 meg fiber cables and T1 lines, supported by sonnet ring technologies, a CISCO backbone, and MC's firewall. In place are three MCU-50 bridges for multi-point conferencing applications, and internet capabilities in all sites.

Acronyms And Glossary

Acronyms

ADSL	Asymmetrical Digital Subscriber Line
ATM	Asynchronous Transfer Mode
BRI	Basic Rate Interface
CATV	Cable television
Dental HPSA	Dental Health Professional(s) Shortage Area
DSL	Digital Subscriber Line
DDN	Defense Data Network
DS	Digital telecommunications channels
FQHC	Federally Qualified Health Center
Gbps	Gigabits per second
HF	High frequency
HPSA	Health Professional(s) Shortage Area
HTML	Hyper Text Markup Language
IP	Internet Protocol
ISDN	Integrated Services Digital Network
ITU-T	International Telecommunication Union Telecommunication
K	Kilo
Kbps	Kilobits per second
LAN	Local Area Network
MAN	Metropolitan Area Network
MB	Megabyte
Mbps	Megabits per second
MCU	Multipoint control unit
MHPSA	Mental Health Professional(s) Shortage Area
Mhz	Megahertz
MUA	Medically Underserved Areas
MW	Microwave
OAT	Office for the Advancement of Telehealth
OC	Optical Carrier
OSI	Open Systems Interconnection
PACS	Picture Archiving and Communications System
POTS	Plain Old Telephone Service
PRI	Primary Rate Interface
TCP/IP	Transmission Control Protocol/Internet Protocol
VLAN	Virtual local area network
VPN	Virtual Private Network
VTC	Video teleconference (ing)
WAN	Wide Area Network
WWW	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 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 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/*).

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.

Federally Qualified Health Center (FQHC)

A federally qualified health center (FQHC) is a type of provider defined by the Medicare and Medicaid statutes. FQHCs include all organizations receiving grants under Section 330 of the Public Health Service Act, certain tribal organizations, and FQHC Look-Alikes. Requirements for Indian Health Service funded FQHCs may differ from the requirements for FQHCs receiving Section 330 grants and for FQHC Look-Alikes.

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/).*

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.

Hyper Text Markup Language (HTML)

The predominant markup language for web pages. HTML is the basic building-blocks of webpages.

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.

International Telecommunication Union Telecommunication (ITU-T)

Is one of the three sectors (divisions or units) of the International Telecommunication Union (ITU); it coordinates standards for telecommunications. It is based in Geneva, Switzerland.

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.

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.

mHealth

A term used for the practice of medical and public health, supported by mobile devices. The term is most commonly used in reference to using mobile communication devices, such as mobile phones and PDAs, for health services and information.

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 multiport 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.

Office for the Advancement of Telehealth (OAT)

Office for the Advancement of Telehealth

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.

Open System Interconnection (OSI)

A product of the Open Systems Interconnection effort at the International Organization for Standardization. It is a way of sub-dividing a communications system into smaller parts called layers.

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, spyrometers, 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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