

**TEXAS TECH**  
UNIVERSITY  
**HEALTH SCIENCES CENTER**

**STEVE J. COTTON**

*Director of Marketing and  
Program Development*

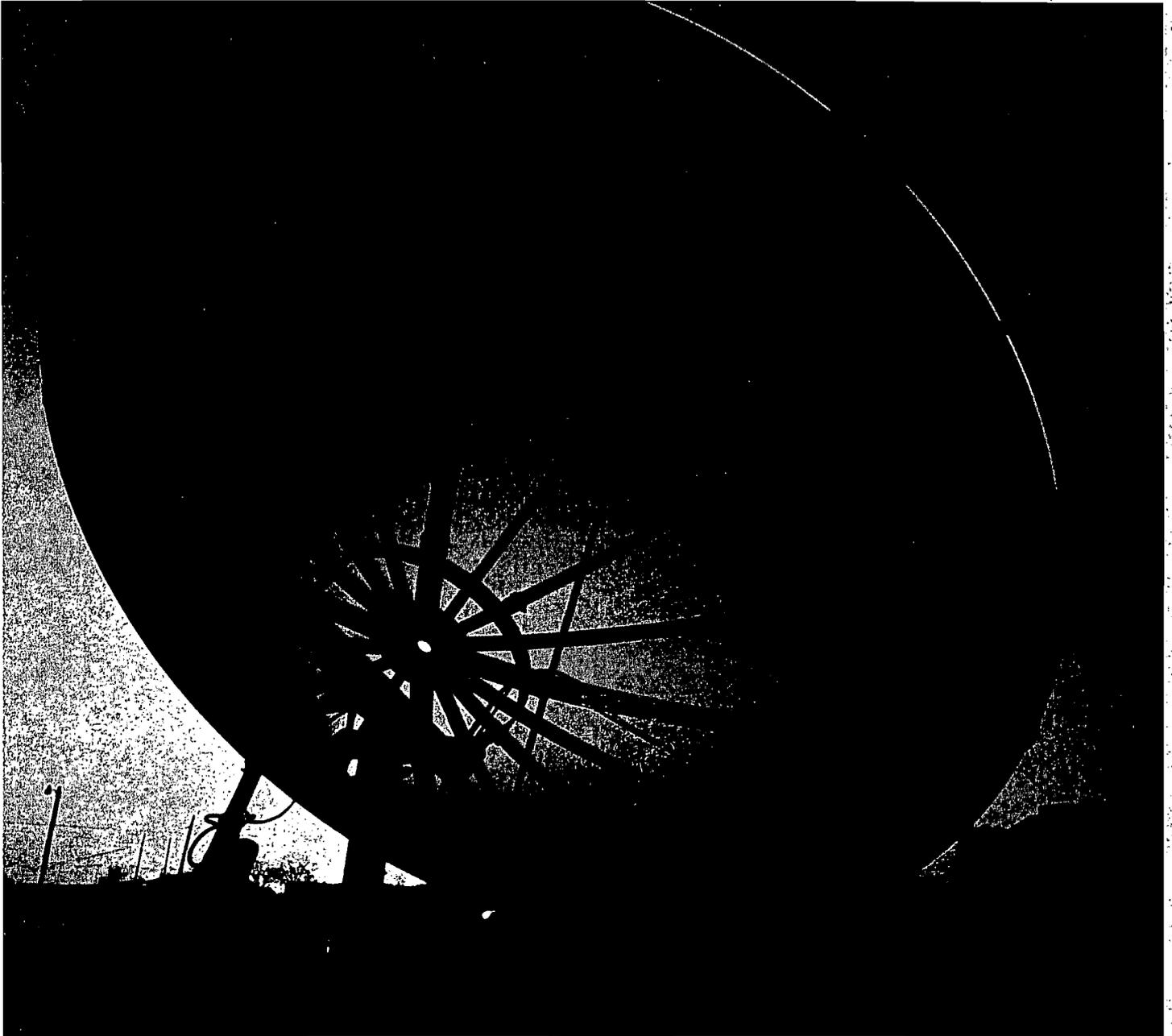
**HealthNet**  
HSC 1C162  
3601 4th Street  
Lubbock, Texas 79430

Office: (806) 743-1872  
Fax: (806) 743-2233

*Successful pilot project leading to the creation of the current Health Net organization -*

# TEXAS TECH MEDNET

A Bridge for Rural Health Care



Demonstration Project Summary Report

**TEXAS TECH**  
UNIVERSITY  
**HEALTH SCIENCES CENTER**

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## TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER

HealthNet

Lubbock, Texas 79430  
(806) 743-2640

### *HealthNet*

#### Executive Summary

The problem of rural health care delivery has been more than just a shortage of personnel. Several social, economic, demographic and regulatory factors make it difficult for rural practitioners and rural hospitals to deliver health care services at the levels needed by rural residents. In West Texas, the vast distance between communities compounds the situation even more.

In an effort to address these issues in its West Texas service area, the Texas Tech University Health Sciences Center turned to telecommunications technologies to help bridge the gap existing between the services rural practitioners needed to provide and the resources which were available for their use. Through three separate demonstration projects -- MEDNET, KARENET and Tech Link -- using different technologies, Texas Tech proved the potential of modern telecommunications to deliver improved and expanded levels of health care and educational services in rural and under-served areas.

With the success and potential of MEDNET, KARENET and Tech Link clearly demonstrated, the Texas Tech University Health Sciences Center created *HealthNet* to integrate these and other rural outreach programs into a comprehensive effort addressing the needs of rural health practitioners which, in turn, has increased the quality of life of many residents of West Texas.

TTUHSC is also working with other state agencies in addressing the use of the telecommunications technologies of *HealthNet* in the maintenance of the rural community infrastructure, including public education, public program administration, public safety, and legal services. Through linking state agencies to field personnel and clients in rural communities, these infrastructures are being strengthened.

The telecommunications system that links the four campuses of TTUHSC is based on compressed digital video/audio/data technologies. The system is used to provide educational and administrative communications among the campuses. The impact of this system includes:

- Maximized utilization of faculty
- Reduction of administrative and faculty travel among campuses
- Enhanced educational programs at both the undergraduate and graduate levels through the sharing of the faculty resources of each campus.

This inter-campus, two-way, interactive system also serves as a major leg of the TTUHSC Rural Telemedicine System. This system enables interactive video consultations among family practice physicians, nurse practitioners and physicians assistants serving as primary care providers in rural West Texas and medical specialists at all campuses of the TTUHSC. This service is resulting in increased access and an increased level of both quality and quantity of health care in rural communities. It has enabled the health-care component of the rural community infrastructure to remain viable and healthy. TTUHSC *HealthNet* is embarking on an active program of Telemedicine research and applications activities to expand the potential of this growing field in rural health care.

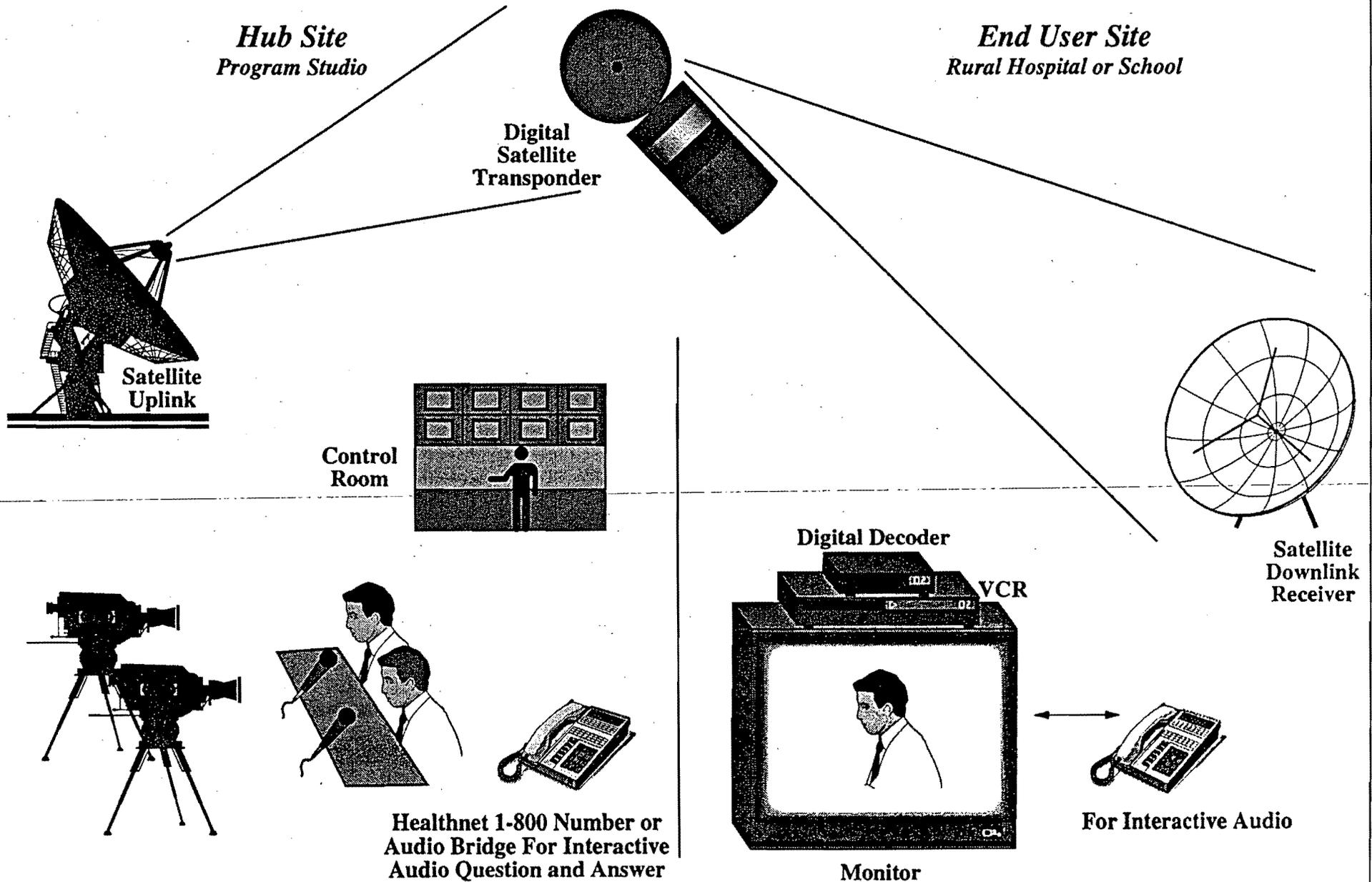
The satellite-based continuing education network (live one-way video and interactive audio) is being used to extend the resources of TTUHSC to professionals in service in over 50 rural communities through providing continuing education for physicians, nurses and allied health professionals. This has reduced professional isolation and has enabled rural practitioners to be exposed to the latest in thinking and developments in their respective fields. Studies have shown that as a result of this continuing education, there has been a measurable increase in the quality of patient care.

Ongoing research is being conducted by *HealthNet* in the applications of technology to rural health care needs. One area being actively explored is the application of rapidly developing digital technologies to the satellite-based network. It is anticipated that this will result in dramatically increased efficiencies through reduced satellite transmission costs and increased availability of time for delivery of services.

Texas Tech University Health Sciences Center *HealthNet* is committed to its mission of using telecommunications technology and other health care delivery innovations to improve health care in rural and under served areas.

# Healthnet's Distance Learning Rural Satellite Network

## Hub and End User Site Systems



# October '93 Rural Health Satellite Network

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
<p><b>NOTE:</b> NCME Programs will not require the use of HealthNet evaluation forms. They have their own forms. A special number will be assigned for them once received at our office.</p>							

4 6:00 - 8:00 p.m. Central  
**SPECIAL PROGRAMMING**  
**"BEGINNING MEDICAL SPANISH"**  
 Lorum Stratton, Ph.D.  
 Assoc. Prof., Classical & Modern  
 Languages & Literature  
 TTU

5 12:15 - 1:15 p.m. Central  
**EMS PERSONNEL**  
**"INITIAL ASSESSMENT OF THE  
 MULTIPLY INJURED CHILD"**  
 Sally Jo Zuspan, RN, BSN  
 Encore Broadcast - orig. aired  
 6/8/93

NOTE: Credit will only be given if  
 not previously viewed.  
 Ms. Zuspan reviews the importance of  
 assessment in the pediatric trauma  
 patient so as to prioritize treatment  
 appropriately.

6 12:15 - 1:15 p.m. Central

**PHYSICIANS**  
**"DX OF COLLAGEN VASCULAR  
 DISEASES"**

Kenneth Neldner, M.D.  
 Professor of Dermatology  
 TTUHSC

Dr. Neldner will discuss the differential  
 diagnosis, signs and symptoms asso-  
 ciated with the four major collagen  
 vascular diseases.

7 12:15 - 1:15. Central

**NURSING**  
**"NEONATAL ASSESSMENT"**  
 Lyn Moore, R-NC

NICU - University Medical Center  
 Our speaker will guide us through a  
 thorough neonatal assessment, point-  
 ing out things which should be includ-  
 ed in every examination.

11 6:00 - 8:00 p.m. Central

**SPECIAL PROGRAMMING**  
**"BEGINNING MEDICAL SPANISH"**  
 Lorum Stratton, Ph.D.

Assoc. Prof., Classical & Modern  
 Languages & Literature  
 TTU

12 12:15 - 1:15 p.m. Central

**HOSPITAL-WIDE**  
**"TECHNIQUES FOR CONFLICT  
 RESOLUTION"**

Mike Reppart  
 Dir. of Personnel & Human  
 Resources - University Medical  
 Center

Mike Reppart is with us today to pro-  
 vide some helpful techniques on con-  
 flict resolution in the health care orga-  
 nization.

13 12:15 - 1:15 p.m. Central

**PHYSICIANS**  
**Network for Continuing Medical  
 Education (NCME)**

**"ADVANCES IN LAPAROSCOPIC  
 SURGERY" & "LIPOSUCTION  
 USING LOCAL ANESTHESIA"**

The first program only is approved for  
 up to 1 hour of CME credit. Individual  
 program brochures will be mailed to

each site to be distributed to physi-  
 cians. The physician must complete  
 the application for CME credit, the  
 post-test in the brochure and return  
 to the site coordinator for mailing with  
 other materials to TTUHSC. Further  
 details will follow with brochures.

14 12:15 - 1:15 p.m. Central

**NURSING**  
**"ANAPHYLACTIC VS. SEPTIC  
 SHOCK"**

Patsy Anderson, RN, BSN  
 Critical Care Educator, St. Mary of  
 the Plains Hospital

Determining the cause of shock in the  
 critically ill patient may mean the dif-  
 ference in life and death. Patsy reviews  
 today the two primary types of shock  
 seen in the emergency setting.

15 12:15 - 1:15 p.m. Central

**ADMINISTRATORS**  
**"IDENTIFYING GRANT SOURCES  
 AND OTHER TIPS FOR WRITERS  
 OF GRANTS"**

Panel  
 With us today are Kathy Stocco from  
 the Lubock Area Foundation, Sally  
 Manning from the Amarillo TIP Center,  
 Jo Helen Rosacker from the Ft. Worth-  
 based Sid Richardson Foundation, and  
 Tim Lancaster, Administrator of the  
 D.M. Cogdell Memorial Hospital in  
 Snyder to provide a discussion of  
 some of the complexities of writing  
 grants.

18 6:00 - 8:00 p.m. Central

**SPECIAL PROGRAMMING**  
**"BEGINNING MEDICAL SPANISH"**  
 Lorum Stratton, Ph.D.

Assoc. Prof., Classical & Modern  
 Languages & Literature  
 TTU

Call 1-800-424-4888 with your ques-  
 tions or comments!

19 12:30 p.m. Central

**SOCIAL WORK**  
**"COUNSELING ONCOLOGY PA-  
 TIENTS AND THEIR FAMILIES"**

Linda Drake, MSW  
 Hodges Cancer Center  
 Methodist Hospital

Ms. Drake will offer some ideas for  
 helping cancer patients and their fam-  
 ilies cope with this diagnosis in  
 themselves or a loved one. She will  
 talk about what resources may be  
 available to the social worker in the  
 rural hospital which will enable him or  
 her to assist these patients and fami-  
 lies.

20 12:15 - 1:15 p.m. Central

**PHYSICIANS**  
**"RESPIRATORY SYNCYTIAL  
 VIRUS"**

Wallace Marsh, M.D.  
 Assoc. Prof., Peds. & Microbiology  
 TTUHSC

Every year people die from respiratory  
 syncytial virus. Dr. Marsh discusses  
 the pathophysiology of this disease

and current therapy for those unlucky  
 enough to contract it.

25 12:15 - 1:15 p.m. Central

**PHYSICIANS**  
**Network for Continuing Medical  
 Education (NCME)**

**"APPROACH TO GI BLEEDING"**

This program provides up-to-date in-  
 formation on current recommenda-  
 tions for the management of gastroin-  
 testinal bleeding for the non-specialist  
 physician.

25 6:00 - 8:00 p.m. Central

**SPECIAL PROGRAMMING**  
**"BEGINNING MEDICAL SPANISH"**  
 Lorum Stratton, Ph.D.

Assoc. Prof., Classical & Modern  
 Languages & Literature  
 TTU

Call 1-800-424-4888 with your ques-  
 tions or comments!

26 2:00 - 3:00 p.m. Central

**DIETARY MANAGERS**  
**"NUTRITION LABELING & EDUCA-  
 TION ACT"**

Camille Hoy, RD, LD  
 Nutritionist

TX Dept. of Health- Pub. Health  
 Reg. 2

Our speaker will review the require-  
 ments of the Nutrition Labeling &  
 Education Act and its relevance to  
 Dietary Managers practicing in the  
 small hospital.

27 12:15 - 1:15 p.m. Central

**PHYSICIANS**  
**"ONCOLOGY GRAND ROUNDS -  
 NUTRITION & PRIMARY PREVEN-  
 TION OF COLON CANCER"**

This program will focus on the premise  
 that 35% of all cancers in the United  
 States are estimated to be caused by  
 dietary factors and are preventable.  
 The panel will discuss risk factors and  
 recommendations for possible prima-  
 ry prevention of cancer by dietary fac-  
 tors.

28 12:15 - 1:15 p.m. Central

**NURSING**  
**"ALCOHOL DETOXIFICATION"**  
 Roy Hollis, RN

Substance Abuse Unit  
 St. Mary of the Plains Hospital

Mr. Hollis will discuss the nursing  
 management of the patient undergo-  
 ing alcohol detoxification. His discus-  
 sion will include what to look for in the  
 way of danger signals and proper care  
 during the detox process.

**NOTE TO ALL RHSN VIEWERS:**

The time for our lunch hour pro-  
 grams has been switched to 12:15 -  
 1:15, beginning October 1st.

In addition, please note that the  
 HITN programs will not be broad-  
 cast; however, these programs will  
 be taped and made available upon  
 request to our sites.

About Texas Tech  
University Health  
Sciences Center

**TEXAS TECH  
UNIVERSITY  
HEALTH SCIENCES  
CENTER**

The Texas Tech University Health Sciences Center was established in 1970 to provide for the general education of the physician and for the advancement of health care and medical science in West Texas.

In addition to providing education for physicians, Texas Tech Health Sciences Center has programs for nurses and allied health professionals. Many of the students from West Texas often remain in rural areas following graduation.

Texas Tech University Health Sciences Center has a commitment to rural medicine and to the mission of TTUHSC HealthNet.

# TTUHSC HealthNet

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Meeting Educational Needs  
In Rural Medicine



**TEXAS TECH**  
UNIVERSITY  
**HEALTH SCIENCES CENTER**

3601 4th Street  
Lubbock, Texas 79430  
(806) 743-2640

TTUHSC HealthNet provides a full range of health care education.

## **TTUHSC Healthnet Distance Education**

In January, 1989, Texas Tech University Health Sciences Center embarked on a project to assist rural health care professionals and hospital staff in their effort to provide quality care in rural West Texas. The Health Sciences Center confirms its commitment to improving rural health care in West Texas by the development of an organization called TTUHSC HealthNet. The mission of HealthNet is to use innovative methods to deliver services to health care professionals in rural or isolated areas. These services are needed to keep the various members of hospital staff members updated in current clinical practice. Through the TTUHSC HealthNet satellite network health care professionals participate in accredited educational programs which they help design.

Rural Hospitals benefit from expertise of numerous health care professionals

## **Benefits**

- Accredited continuing education for physicians, nurses, allied health care professionals, and hospital support staff.
- Educational programs designed with input from the user.
- Up-to-date medical information from current library resources.
- Interactive consultation with nationally known practitioners.
- Topics on the latest clinical management.
- Inhouse education for all members of the health care team.
- Beneficial in recruitment and retention of health care professionals.
- Educational needs met without expense of travel and staff scheduling problems.
- Capability to build an on-site library of taped programs.

Providing educational programming for all members of the health care team.

## **Examples of Programs**

### **Physician Programs**

*Myocardial Infarction  
Breast Cancer Screening  
Gall Bladder Disease  
Acute Head Injury  
Peripheral Vascular Disease*

### **Nursing Programs**

*Arrhythmia Simulations  
Emergency Medications  
Cardiology Update  
Legal Aspects of Nursing  
Adolescent Suicide  
Chemotherapy  
Crisis Intervention*

### **Allied Health Programs**

*Cross Sectional Anatomy  
Treatment of Pulmonary Acidosis  
Shoulder Injuries  
Type & Cross Match  
Advanced Cardiac Life Support  
CLIA-88*

**Registration:**

Each participant must register for this course in order to receive the manual and appropriate certification. Contact your site coordinator no later than Monday, August 2, 1993 to register for the PALS Course. When you register, we will need your name and social security number.

If you have any questions about the course, please feel free to call us at (800) 424-4888.



**RHSN**

presents:

**Pediatrics  
Advanced  
Life Support  
Course**

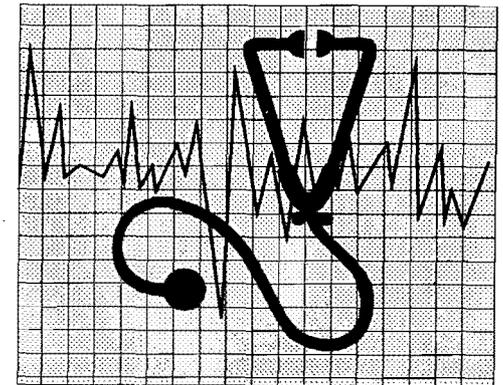
Please sign me up for the Pediatrics  
Advanced Life Support Course:

Name \_\_\_\_\_

\_\_\_\_\_

SS# \_\_\_\_\_

Return to Site Coordinator!



TTUHSC HealthNet is proud to bring the **Pediatrics Advanced Life Support (PALS) Course** to our Rural Health Satellite Network participants. The PALS Course is the first in a series of specialty training courses to be brought to you by HealthNet to help you meet the new trauma guidelines under development.

This nationally certified course will be taught in five one-hour didactic sessions on the Rural Health Satellite Network on Wednesday afternoons, 4:00 PM to 5:00 PM beginning August 11, 1993.

**The course schedule is:**

Wednesday, August 11, 1993

*4:00 PM - 5:00 PM*

Wednesday, August 18, 1993

*4:00 PM - 5:00 PM*

~~Wednesday, August 25, 1993~~

~~*4:00 PM - 5:00 PM*~~

Wednesday, September 1, 1993

*4:00 PM - 5:00 PM*

Wednesday, September 8, 1993

*4:00 PM - 5:00 PM*

The Skills and Testing Laboratories will be conducted in a two-day session held at the Texas Tech University Health Sciences Center in Lubbock, Texas from **6:00 PM to 10:00 PM, Friday, September 17, 1993** and from **8:00 AM to 5:00 PM, Saturday, September 18, 1993.**

The PALS Course will be taught by selected faculty of the TTUHSC School of Medicine Department of Pediatrics under the course direction of Wallace Marsh, M.D., Associate Professor of Pediatrics.

**Topics to be covered in this course include:**

- Recognizing Respiratory Failure and Shock and Preventing Cardiopulmonary Arrest
- Newborn Resuscitation in the Emergency Department
- Drug Therapy: Pediatric Emergency Drugs
- Postresuscitation, Stabilization and Transport
- Integration Session: Infant and Child Case Presentations
- Pediatric Trauma

These sessions will be live broadcasts originating from the HealthNet studios at the Texas Tech University Health Sciences Center. Each session will include a 15 minute question and answer session during which any participant can ask questions of the PALS instructor.

**Continuing Education Credits:**

Texas Tech University Health Sciences Center is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians.

TTUHSC designates this continuing medical education activity for 13\* credit hours of Category I of the Physicians Recognition Award of the American Medical Association.

\*13 hours of Category I PRA credit is based upon attendance at all televised lectures, successful completion of the performance standards and a score of 84 percentile or better on the written exam. One hour of Category I PRA credit is designated for each of the five televised lecture sessions for those physicians not completing the skills laboratory.

Nurses who watch all didactic sessions and successfully complete skills testing will receive 3 hours of continuing nursing education credits through the Texas Nurses Association.

## Registration Form

To participate in this exciting workshop and receive a workbook that can be used as a reference after the workshop is complete, you must register and pay a \$25.00 fee, payable to TTUHSC HealthNet.

Registrant 1 \_\_\_\_\_

Registrant 2 \_\_\_\_\_

Registrant 3 \_\_\_\_\_

Hospital Name: \_\_\_\_\_

Hospital Address: \_\_\_\_\_  
\_\_\_\_\_

Phone: \_\_\_\_\_

**Date:** November 9, 1993  
*(You must register no later than  
October 26, 1993)*

**Time:** 10:15 a.m. to 1:15 p.m. CST

**Cost:** \$25.00 per person

**Detach and mail with payment to:**

TTUHSC HealthNet  
3601 4th Street  
Lubbock, TX 79430

If you have any questions about this workshop,  
please contact HealthNet at (800) 424-4888.

Make check payable to:  
TTUHSC HealthNet

TWCC-5750

TTUHSC HealthNet  
3601 4th Street  
Lubbock, TX 79430

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Permit No. 88



Texas Tech University Health Sciences Center

*presents*

*for medical office personnel*

# The Texas Workers' Compensation Seminar



**November 9, 1993**  
*10:15 a.m. to 1:15 p.m. CST*  
Over the  
TTUHSC HealthNet  
Rural Health Satellite Network



PRACTICE  
MANAGEMENT  
INSTITUTE

# Is treating Workers' Comp patients creating a pain in your books? If so, attend the PMI Texas Workers' Compensation program.

This half-day workshop will focus on obligations, rights, and compliance associated with the Texas Workers' Compensation Commission.

Managing the TWCC process is the primary focus of this seminar.

## You Will Learn:

- The Difference Between:
  - Treating doctor
  - Consulting doctor
  - Referring doctor
- Injured employee's right to select treating physician
- How to avoid returned claims
- Filling out HCFA 1500
- Workers' Comp verification
- Avoiding fraud and abuse
- Sanctions and penalties for non-compliance
- History and overview of TWCC
- Healthcare reform and the future of workers' compensation
- Appeals process
- Authorization for spinal surgery

## Topics Covered:

- Fee guidelines
- Ombudsman and dispute resolution
- Assisting the patient through the TWCC process
- Permanent disability ratings
- "Actual fault" vs. "assumption of fault" - who is responsible
- Importance of compliance
- Maximum medical improvement
- Procedures requiring pre-authorization
- Financial disclosure
- Importance of adequate documentation
- Work status reporting
- Claims filing tips

Treating Workers' Comp patients is still good business when you learn the rules. Attend this upcoming workshop to understand how compliance can impact your books.

## Required reports:

- TWCC-61, Initial Medical Report
- TWCC-63, Request for Spinal Surgery
- TWCC-64, Specific and Subsequent medical report
- TWCC-69, Report of Maximum Medical Improvement

## Learn obligations of:

- Employee
- Employer
- Insurance Company
- Physician
- Other Healthcare Providers



# Network News



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## *Feature Editorial*

# UPDATE ON PHARMACY PROGRAMS

**Janet S. Taylor**  
Assoc. Dir., Distance Education

From time to time I am asked about the possibility of providing Continuing Education for hospital pharmacists and other hospital pharmacy personnel. On at least two occasions, we have solicited information on how to become a provider. We have no School of Pharmacy at present and determined that it would not be feasible to become a provider. As with other disciplines, we would wish to have any programming approved by a recognized and approved provider so participants could receive continuing education credit. We have been looking at other ways of providing programming for pharmacy personnel.

The Texas Society of Hospital Pharmacists approves CE credit for the programs presented in conjunction with the meetings of local hospital pharmacy associations. I am working with Teresa West at St. Mary of the Plains Hospital, the new president of the West Texas Society of Hospital Pharmacists to have them schedule at least some of their meetings and programs here in the TTUHSC HealthNet studio, which could be broadcast live to pharmacists, consultant pharmacists, and other personnel at HealthNet sites. In addition, we hope to enlist the Panhandle Society of Hospital Pharmacists to do the same, perhaps broadcasting from our Amarillo RAHC.

I am working with several members of the Lubbock chapter to identify some special programs for Pharmacists. One topic mentioned is "Implementing a QA Plan for the Rural Hospital Pharmacy." Program details must be submitted for approval at least 90 days before any special program, so it will be several months before any special programs will be aired. In the meantime, we want to hear from Consulting Pharmacists and Pharmacists in our rural hospital sites. Let us know who you are, where you are, and what topics you would like to see presented. You may call us at 1-800-424-4888 during work hours, or you may call me directly at (806) 743-2234.

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**Against the Grain highlights**

# SEEDS OF CHANGE

The Texas Performance Review has identified a number of exciting examples of Texas state agencies and institutions going against the grain to develop better ways to serve the public with fewer tax dollars. A number of these examples of excellence are summarized throughout Volume I of *Against the Grain*, and we list here a small sampling of them. We offer these "seeds of change," first, so other agencies can profit from their experience and, perhaps, adapt new approaches to their own situations. Secondly, they may help to convince those who—not surprisingly—have become skeptical that positive change may be possible.

■ Austin Community College (ACC) found that 15 to 20 percent of those registering for classes with touch-tone phones failed to pay their fees. A survey showed that many attributed their delinquency to the lack of convenient walk-in payment locations. To solve the problem, ACC has contracted with the H.E.B. grocery chain to provide—at no cost to the college or taxpayers—18 payment stations throughout the area.

This community-based approach has already paid dividends. H.E.B. welcomes the additional business and ACC has expanded its services at no additional cost. About 20 percent of ACC's students now use the H.E.B. payment option. And the college's payment percentage for touch-tone registrations has increased to 92 percent.

■ The Water Development Board and the Comptroller's Office have set up a joint training program to help agency employees evaluate their key business procedures—and improve them. By sharing materials and training staff, overall costs to the state will be far less than if each agency had relied on its own resources, needlessly duplicating effort. The joint project will save money, staff and startup costs for new projects.

■ Corpus Christi's Del Mar College is building a thermal energy storage facility so that the college can chill water at night and then use it during

the day to provide air conditioning and drinking water on campus. By using off-peak electrical service rates, the college will save an estimated \$225,000 per year. A low-interest loan to fund the \$1.1 million facility was approved through the Governor's Texas Loan Star Project.

■ Texas Tech University Health Science Center is using a two-way, interactive audio-video system to link its four campuses with rural West Texas physicians, nurse practitioners and doctors' assistants. The system gives rural health care professionals access to the latest medical developments, as well as a satellite-based continuing education network.

■ The Texas Department of Commerce (TDoC) provides an innovative service to businesses planning to expand or relocate to Texas. The Comprehensive Application is used by companies requiring multiple licenses and permits to operate in Texas. After receiving the application, TDoC notifies all the regulatory agencies with an interest in the proposed business, and each has 28 days to respond with the necessary information and the name of a contact person. The "customer first" process has saved prospective businesses time and frustration by putting them in direct contact with the right person at the right agency.

■ In early 1991, the Texas Rehabilitation Commission newsletter mentioned 42 disability examiners who had asked for additional assignments, under the headline *Going the Extra*

*Mile*. After that, the number of go-getters, who were paid in "comp" time, rose dramatically. By April 1991, the newsletter reported that 113 examiners had requested additional cases, proving that a little recognition for a job well done goes a long way toward increasing productivity.

■ The Comptroller's Office now offers an electronic bulletin board system called *Window on State Government*, which supplies a wide variety of Texas economic data and information on government finances free of charge to anyone with a personal computer and modem. The bulletin board includes everything from a historical database of weekly Lotto numbers to information on the latest tax policy recommendations. It increases services while reducing the demand on agency phone assistance personnel.

■ To make sure state government keeps up with computer technology, the Texas Education Agency, Texas Employment Commission, State Comptroller's Office, Department of Human Services, Department of Health, Department of Human Services and the University of Texas at Austin jointly purchased membership in the Microelectronics and Computer Technology Corporation (MCC). The membership gives all state agencies and universities access to MCC's research and applications and helps to evaluate their potential application to state tasks. Agencies will have the opportunity to share information, attend conferences and participate in joint projects.

■ Since September 1990, the Texas Department of Transportation's Dallas District has contracted with a private company that cleans used air filters from their vehicle fleet and heavy equipment. The filters are returned to "like-new" condition and reused, reducing the agency's need to buy new ones. Since the program began, the cleaning process has saved the state some \$5,800 and eliminated 3.3 tons of solid waste that would otherwise have been buried in Texas landfills. ★

Copies of the two-volume set of *Against the Grain* are available for \$10 from:

Comptroller's Office  
Information Services  
Room 120  
LBJ State Office Building  
111 East 17th Street  
Austin, Texas 78774-0100  
(512) 463-4740



## TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER

### HealthNet

Office of the Director of Marketing and Program Development

3601 4th Street, Suite 1C-162  
Lubbock, Texas 79430  
(806) 743-1872

October 21, 1993

Ms. Carol Rasco  
Assistant to the President  
for Domestic Policy  
The White House  
West Wing, 2nd Floor  
Washington, D.C. 20500

Dear Ms. Rasco:

Thank you for agreeing to Betsey Wright's request to participate in our monthly HealthNet Administrators' Telephone Conference scheduled for Monday, November 1, 1993 from 1:00 pm to 2:00 pm EST. The purpose of our teleconferences is to connect key policymakers in federal and state agencies, the Texas Hospital Association, the Center for Rural Health Initiatives, and the Texas Rural Health Association with rural hospital administrators in discussing major issues related to rural health care. Our goal is to facilitate constructive communication among these influential members of our Rural Health Services Network throughout Texas and eastern New Mexico, and to provide them periodic updates on policy and regulatory developments.

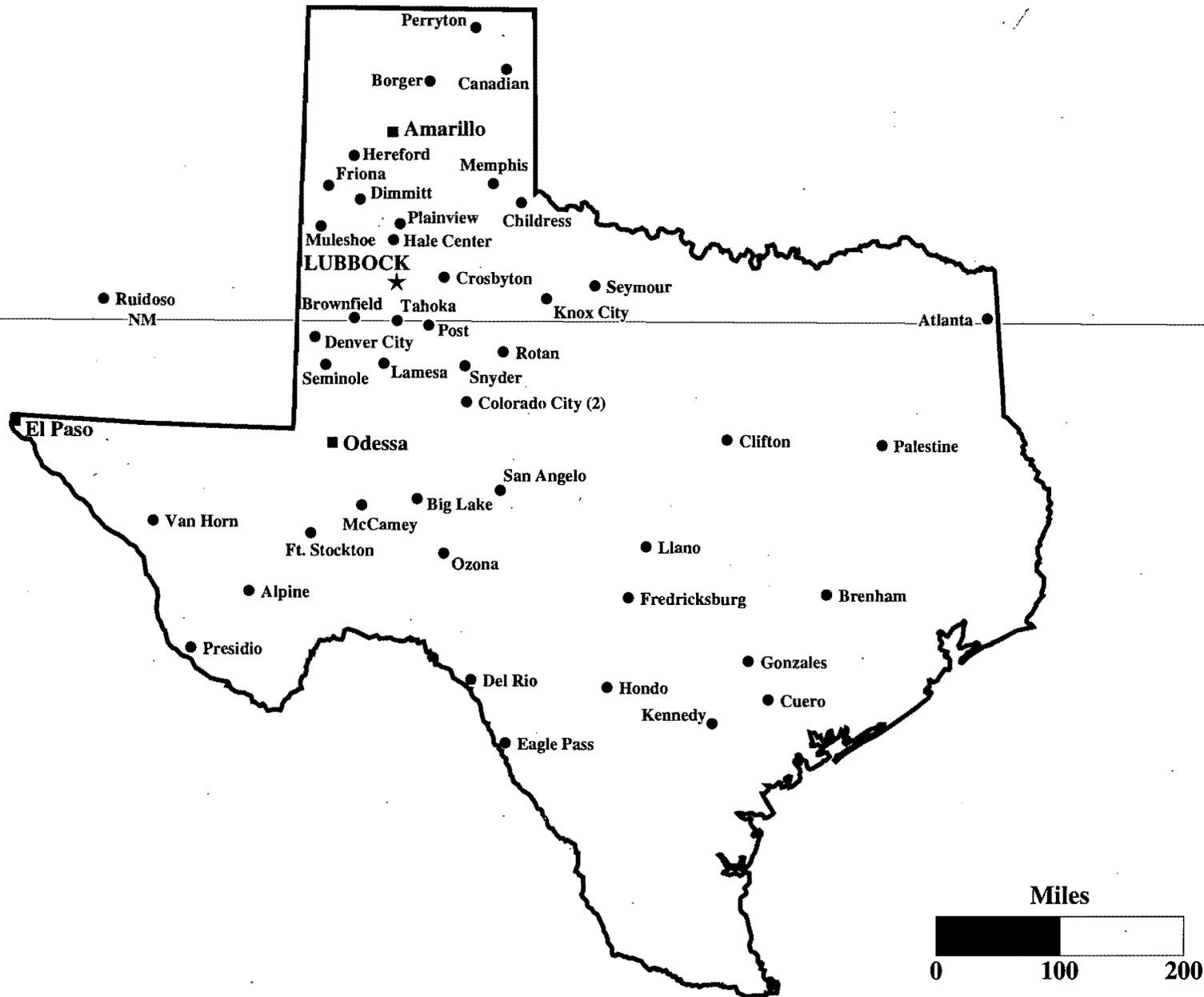
In order to provide you background information on HealthNet and our network, I will Federal Express this week an infopack to Ms. Rosalyn Miller of your staff for your attention. I will include our Executive Overview briefing charts which we provide to Members of Congress, the Texas Legislature and others. Please feel free to share this information with anyone at the White House you believe might benefit from it. I am also sending a videotape explaining what we do at HealthNet in support of rural health care in both the telemedical consultation and distance-learning areas.

Mr. Richard Arnold, the administrator at the Big Bend Regional Medical Center in Alpine, Texas, is a real leader in rural health care in the Southwest and is our host for these teleconferences. By participating, we would ask you to comment on the implications of the President's health care proposals for rural America, rural hospitals and health care providers, and respond to administrators' general questions or comments reflecting their unique perspectives.

Event folder

# HealthNet's Rural Health Satellite Distance Learning Network

*Accredited Continuing Education Courses Beamed Via Satellite From TTUHSC*



Secretary Bentzen - IRS <sup>signature</sup> on

Student loan repayments

three service in  
rural areas

Rates among states

1/20/01

1/20/01

Ms. Carol Rasco  
October 21, 1993  
Page 2

Of particular interest to our senior managerial audience are the possible implications of the President's proposals for the survival of rural hospitals, the future of telemedical consultation systems and health care distance learning networks like HealthNet, the problem of a shortage of rural primary care physicians, the prospects for Administration support for reimbursement for telemedical services for supportive physicians willing to utilize telemedical strategies to improve rural patient access to care, and related issues. Certainly, we want you to feel free as well to discuss issues of particular concern to the President, First Lady and Vice President, all of whom we understand are quite well-informed on the problems of rural providers.

The format we have established for these teleconferences is that our guest speaker is introduced to the audience by Mr. Arnold and then opens the discussion with some remarks about the topic, then responds to questions from administrators. I am enclosing a list of the administrators on our network who will be likely participants in the teleconference.

I have already requested a bio from your office and we will be promoting the program and your participation starting today. To join us on November 1st, all you will need to do is call this phone number: (907)258-5610 at 1:00 EST and your call will be linked to all other participants. If you have any questions or special requirements, please call me at Texas Tech University in Lubbock (806)743-1872 or Richard Arnold in Alpine, Texas at (915)837-3447. If you experience any difficulty in making the phone connection, please call the HealthNet office at my number above or (806)743-2640.

We sincerely appreciate your graciousness in agreeing to visit with our network members and we look forward very much to a discussion of the President's vision for improved rural health care.

Sincerely,



Steve J. Cotton

Director, Marketing and Program Development  
HealthNet

xc: Richard Arnold, BBRMC  
Dr. Bill McCaughan, HealthNet Exec. Dir.  
Sherald Ramirez, Director/Education Services  
Betsey Wright, The Wexler Group

# THE WEXLER GROUP

1217 F Street, N.W.  
Suite 600  
Washington D.C. 20004  
202-688-2121  
202-688-7045 Telecopy

## MEMORANDUM

September 29, 1993

To: Richard Arnold  
FROM: Betsey Wright  
RE: Teleconference Bonanza!

Carol Rasco, Assistant to the President for Domestic Policy, has agreed to participate in the November 1 teleconference with your group of rural hospital administrators.

Please work with Carol's assistant, Rosalyn <sup>Miller</sup> Kelly, who address and phone numbers are below to confirm the logistics. It would be most helpful to the White House if you would send a letter to Carol explaining "who and what and why" the group on the teleconference is.

Let me know if I can help in any other way.

cc: Rosalyn Kelly  
The White House  
West Wing  
Washington, DC 20500  
202-456-3249

*Hillary's -  
Principle adv  
- used to  
work in  
Clinton  
Cabinet in  
Arkansas  
own life  
experiences  
(disabled  
child)*

# Satellite system links rural locations with specialists

By Rhonda Duey  
The American

7-31-93

If rural health-care providers have been watching a lot of TV lately, it's been for a good cause.

Since 1990, technology has opened a door for rural physicians, nurses and other health professionals to communicate via satellite with specialists in Lubbock and Odessa through the Texas Tech University HealthNet system. The system has been in place in Alpine and Fort Stockton for more than three years and recently became operational in Presidio.

The program was piloted as MEDNET in 1990 to determine its feasibility. Steve Cotton, Tech's director of marketing and program development, said. Two aspects of the program were evaluated to determine their ability to enhance rural health care, Cotton said.

"The first tool was two-way interactive video to link up the rural doctor and patient with a health-care specialist here at the (Health Sciences Center) through real-time TV," Cotton said. "The other tool was the use of satellite broadcasting technology to beam out to rural hospitals and their staffs continuing education programs."



The Odessa American: Matt Brunworth

The Healthnet system at Texas Tech University Regional Academic Health Center is used Thursday by nurses taking a pathophysiology course. Through the audio/video link, Zassar Gatson, far right, Vanessa Wilson and Vicki Flowers are able to take Dr. John Pelley's class in Odessa while he is in Lubbock. At left is coordinator Gayleen Ienatsch.

The program attempts to bridge the distance gap that plagues rural health-care providers. Cotton cited professional isolation and "lack of an infrastructure to support health-care professionals and their patients" as some of the hurdles facing rural doctors.

Cotton said that the HealthNet system "makes a difference in the quality of the

Please see HEALTHNET/9A

# HealthNet

health care provided and in the morale of the rural health-care professional."

The Alpine link has made dramatic differences in several people's lives. The very first test of the system was for a newborn experiencing respiratory problems. A Texas Tech neonatologist visited with the family physician, listened to the lab reports and viewed the X-rays, then identified the problem as acute metabolic acidosis and suggested treatment to stabilize the infant until she could be transferred to the nearest neonatal unit 160 miles away.

JoAnn Lister, grant project coordinator for Big Bend Regional Medical Center in Alpine, cited another example of the system's usefulness. A local rancher had cut his hand, and the wound became infected despite use of antibiotics. He soon broke out in blotches, and the local physician called for a consultation.

The specialist in Lubbock took one look at the blotches and told the man to fly to Lubbock right away, Lister said. "The specialist got up from the consultation and said, 'Are you coming?' The guy said, 'Yes,' and the specialist said, 'I'll go and reserve an operating room for you right now.'"

The man was able to fly to Lubbock immediately. "They had to cut all the way to the bone right away (to get rid of the infection)," said Lister. "Otherwise, he would have lost his hand, and probably his life."

Lister estimated that Alpine has had almost 300 consultations since the program came on line.

Claude R. Dawson is the TV producer and director for the Odessa HealthNet link. He said that most of the consultations are beamed to Lubbock rather than Odessa, because there are more specialists available there.

"They have access to specialists in the same building," he said. "We rely on private physicians, and without them being compensated, it's pretty difficult."

Dawson added that Texas Tech is working with Medicare and Medicaid to obtain reimbursement for consult physicians, but right now they provide their services free of charge. Lister said that the rural patients are billed by their local physician, but no additional charge is added for the HealthNet consultation.

Dr. Charles Tarvin, professor of

obstetrics and gynecology at Texas Tech University Regional Academic Health Center in Odessa, said the system is still "a little foreign," but overall it works more effectively than he'd expected.

"I can see the physical exam being carried out," he said. "The clarity is real good."

Tarvin does not have a problem with the lack of compensation. "It's supposed to be a service, not a money-making operation," he said.

The program is funded partly through a grant that pays for the telephone costs and partly through state funding, since it is still considered a research project. Even though the initial start-up cost for each rural site is expensive, around \$5,000, the program often saves money in the long run, since fewer patients need to be transported to the bigger hospitals that are hundreds of miles away.

Money also can be saved through the educational facet of the program. While continuing education courses are mandated by various licensing and accrediting agencies, most rural health professionals find it difficult to find the time to drive vast distances to attend seminars and workshops.

Lister said that the Alpine hospital currently is trying to get nursing education programs beamed into Sul Ross State University. Although the charge would be \$100 per semester per student, Lister said this would be less expensive than taking time off from work to drive to Odessa for classes.

Cotton said that the Rural Health Satellite Network currently provides about 15 one-hour programs that are beamed from the studio out to rural hospitals on the network. Toll-free numbers allow two-way communication, he said.

Dawson added that students at the Odessa Texas Tech site can take video classes from Lubbock instructors.

In addition to providing continuing education credit, the programs enable rural providers to maintain professional contact. "These are well-trained, competent medical professionals who enable (the rural providers) to keep their skills sharp and stay abreast of new developments," Cotton said. In all, the HealthNet system promises an efficient way to span the vast distances separating rural health-care professionals from the resources they desperately need. "This is doing for rural areas what highways did in the '50s," said Lister. "It brings rural areas closer to technology."

*EXECUTIVE  
SUMMARY*

# **Bridging The Health Gaps In Rural America:**

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## **How Telemedical Strategies Are Making A Difference**

TTUHSC HEALTHNET

## **TTUHSC HealthNet's Mission Is Challenging**

**To Use Telecommunications Technology And Other Health Care Delivery Innovations To Improve Health Care In Rural, Under-served And Border Areas.**

## **HealthNet Uses A Dual Strategy**

1. Provide Continuing Medical Education Programming To Health Care Professionals By Satellite Distance-Learning Methods.

- Rural Health Satellite Network (RHSN)

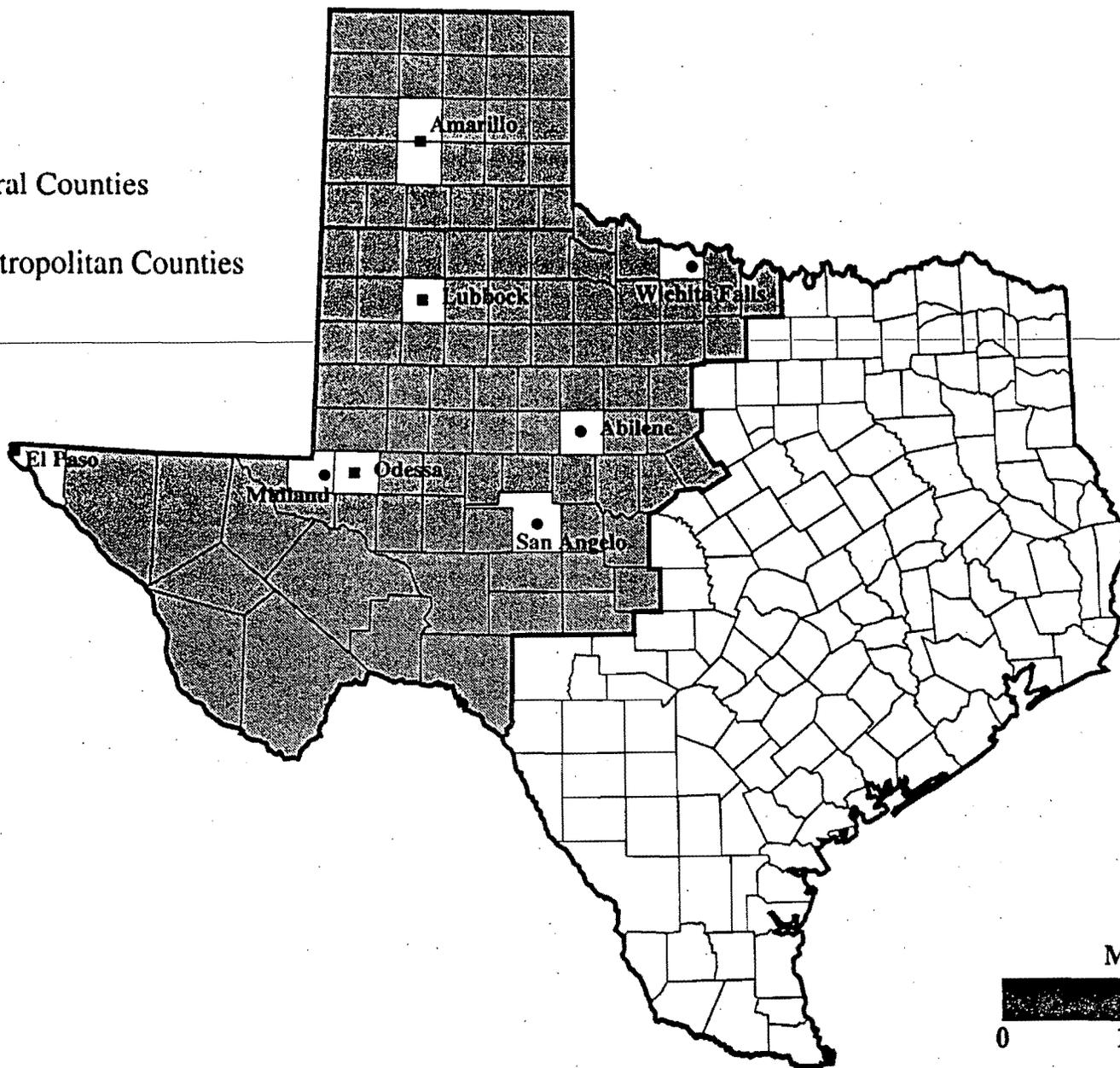
2. Develop Interactive Telemedical Consultation Systems Utilizing Current Technology On Selected-Site Basis.

- T-1 Land-Line Video Links

# 99 Counties Served By TTUHSC Are Rural

*Only Eight Major Population Centers Exist*

-  Rural Counties
-  Metropolitan Counties



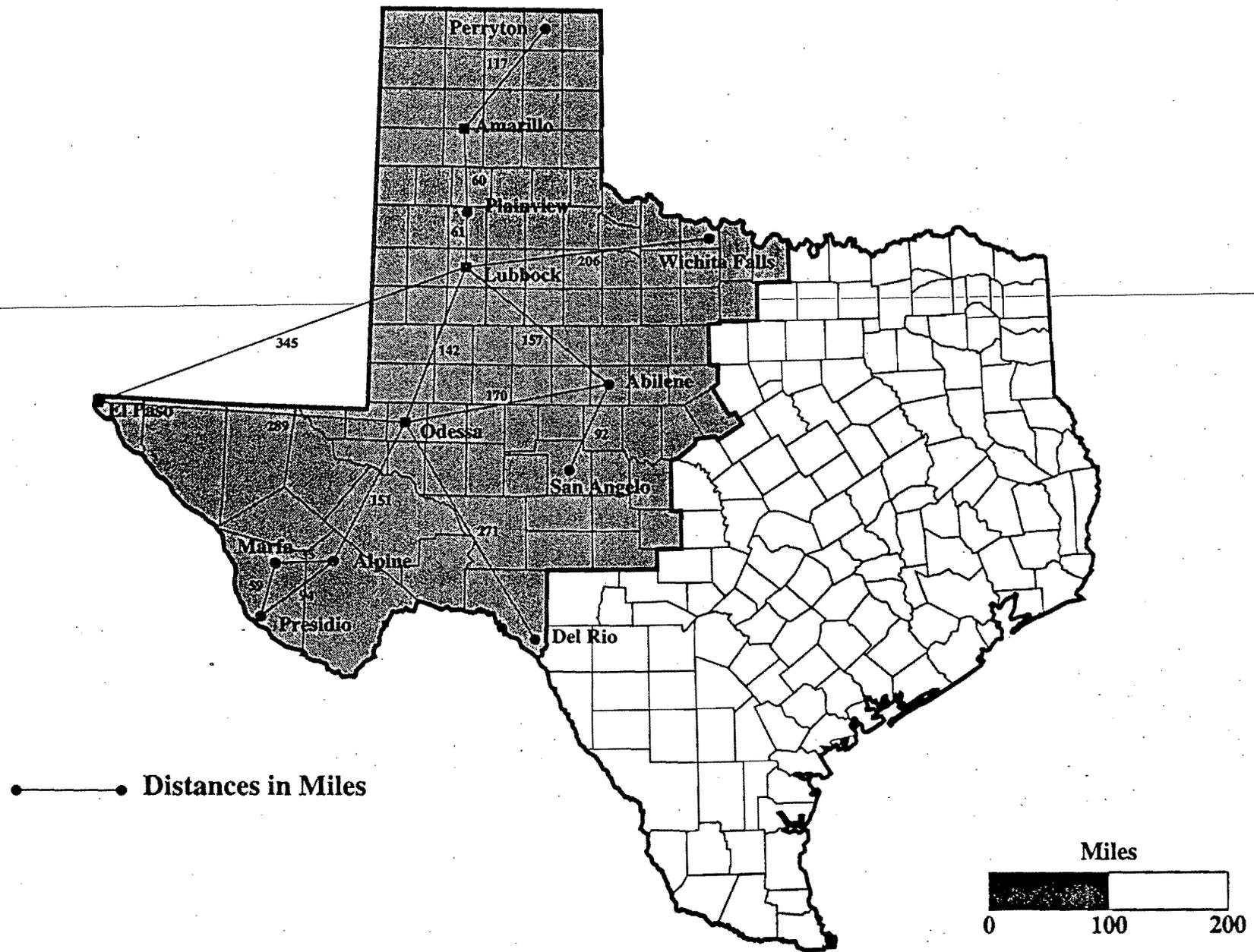
# **TTUHSC HealthNet's Service Area Description**

- 108 Counties
- 135,000 Square Miles
- 24,000 Rural Health Care Providers
- Limited Telecommunications Infrastructure
- High Percentage Of Medicare And Medicaid Patients
- Lack Of Specialists In Rural Communities

**Urban Delivery Strategies And “Managed Competition” Not Applicable**

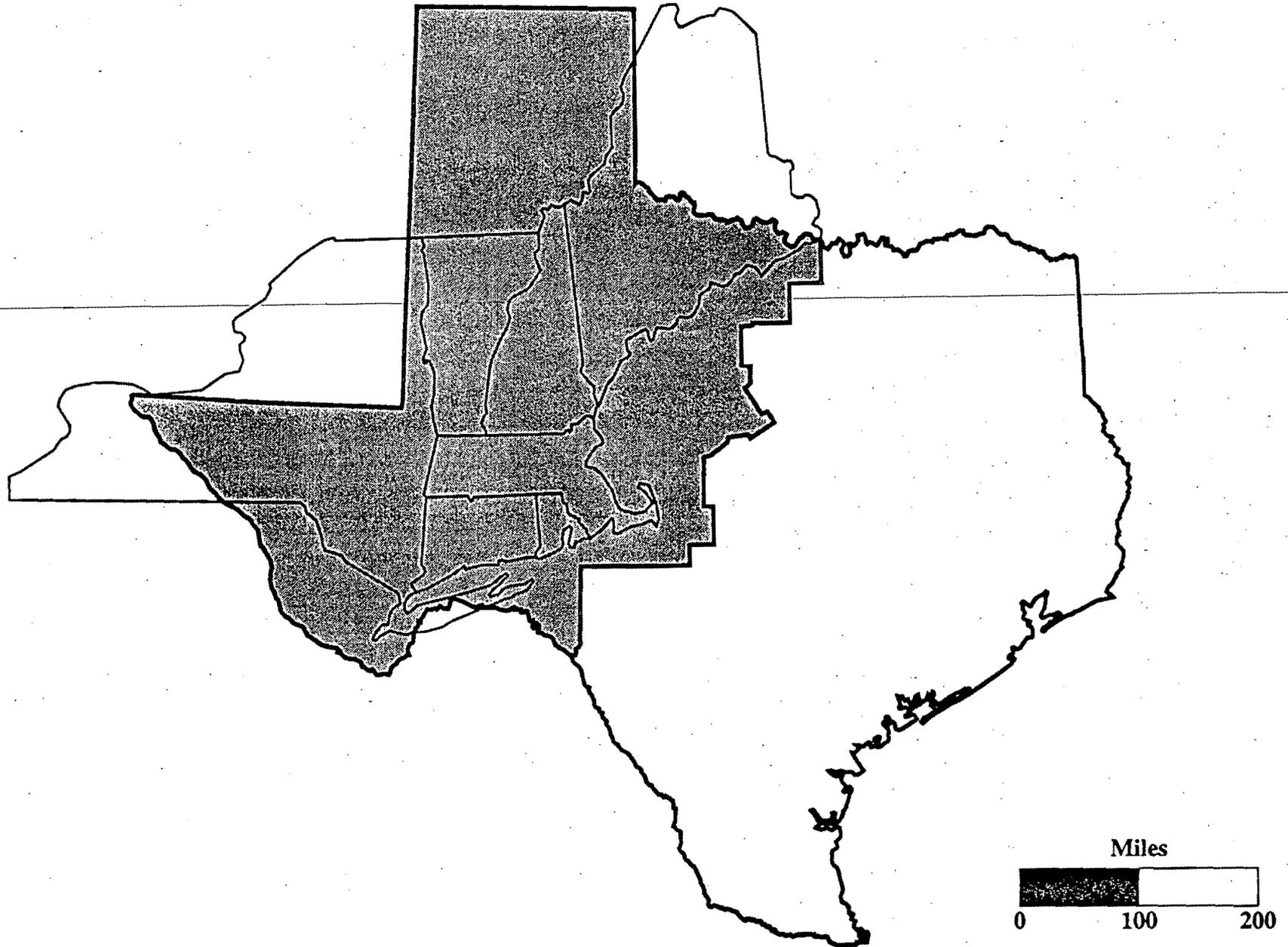
# Hub Sites and End Users Separated By Great Distances

*Long Patient Transportation Times To Major Medical Centers*



# TTUHSC Services Area Size of New England

*Most of Region is Rural*



# Approximately Half of Service Area Considered "Frontier Counties"

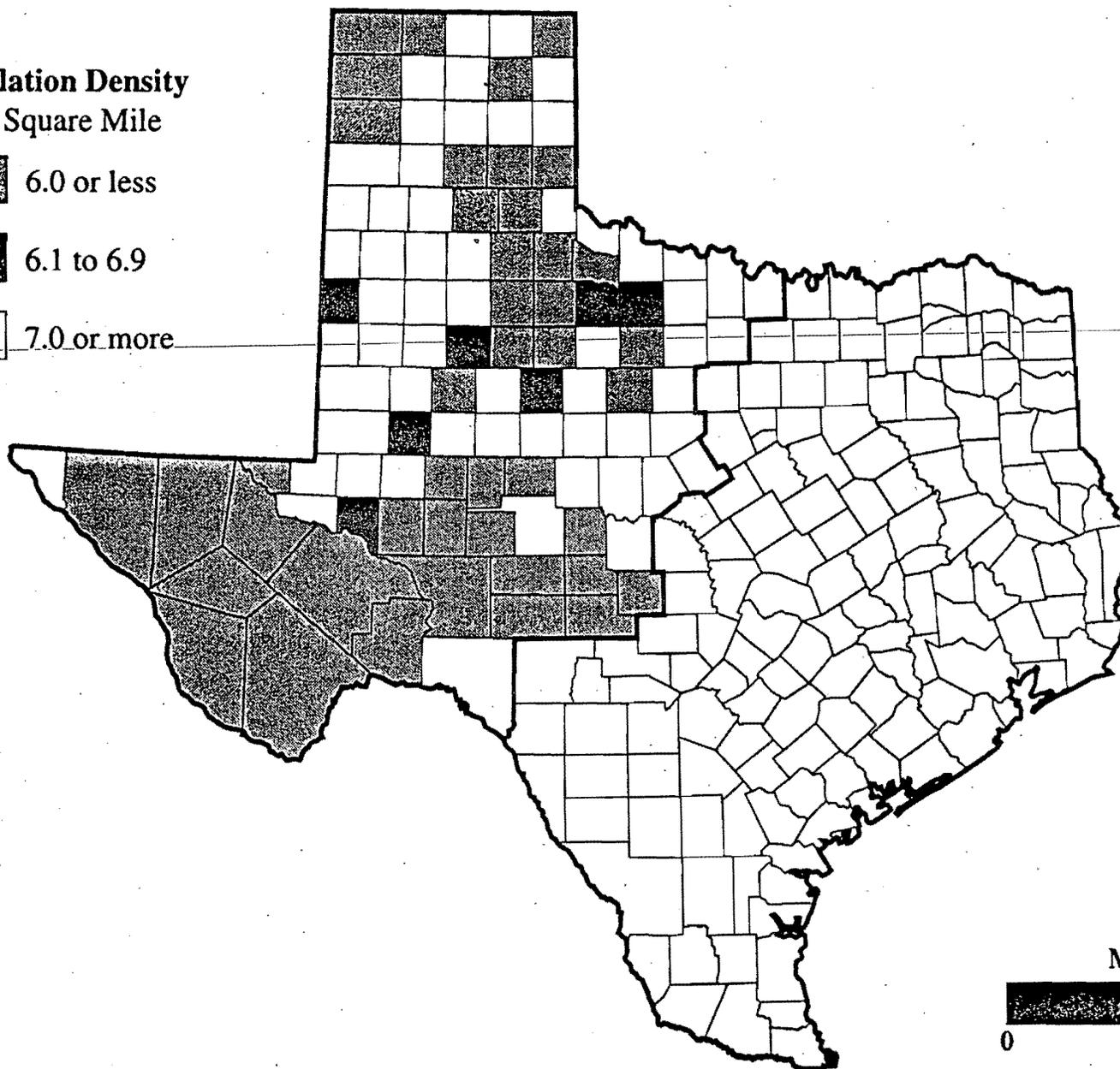
*50 Counties' Population Density Less Than Seven People Per Square Mile*

Population Density  
per Square Mile

 6.0 or less

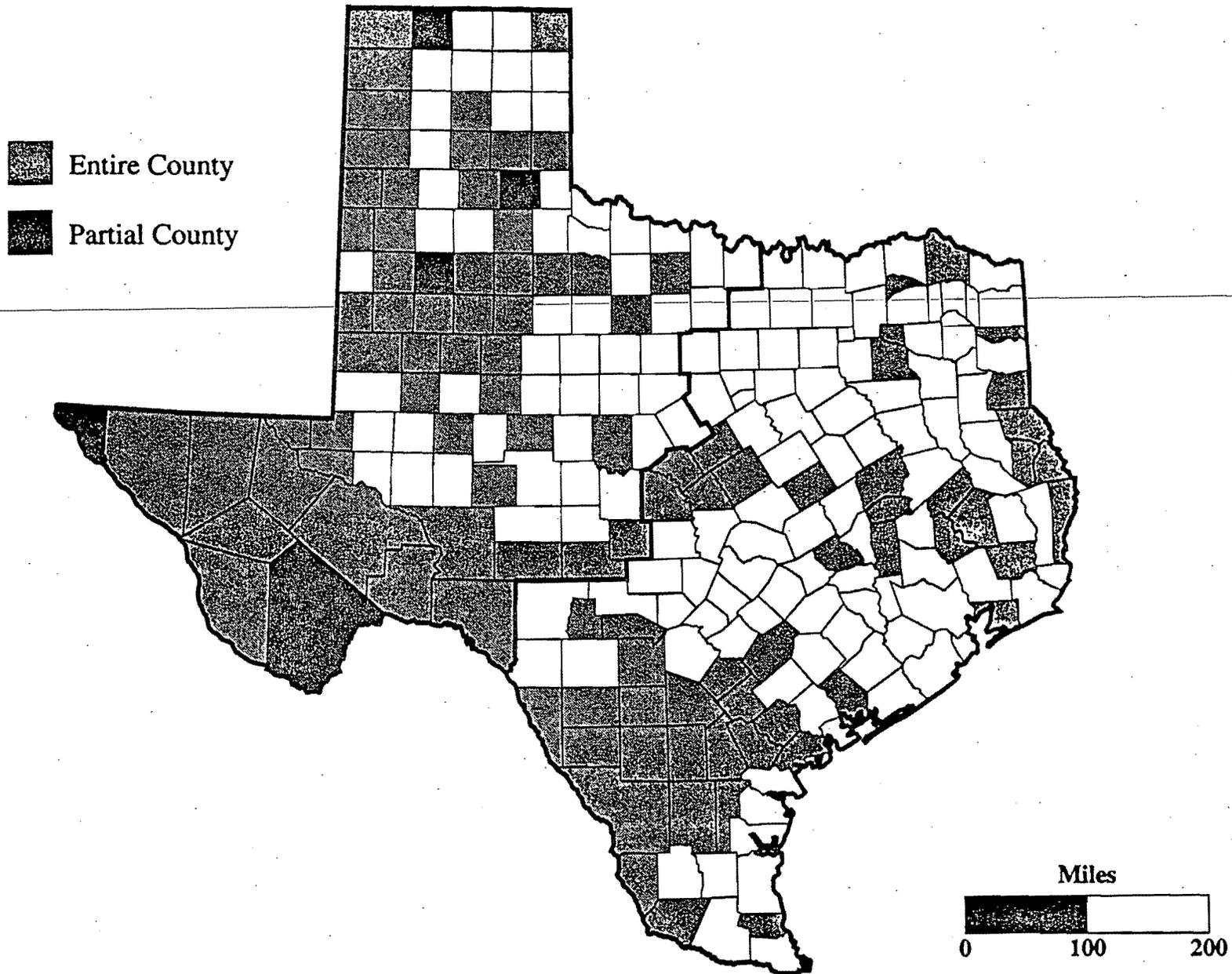
 6.1 to 6.9

 7.0 or more



# Primary Health Care Provider Shortage Areas By County

*As Of September 1991*



Source: Bureau of Health Care Delivery and Assistance, U.S. Department of Health and Human Services

# **Rural Physician-to-Patient Ratio Poses Challenges To Service Delivery In 108-County TTUHSC Region**

**1991 Direct Care Primary Care Physician-to-Patient Ratio**

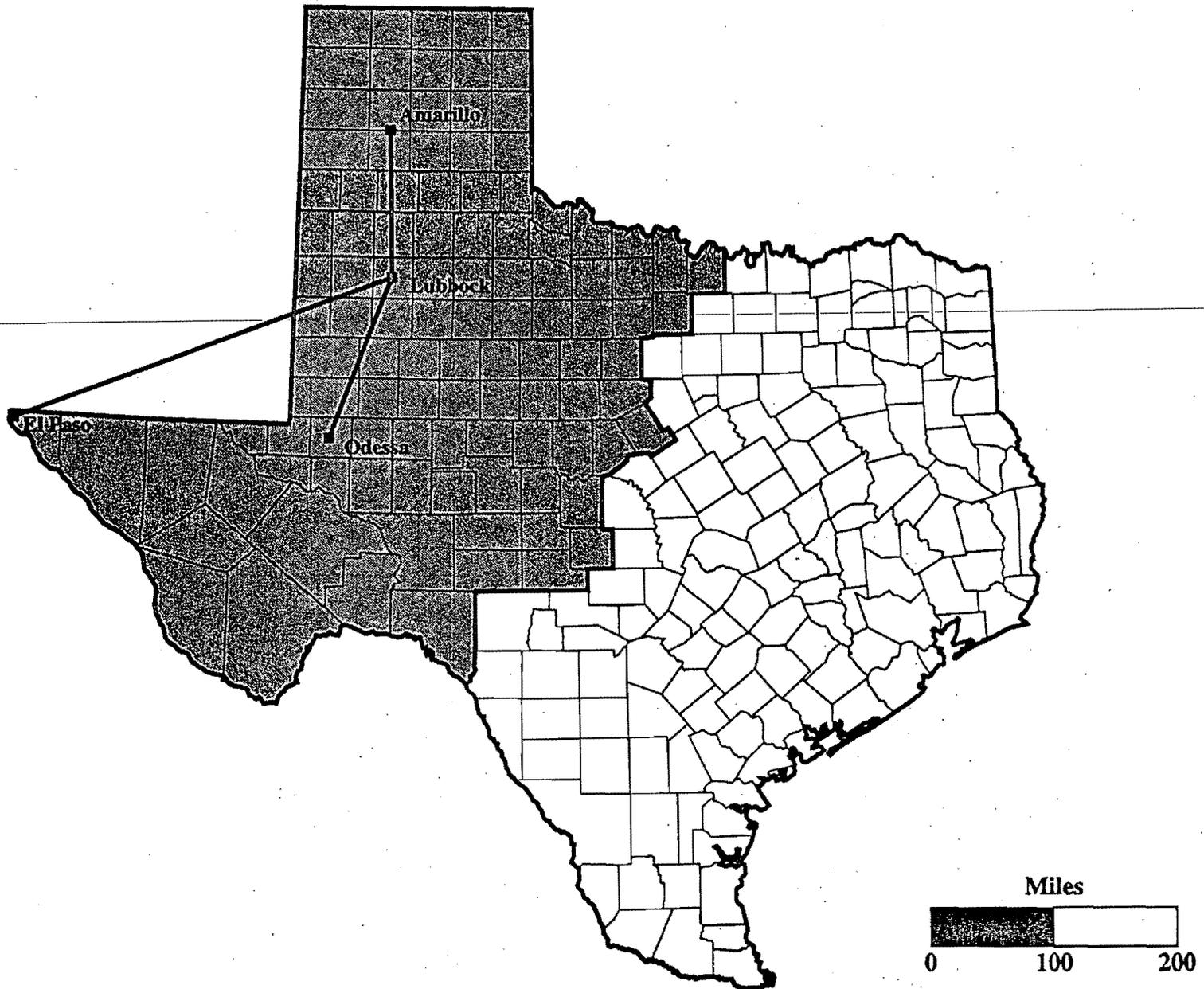
**1 : 2,472**

**1991 Total Physician-to-Patient Ratio**

**1 : 1,415**

**Telemedical and Distance Learning Strategies Help  
To Support Overburdened Doctors While  
Improving Care Quality**

# TechLink Teleconference Network With Four Regional TTUHSC Campuses



## **HealthNet Objectives**

- 1. To Improve Rural Patient Care**
- 2. To Link Rural Health Professionals With Their Colleagues At TTUHSC**
- 3. To Provide Meaningful Continuing Education And Technical Support To The Rural Professional**
- 4. To Explore Medical Cost-Containment Strategies**

## **HealthNet Objectives, Continued**

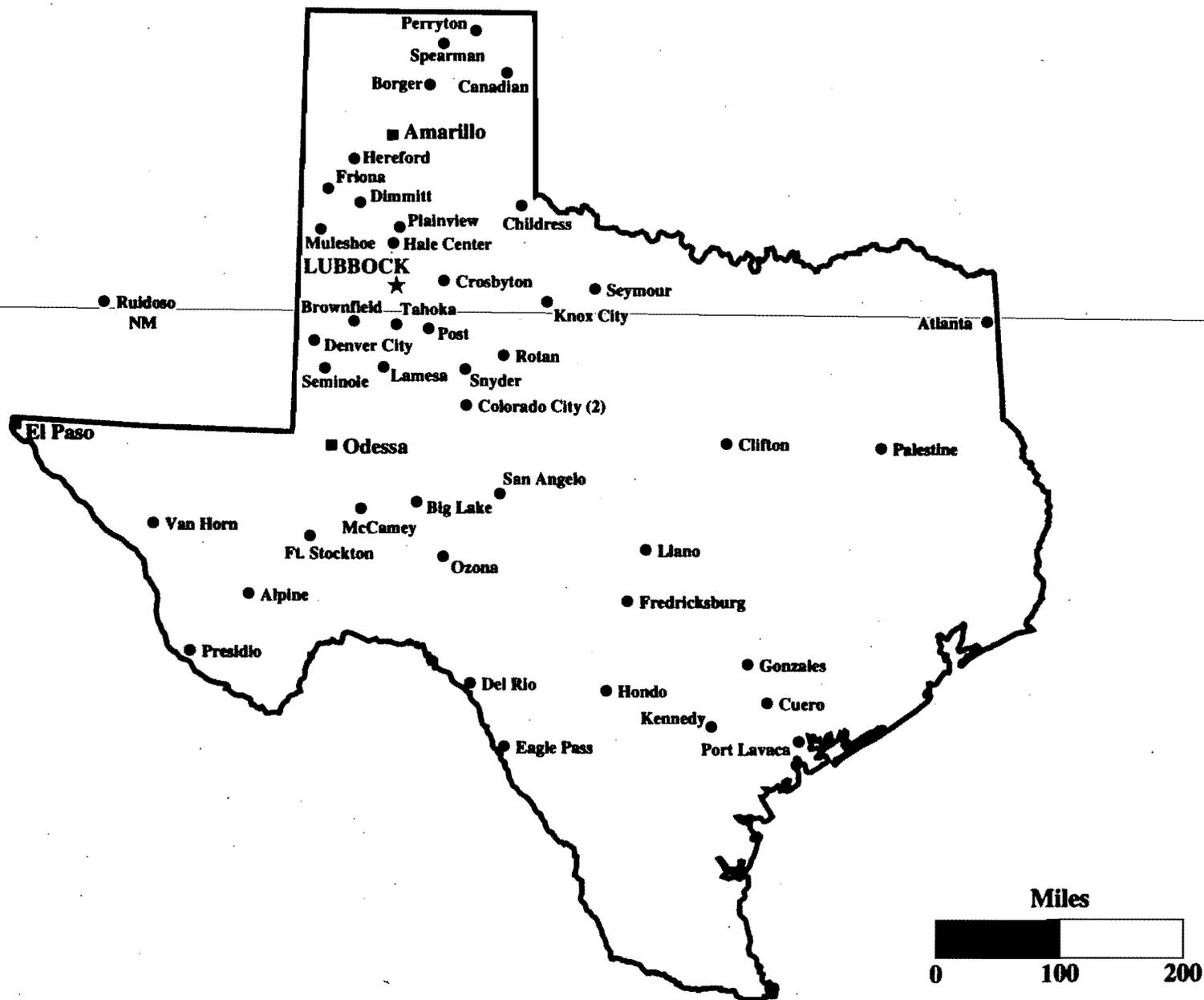
5. To Help End The Isolation Of Rural Practitioners
6. To Undergird The Rural Hospital And Clinic
7. To Support The Rural Community's Infrastructure

**We Are Already Seeing Results From  
Current Operations**

**Satellite**  
**Distance-Learning Strategies:**  
**The HealthNet Model**

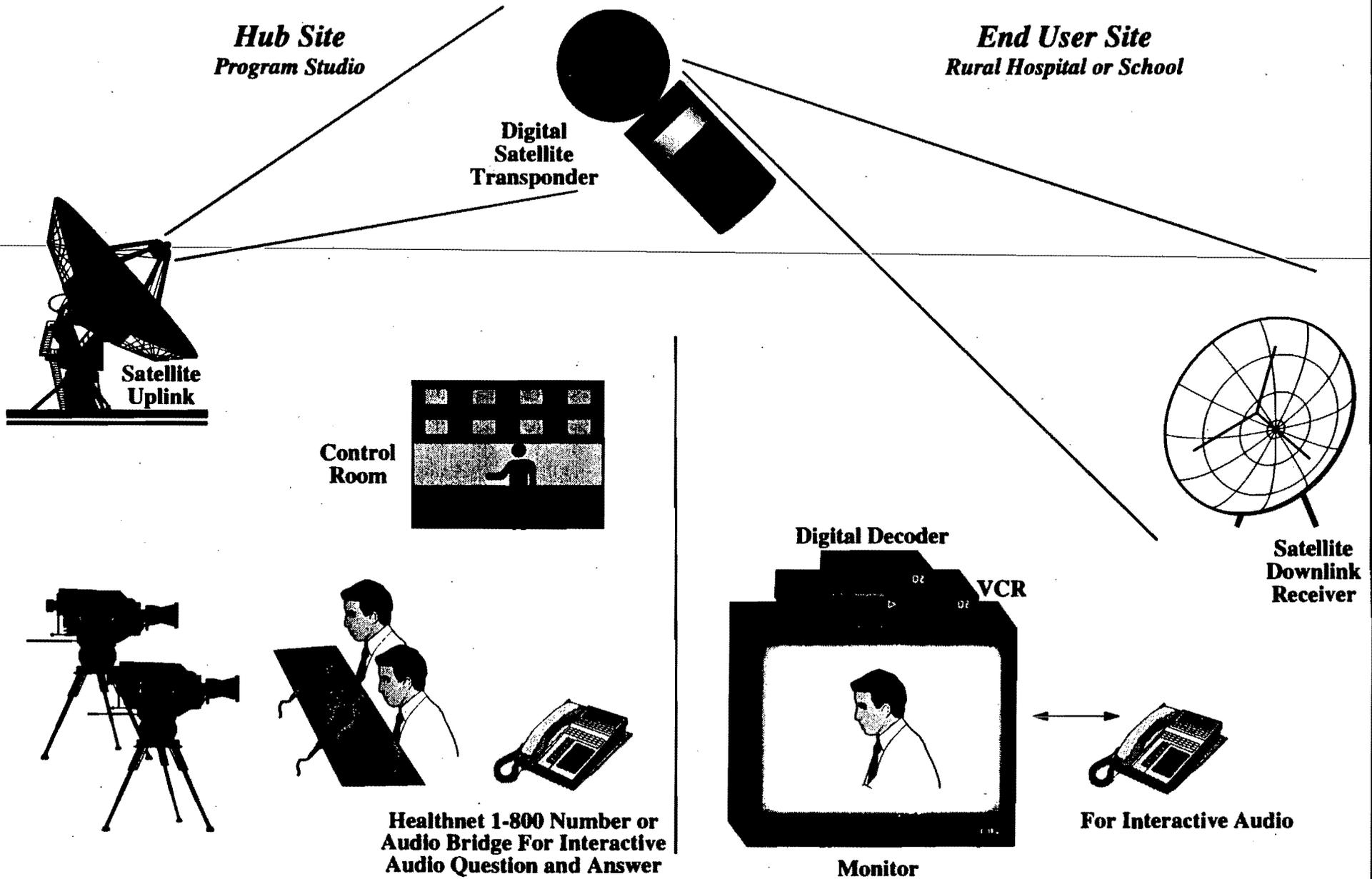
# Current Rural Health Satellite Distance Learning Network Sites

*Accredited Continuing Education Courses Beamed Via Satellite From TTUHSC*



# Healthnet's Distance Learning Rural Satellite Network

## Hub and End User Site Systems



# July '93 Rural Health Satellite Network

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				<b>NURSING</b> <b>"TV THERAPY: A WORKSHOP FOR LVN'S &amp; RN'S - Pt. 1"</b> Sharon Cooke, RN Prog. # 3383 NOTE: PROGRAM RUNS FROM 12 NOON TO 2 P.M. CT 1	<b>NURSING</b> <b>"TV THERAPY: A WORKSHOP FOR LVN'S &amp; RN'S - Pt. 2"</b> Sharon Cooke, RN Prog. # 3403 NOTE: PROGRAM RUNS FROM 12 NOON TO 2 P.M. CT 2	3
4	5	<b>RESPIRATORY THERAPY</b> <b>"UPDATE ON OXIMETRY"</b> Chris Rose, RRT, RPFT Dir. of Diagnostics, Res. Therapy Dept., St. Mary of the Plains Hospital Prog. # 1433 6	<b>PHYSICIANS</b> <b>"GENITOURINARY TRAUMA"</b> Jeff Jones, M.D. Asst. Prof., Dept. of Surgery TTUHSC Prog. #2483 7	<b>NURSING</b> <b>"DOCUMENTATION OF JCAHO STANDARDS FOR PATIENT &amp; FAMILY EDUCATION"</b> Pat Perryman, RN, BSN Staff Dev. Instr. - St. Mary of the Plains Hospital Prog. # 3413 8	9	10
11	<b>RHSN NEWS</b> with Karin McCay 10:00 a.m. Encore broadcasts 10:00 a.m. July 19th & 26th 12	<b>RADIOLOGICAL TECHNOLOGY</b> <b>"CT SCANNING"</b> Lori Jordan, R.T. Supervisor - CT & MRI Radiology Dept. - Methodist Hospital. Prog. # 1443 13	<b>PHYSICIANS</b> <b>"HODGKINS DISEASE"</b> Grant Taylor, M.D. Clin. Prof., Dept. of Int. Med., Div. of Oncology-Hematology TTUHSC Prog. # 2483 14	<b>NURSING</b> <b>"ARTERIAL BLOOD GASES"</b> Patay Anderson, RN, BSN Dir., Staff Dev. St. Mary of the Plains Hospital Prog. # 3423 15	16	17
18	19	<b>HOSPITAL-WIDE (ACCR. FOR SOCIAL WORKERS &amp; MD'S)</b> <b>"CHILD ABUSE &amp; NEGLECT-A TEAM APPROACH"</b> Rafael Garcia, M.D. & Panel Prog. # 1453 20	<b>PHYSICIANS</b> <b>"MULTIPLE SCLEROSIS"</b> Joe Green, M.D., Chmn., Neurology Dept., TTUHSC Prog. # 2503 21	<b>NURSING</b> <b>"TV SITE MAINTENANCE"</b> Pat Perryman, RN, BSN Staff Dev. Instr. - St. Mary of the Plains Hospital Prog. # 3433 22	23	24
25	<b>MEDICAL RECORDS/PATIENT ACCOUNTS</b> <b>"MEDICARE: RURAL HEALTH CLINIC - Pt. 1"</b> Prog. # 1463 26	<b>MEDICAL RECORDS &amp; PATIENT ACCOUNTS</b> <b>"MEDICARE: RURAL HEALTH CLINIC - Pt. 2"</b> Prog. # 1473 27	<b>PHYSICIANS</b> <b>"ECTOPIC PREGNANCY"</b> Melin Canez, M.D. Asst. Prof., Ob-Gyn TTUHSC Prog. # 2513 28	<b>NURSING</b> <b>"WOMEN &amp; HEART DISEASE"</b> Patay Anderson, RN, BSN Dir., Staff Dev. St. Mary of the Plains Hospital Prog. # 3443 29	30	31

**1** 12 noon Central

**NURSING**

**"TV THERAPY: A WORKSHOP FOR LVN'S & RN'S- PT. 1"**

Sharon Cooke, R.N.

Today we present the first portion of a workshop presented by the Continuing Education Department of South Plains College in association with TTUHSC HealthNet. The workshop was held on Saturday, June 26th here in the TTUHSC HealthNet classroom studio.

Part 2 will be presented tomorrow, July 2nd.

Program runs approx. 2 hrs.

**2** 12 noon Central

**NURSING**

**"TV THERAPY: A WORKSHOP FOR LVN'S & RN'S- PT. 2"**

Sharon Cooke, R.N.

Today we present the concluding portion of a workshop presented by the Continuing Education Department of South Plains College in association with TTUHSC HealthNet. The workshop was held on Saturday, June 26th here in the TTUHSC HealthNet classroom studio. Part 1 was presented yesterday, July 1st.

Program runs approx. 2 hrs.

**3** 12:30 p.m. Central

**RESPIRATORY THERAPY**

**"UPDATE ON OXIMETRY"**

Chris Rose, RRT, RPFT

Diagnostics Dir., Respiratory Therapy-

St. Mary of the Plains Hospital

Today's program is a result of requests from several sites. Chris will be discussing pulse oximetry, venous oximetry, and several more recent types of oximetry. He will also be comparing pulse oximetry with arterial blood gas interpretation.

**7** 12:30 p.m. Central

**PHYSICIANS**

**"GENITOURINARY TRAUMA"**

Jeff Jones, M.D.

Asst. Prof., Dept. of Surgery - TTUHSC

Dr. Jones will discuss the most common causes of genitourinary trauma and the surgical repair of several types of injuries which may be seen in a general practice setting.

**5** 12:30 p.m. Central

**NURSING**

**"DOCUMENTATION OF JCAHO STANDARDS FOR PATIENT & FAMILY EDUCATION"**

Pat Perryman, RN, BSN

Staff Development Instructor

St. Mary of the Plains Hospital

In response to a request from viewers, today's program will focus on the documentation necessary, according to JCAHO Standards, for patient and family education.

**12** 10:00 a.m. Central

**SPECIAL PROGRAMMING**

**"RHSN NEWS"** with Karin McCay

Today is the initial broadcast of the July edition of RHSN News. Encore broadcasts will be presented at this same time on July 19th & 26th.

**13** 12:30 p.m. Central

**RADIOLOGIC TECHNOLOGY**

**"CT SCANNING"**

Lori Jordan, R.T

Supervisor, CT & MRI

Radiology Dept.-Methodist Hospital

This topic has been requested a number of times this year. Ms. Jordan will provide an overview of the evolution of scanning technology, including uses and equipment, and provide helpful hints on improving the quality of scans for the technologist.

**14** 12:30 p.m. Central

**PHYSICIANS**

**"HODGKIN'S DISEASE"**

Grant Taylor, M.D.

Clin. Prof., Dept. of Int. Med.

Div. of Oncology-Hematology

Dr. Taylor will provide an update on the diagnosis, staging, and current treatment modalities for Hodgkin's Disease

**15** 12:30 p.m. Central

**NURSING**

**"ARTERIAL BLOOD GASES"**

Patsy Anderson, RN, BSN

Critical Care Educator

St. Mary of the Plains Hospital

Our program today will review the uses for and importance of arterial blood gases and provide a short course and review of interpretation for nurses.

**19** 12 noon Central

**ADMINISTRATORS**

**"IMPLEMENTING LEVEL IV TRAUMA CENTER GUIDELINES"**

Panel Discussion

There are many questions yet to be answered for hospitals that seek designation as a Level IV Trauma Center under the TDH guidelines. Our program today brings together representatives from local trauma advisory committees, TDH, and EMS to discuss some of the problems and challenges of meeting proposed guidelines.

**20** 12:30 p.m. Central

**HOSPITAL-WIDE (Accred. for Social Workers & Physicians)**

**"CHILD ABUSE AND NEGLECT - A MULTI-FACETED PROBLEM"**

Raphael Garcia, M.D., Dir., C.A.R.E.

Program -TTUHSC & Panel

Dr. Garcia will provide an overview of the problem of child abuse. Joining him in discussing several complicated cases are members of various agencies which may become involved in this difficult problem during the course of an investigation and/or follow-up.

**21** 12:30 p.m. Central

**PHYSICIANS**

**"MULTIPLE SCLEROSIS"**

Joseph Green, M.D.

Chmn., Neurology Dept. & Prof., TTUHSC

Dr. Green will provide an overview of pathophysiology of multiple sclerosis and an update on treatment, including several case presentations.

**22** 12:30 p.m. Central

**NURSING**

**"TV SITE MAINTENANCE"**

Pat Perryman, RN, BSN

Staff Development Instructor

St. Mary of the Plains Hospital

Today's program will cover the various types of IV access used by most nurses. The speaker will discuss cleaning and maintenance of the various types, including options to be used in special patient groups.

**26** 12 noon Central

**MEDICAL RECORDS/PATIENT AC: COUNTS**

**"MEDICARE: RURAL HEALTH CLINIC - Pt. 1"**

Medicare

Today we present a the first part of a workshop held on April 30, 1993 at Blue Cross-Blue Shield of Texas in Richardson, Texas. The 3-hr. workshop, covering billing and coverage criteria for Rural Health Clinics will be presented in 2 parts for ease of viewing. Part 2 will be broadcast tomorrow, July 27th.

Special guest speaker is Becky Peale-Sconce from HCFA to share HCFA's perspective on Rural Health Clinics. **NOTE: THE PROGRAM WILL BEGIN AT 12 noon and runs approx. 1 1/2 hrs.**

**27** 12 noon Central

**MEDICAL RECORDS/PATIENT AC: COUNTS**

**"MEDICARE: RURAL HEALTH CLINIC - Pt. 2"**

Medicare

See description for Pt. 1 above. **NOTE: THE PROGRAM WILL BEGIN AT 12 noon and runs approx. 1 1/2 hrs.**

**28** 12:30 p.m. Central

**PHYSICIANS**

**"ECTOPIC PREGNANCY"**

Melin Cabez, M.D.

Asst. Prof., Ob-Gyn - TTUHSC

Today's program discusses the diagnosis and management of ectopic pregnancy by the physician in general practice.

**29** 12:30 p.m. Central

**NURSING**

**"Women & Heart Disease"**

Patsy Anderson, RN, BSN

Critical Care Educator

St. Mary of the Plains Hospital

Much of the research on cardiovascular disease has been focused on men, who have a higher incidence in younger age groups. More recent studies indicate that women have been overlooked, and, may, in fact, have a higher mortality from acute MI because their symptoms may not have been recognized by physicians as indicative of heart disease. Today's program looks at this phenomenon and what we know today about women and heart disease.

## **Benefits Of HealthNet's Satellite Distance-Learning Program - Survey Findings**

- Program Reduced Risk Management Incidents
- Positive Changes In Quality Assurance Achieved
- Additional Tests And Procedures Avoided (60% Physicians)
- Patient Mortality Avoided (45% Physicians)

## **Benefits Of HealthNet's Satellite Distance-Learning Program, Continued**

- **Program Information Used At Least Once A Week**
- **Patient Management Changed (81% Physicians)**
- **Reduced Hospital/Professional Costs For Education**
- **Reduced Sense Of Professional Isolation**

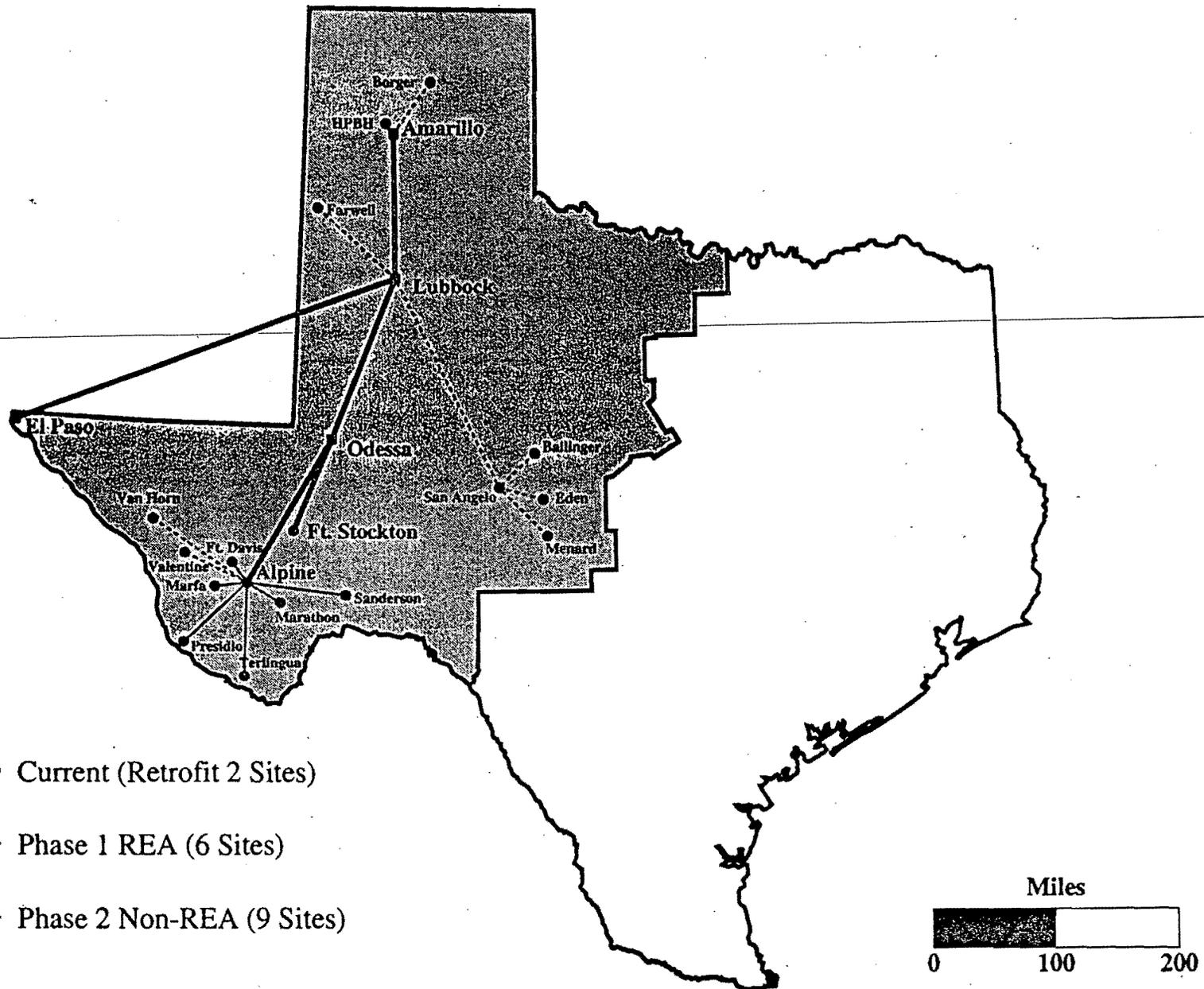
**“I Can See How Eventually Having A  
Satellite Dish And Being Part Of A  
Medical Network Will Be Viewed As A  
Fundamental Part Of A Rural Hospital  
– Like Having Access To An Ambulance  
Service Or An X-Ray Machine . . .”**

**–EMS Technician, 1993**

**Interactive  
Telemedical Strategies:  
The HealthNet Model**

# Telemedicine Network - Current and Proposed

## *T1 Land Lines for Interactive Video Medical Consultation System*

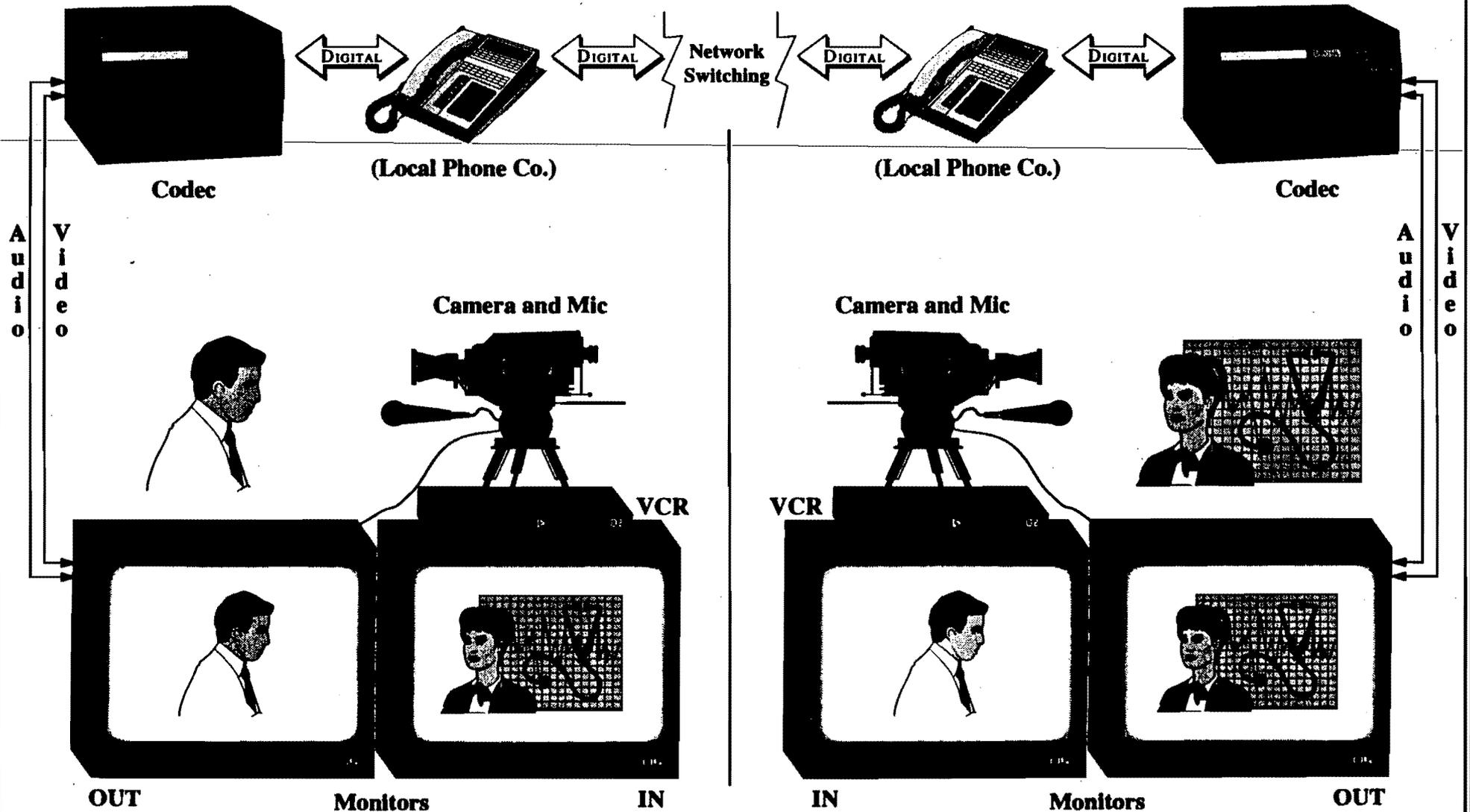


# Equipment Needed For Interactive Medical Link Consultation

## Host and End User Site Systems

**Host Site (Medical Specialist)**  
*Interview / Conference Room*

**End User Site (Rural Provider and Patient)**  
*Examination / Emergency Room*



**Thus Far, Consults With Two Sites  
Have Been Conducted From 1990-1993**

- Big Bend Regional Medical Center, Alpine, Tx
- Clements Unit, Texas Department Of Criminal Justice, Amarillo, Tx

**The Alpine-TTUHSC Link Has Utilized Over  
251 Successful Interactive Consultations**

## **Nature Of Initial Alpine, Tx Consults With TTUHSC HealthNet**

- 1. Physicians Used System Frequently, And Liked It**
- 2. Consults Covered 20 Specialties And 58 Specialists**
- 3. Most Frequent Consults:**
  - Dermatology**
  - Orthopedics**
  - Pediatrics**
  - Endocrinology**
  - Obstetrics**
  - Oncology**

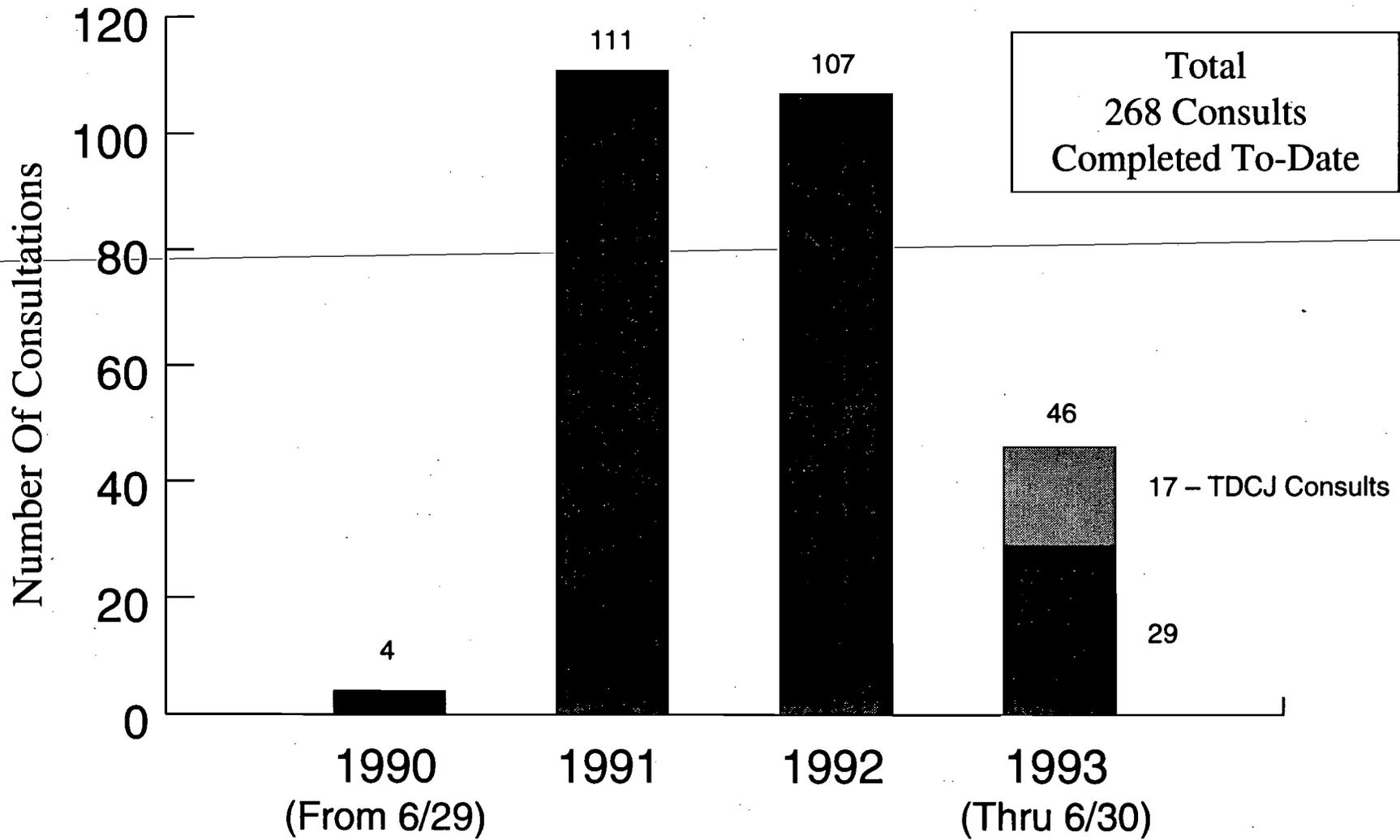
## **Alpine, Tx Consults, Continued**

4. Patient Age: 2 Hours To 93 Years
5. Critical Care And Trauma Frequent
6. Patients And Family Actively Participate

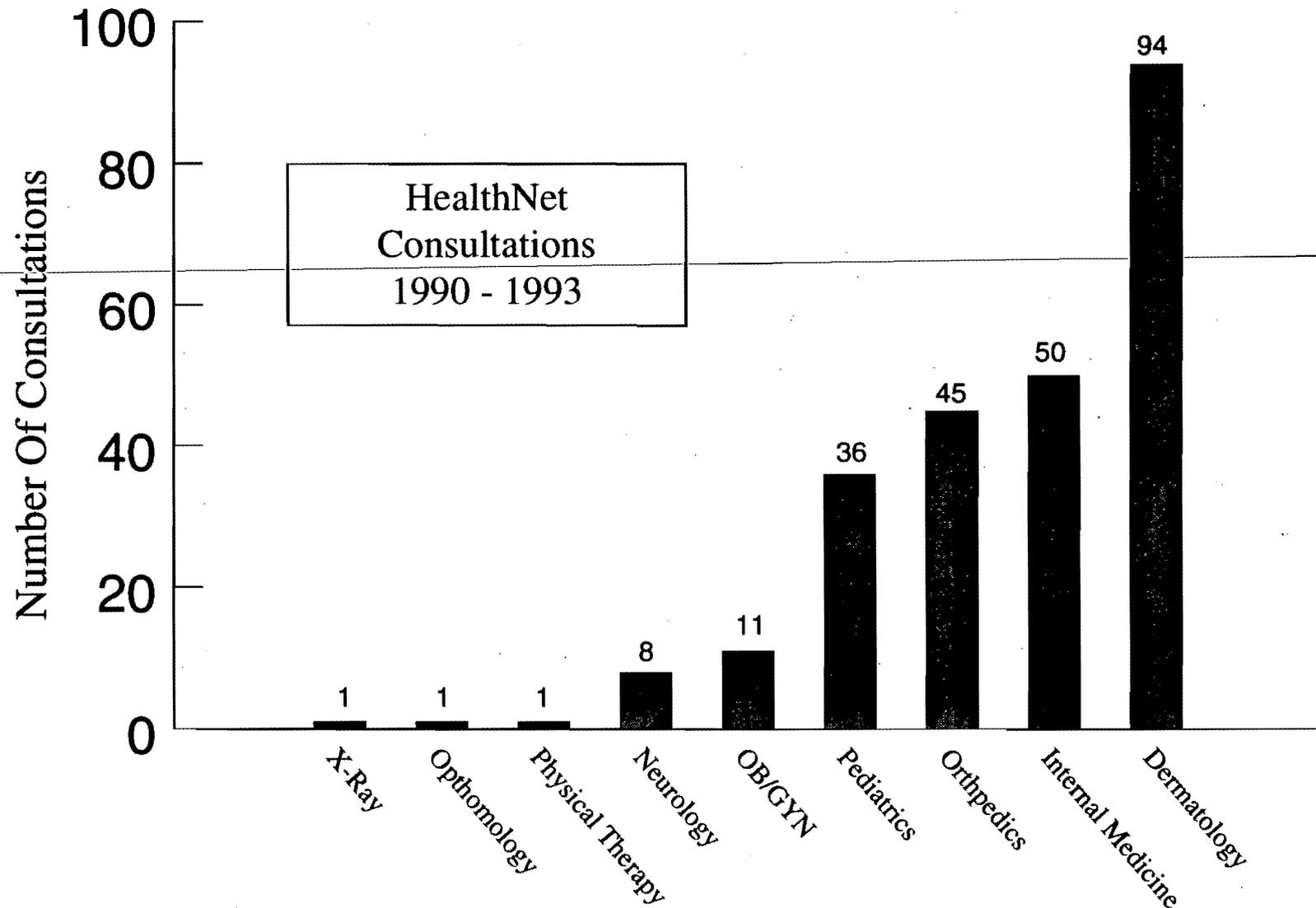
**The TTUHSC-Alpine Collaboration Has  
Been One Of The Most Successful In The  
United States-And The World.**

**Two-Way Interactive Telemedicine  
Is No Longer  
Just A Smart Idea . . .**

# HealthNet's Interactive Video Telemedical Consultations Past Experimental Stage - Now Routine Practice



# Telemedical Consultations Are Being Utilized By Many Medical Specialties To Improve Patient Diagnosis and Care

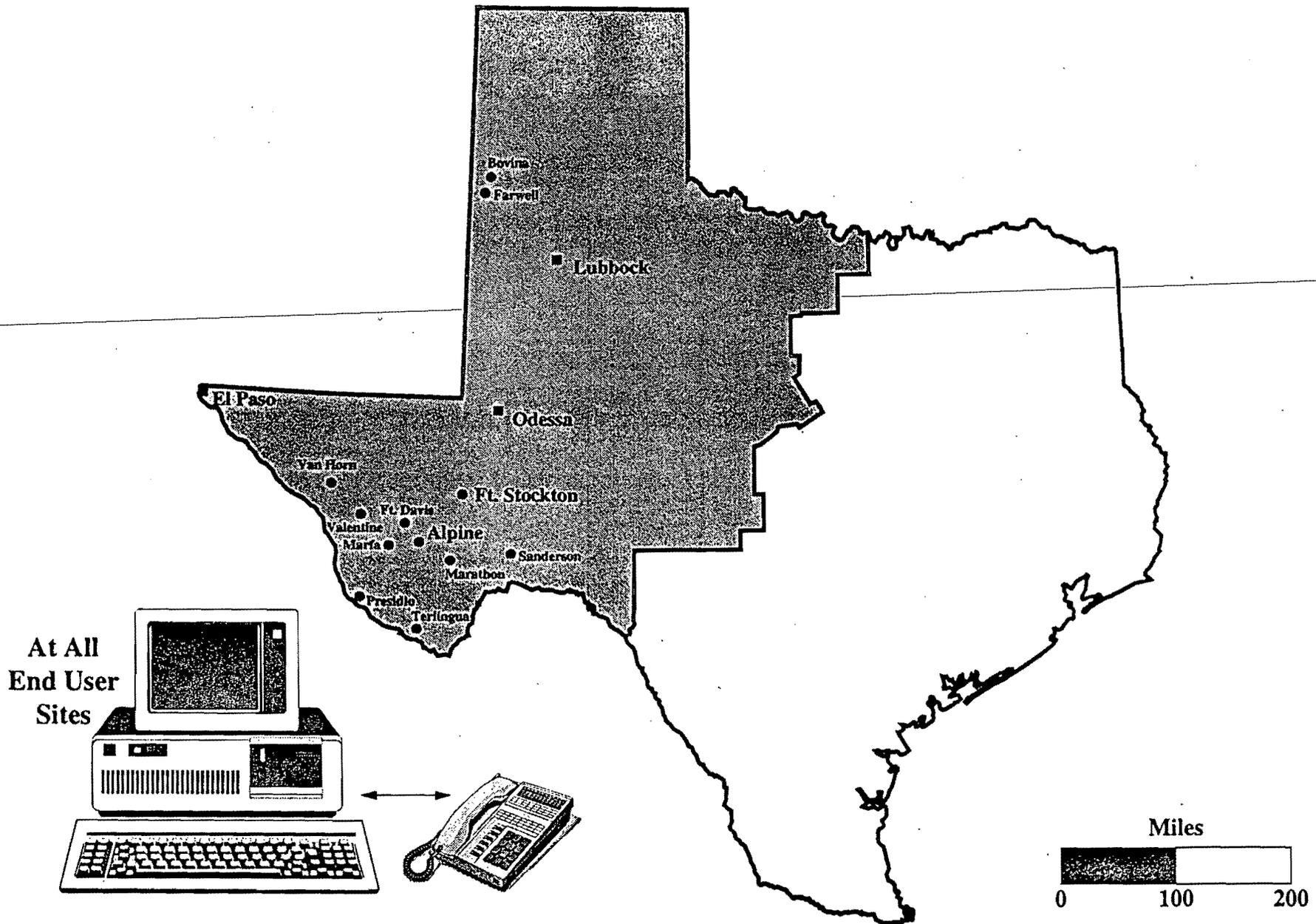


Note: Figures do not include 1993 TDCJ consults, and represent the period from 6/29/90 through 6/30/93.

Source: TTUHSC HealthNet

# Computer Network Planned To Support Telemedicine System

*Electronic Patient Record at Rural Site Supports Interactive Consultations*



## **Consultations Are Rural Practitioner-Driven**

- **Conducted On As-Needed Basis**
- **Requested By Rural Physician**
- **Non-Disruptive To Referral Patterns**
- **Multiple Specialists Can Be Accessed At Single Hub Site**
- **Patient And Family Can Play Important Role**

# **Some Conclusions From The Successful TTUHSC HealthNet-Alpine Experience**

- 1. Consults Frequently Enabled Care To Remain Local And Avoided Unnecessary And Costly Transfers (\$1,000 Per Patient For 11 Cases In 1990-1992)**
- 2. Consults Have Saved Lives, Or Ruled Out Life-Threatening Findings Or Injuries**
- 3. Consults Could Successfully Support Procedures And Even Urgent Surgeries**
- 4. Consults Increased Knowledge And Enhanced Skills Of Rural Primary Care Physicians And Practitioners**
- 5. Consults Resulted In Increased Patient Volume For Rural Hospital And Retained Revenue Which Would Have Been Lost Otherwise**

## **Further Conclusions From The HealthNet-Alpine Experience**

6. **Content Of Consults Very Rich And Produced High Levels Of Consensus On Diagnosis, Treatment And Management**
7. **Dramatically Improved Communication Between Patient, Primary Care Physician, Family And Specialist**
8. **Real Enhancement Of Rural Physician Confidence And Reduced Sense Of Isolation**
9. **Enhanced Confidence Of Patient/Family In Rural Practitioners**
10. **Close Agreement On Usefulness Of Consults Among Parties**

**Everyone Benefits - No Losers**

# **Who Are The Beneficiaries Of Interactive Telemedicine?**

## **Primary**

- Rural Patient
- Rural Practitioner
- Rural Family
- Practitioner's Staff
- Rural Hospital Or Clinic

## **Secondary**

- Rural Community
- Health Care System
- Medical Insurers
- Medical Students Considering A Rural Practice
- Taxpayer, Rural And Urban
- Republicans And Democrats

**The Effective Application Of  
Rural Telemedical Strategies  
Creates Win - Win Solutions To  
Some Of The Most Difficult  
Rural Health Care Delivery  
Challenges . . .**

**“In The Very Near Future, Interactive  
Telemedicine Will Be As Important To  
The Rural Practitioner As The Invention  
Of The Stethoscope – And Three Times  
As Beneficial . . .”**

**–Health Care Professional  
West Texas, 1993**

## **Two Major Facts Are Evident:**

**Fact 1- Telemedicine Successfully Uses Existing Technologies To Provide Consultative Support And Clinical Services Otherwise Unavailable Without Costly Patient Transfer.**

**Fact 2 - The Family Of Technologies Required For Telemedicine Are Still Rapidly Evolving – And Techniques Will Get Better, Resulting In Continual Quality Improvement In Rural Patient Care.**

# **Major Obstacles Pose Challenges To The Effective Development Of Rural Interactive Telemedicine**

1. Access To T-1 And Sub-T-1 Transmission Systems Is Limited Or Absent In Much Of Rural Texas
2. Existing Tariff Regulations (PUC) Based On Pre-Telemedicine Experience Are Overly Burdensome And Pose Disincentives To A Rural Hospital
3. Physician Interactive Video Consultations Are Not Yet Reimbursed Although Valuable Services Are Provided And Positive Outcomes Achieved
4. New and Would-Be Rural Doctors Remain Wary Of Practicing In Isolation Without Benefit Of These Tools – And Production Of Rural Primary Care Physicians Still Lags Behind Demand

# **TTUHSC HealthNet's Strategic Approach**

**Can Help Provide A Bridge Between  
Current Health Care Delivery Obstacles  
And The Goal Of Universal Access  
To High Quality Health Care**

**Rural Care Lags Significantly Behind Urban  
Care In Almost Every Measure**

# **Meaningful Health Care Reform For Rural America Means:**

- Developing Effective Strategies To Grow More Rural Primary Care Physicians
- Supporting Rural Practitioners Already There With Helpful, Cost-Effective Technology
- Incentivizing The Use Of Interactive Telemedical Strategies To Improve Patient Care While Containing Costs
- Reforming Tariff Regulations And Reimbursement Guidelines To Reflect Current And Inevitable Future Health Care Practices

**There Are Solutions To  
Health Care Delivery Problems . . .**

**If We Are Both Wise And Bold**

**We're HealthNet –**

***Using Technology To Help People***

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**Texas Tech University Health Sciences Center  
Lubbock, Texas**

# Medical Tribune



THE PHYSICIAN'S NEWSPAPER

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Thursday, September 5, 1991

## Rural doctors consult via television

By Tom Abate

A two-way television link between a rural West Texas hospital and a large university center hundreds of miles away is allowing family doctors to get instant patient consults from specialists.

James Luecke, M.D., a family practitioner at Big Bend Hospital in Alpine, Texas, has used the link for consultations on bone, cardiac and endocrine problems.

With five family practitioners and no specialists on staff, Big Bend Hospital has greatly benefitted from the hookup with Texas Tech University Health Sciences center in Lubbock, which is 220 miles away, Dr. Luecke said.

"I really think this is the wave of the future," said Dr. Luecke, who practices in the town of 6,000 people.

Nine-month-old Aida Porras is thriving today because the two-way television link let Dr. Luecke show the girl's chest x-ray to a neonatologist at Texas Tech. Big Bend had just started using the TV transmission when hospital

See back of section, page 8



A sophisticated television link allows Dr. Hartman in Lubbock, Texas, to direct a colleague 250 miles away in removing a melanoma from a patient's finger.

## Television system links rural MDs to large centers for patient consults

Continued from page 1

staff encountered Aida, born with meconium aspiration.

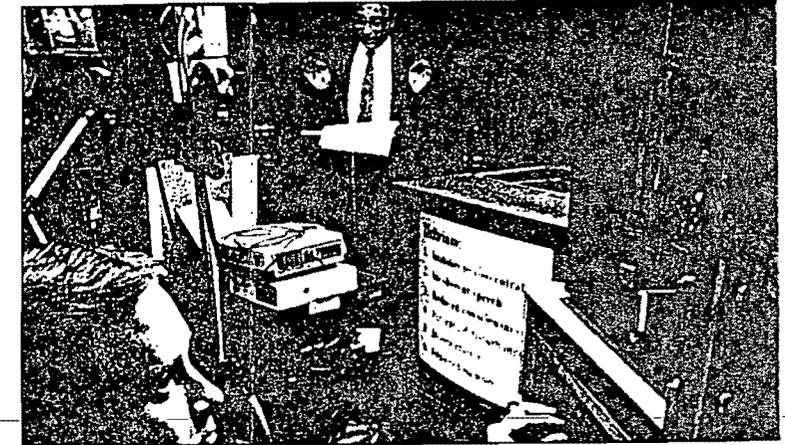
Dr. Luecke asked to consult with a neonatologist and Marian Myers, M.D. appeared on the screen. "She was able to look at that x-ray and tell right away what it was," Dr. Luecke said.

Dr. Myers recommended that Aida be given intravenous sodium bicarbonate and oxygen therapy.

Soon the child was strong enough to make the three-hour ambulance ride to the nearest neonatal intensive-care unit.

Another hospital in Fort Stockton, Texas, has just been hooked up to Texas Tech via two-way television, Dr. Luecke said.

The two-way television hookup evolved from an earlier project called MEDNET, which provided one-way satellite broadcasts of



A Texas Tech psychiatrist offers expertise for use by rural physicians.

medical education programs to 27 hospitals in rural West Texas.

The success of that program convinced Texas Tech that rural doctors were ready for a more ambitious experiment in two-way television.

"We have demonstrated it spades the life-saving capabilities of the system and the usefulness of long-distance consultation," said Darryl Williams, M.D., dean of the Texas Tech School of Medicine.

"The program is designed to speak very easily to rural hospital anywhere," said associate dean Jay Wheeler, M.D.

A \$4 million state and federal grant funded the program, said J. Ted Hartman, M.D., director of MEDNET at Texas Tech. "Rural hospitals could not have afforded to develop these services on their own."

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SWBT's network a life saver...

# Rx for rural healthcare

By Jeff Dunlap

The newborn baby's high-pitched wheeze worried Dr. James Luecke. The one-hour-old infant was in severe respiratory distress. Luecke, a family practitioner at Big Bend Regional Hospital in rural Alpine, Texas, needed help. Fast.

Luecke asked physicians at Texas Tech University Health Sciences Center in Lubbock, 280 miles away, if a neonatologist could look at the baby's x-ray and offer diagnostic advice. He spoke through a full-motion video-audio link made possible by advanced digital telecommunications technology.

Within minutes, Dr. Marian Myers of Lubbock joined Luecke via the interactive, two-way connection. Each saw and heard one another as if together in Alpine. Quickly, they reviewed the newborn's x-rays and lab work, which showed a life-threatening situation. Myers diagnosed the infant's problem as acute acidosis, a pathologically high acidity of the blood. She prescribed proper emergency treatment, which Luecke administered.

Within two hours, the baby's condition was stable.

That life-saving incident occurred June 29, 1990, the first day that interactive full-motion video consultations were conducted via Texas Tech MEDNET, an innovative Texas Tech project to demonstrate the advantages of long-distance telecommunication links to rural hospitals and practitioners.

Originally funded by \$4 million in grants from the U.S. Department of Health and Human Services, Texas Tech's School of Medicine and other sources, MEDNET's high-resolution video systems enable physicians in Alpine and remote Fort Stockton to consult with orthopedists, oncologists, surgeons and other specialists in Lubbock and Odessa. Hundreds of consultations, involving melanoma, snakebite, ectopic pregnancy, bone fractures, amputation and other situations, have been achieved



through MEDNET since the project began.

According to physicians involved, these consultations in many cases have helped quicken diagnoses, reduced healthcare costs and saved lives. In every case, they have helped reduce isolation of rural doctors and patients.

As Luecke says in his soft, Texas drawl

**Dr. James Luecke:**  
advanced digital  
telecommunications  
helps cure a baby's  
respiratory distress.

"Down here in Alpine, we do a little bit of everything—fix up car wreck victims, deliver babies, cut out appendixes and take care of heart attack victims. We handle whatever comes through the door. I do the best I can with somebody who's had their thumb ripped off in a roping accident. But, it sure is nice to have a hand surgeon up there in Lubbock to consult with for irregular injuries."

MEDNET is the biggest, most comprehensive telemedicine project of its kind. In addition to interactive consultations, which are switched through digital T-1 circuits managed by Southwestern Bell Telephone, MEDNET utilizes satellite uplink and telecommunications technology to conduct thrice-weekly continuing medical education programs for healthcare professionals at 45 hospitals and clinics. This enables physicians, nurses and others to complete state-required coursework and update their certification without traveling.

Also, doctors in 19 hospitals use MEDNET's telefax network to transmit fetal monitoring images and other medical data. According to Texas Tech, in more than 90 percent of the image transfer cases to date, physicians have been able to spot abnormalities that could be resolved by phone consultation. This has reduced the number of patients that otherwise would be moved to specialized care centers.

Not surprisingly, MEDNET is a model for a growing number of healthcare entities in Florida, Georgia, Missouri, West Virginia and other states.

Derived from the Greek "tele," meaning at a distance, and the Latin "mederi," for healing, telemedicine is one of the most useful new developments in healthcare, doctors and hospital administrators say. The digital telecommunications technology that supports interactive video consultation also enables transmission of x-rays, pathological images, color pictures of slides and specimens, echo- and electrocardiograms, and other data that can help consulting physicians make prompt patient care decisions.

Indeed, some physicians say that telemedicine may be the most effective means of improving healthcare access and helping to reduce medical costs for rural patients. Also, telemedicine provides a much-needed life support system for rural hospitals, which are closing at alarming rates nationwide.

Dr. E. Jay Wheeler, associate dean for strategic planning and program development at Texas Tech Health Sciences Center, explains why.

"Physician manpower is extremely taxed in rural areas, not just in Texas but across the country. Many small towns are suffering from economic woes and declining populations, particularly of young people who move to big cities and leave behind disproportionate populations of older people. As a result, rural hospitals

are faced with a declining reimbursement base and have difficulty attracting and maintaining physicians. Many rural hospitals are struggling for survival or have closed.

"Primary care in remote regions is especially strapped," Wheeler continues. "For example, about 50 percent of the 254 counties in Texas are designated 'federal manpower shortage counties,' meaning they have fewer than one physician for every 5,000 people. ►

**Dr. E. Jay Wheeler: modern telecommunications helps extend medical services to rural areas.**



Photography by Stewart Halperin



Photography by Sirwan Haljatin

"This is compounded by the fact that many small town hospitals and clinics are located hundreds of miles from tertiary care centers, so patients with serious problems must be transferred, often at major expense, over long distances to receive proper care.

"With MEDNET, our priority has been to demonstrate that interactive telecommunications technology can help support rural hospitals and reduce isolation for physicians and patients. We believe MEDNET has been successful in providing a very enriching type of assistance to rural communities."

Dr. J. Theodore "Ted" Hartman, former dean of Texas Tech's School of Medicine, is MEDNET's executive director.

"It's difficult for people who are unfamiliar with Texas to realize the enormous distances we deal with," Hartman says. "The primary care hospital in Alpine, for instance, is 160 miles from the nearest tertiary care center in Odessa, and almost 500 miles from Lubbock. By itself, the southwest Texas region spans 18,000 (square)

miles and has 18,000 people.

"MEDNET has meant a great deal to the people who live in the regions we are able to serve," says Hartman, adding "Dr. Wheeler and I look at telemedicine like highways were 50 years ago, when they first came to rural areas and begin to link little towns. I think that's what this whole telemedicine concept is about. It's a way to help rural areas be more self-sufficient by providing access to specialized services."

Also, telemedicine can help preserve the reimbursement base for rural hospitals, Hartman adds. That's because it often enables consulting physicians to help rural doctors manage care locally, instead of transferring patients to another hospital hundreds of miles away.

In this regard, telemedicine is considered a viable means of reducing health-care delivery cost. A comparative analysis of 11 patient procedures, including physician fees, hospital room charges, patient travel and other costs, shows total savings of \$16,000, an average of \$1,500 per patient, achieved through MEDNET con-

**Dr. Ted Hartman: MedNet is a way to help rural areas be more self-sufficient in health services.**

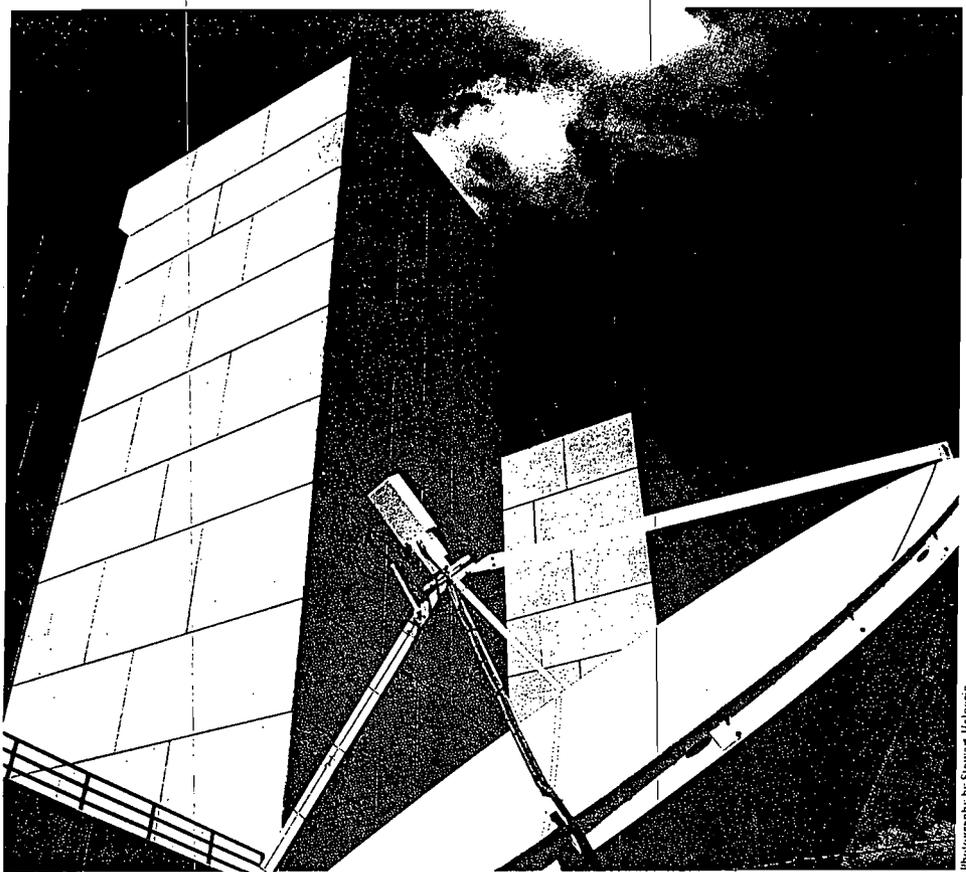
sultations which eliminated the need to transfer patients and incur additional expenses, Hartman says.

Better quality of rural patient care is another benefit that telemedicine can help achieve. Alpine's Luecke, who consults with specialists in Lubbock and Odessa via MEDNET at least twice weekly, says, "Without a doubt, the long-distance network increases the quality of healthcare. With the specialists' help, you can make a decision sooner to change a patient's course or decide to transfer (the patient) sooner. In the long run, this increases savings because, in many cases, it results in less hospital time."

Patients are not uncomfortable with two-way video examinations, Luecke says.

Space age technology helps connect hospitals to the Texas Tech University's Health Sciences Center:

Texas Tech University Health Sciences Center  
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Office: (806) 743-1872  
Fax: (806) 743-2233



Photography by Stewart Halperin

In fact, they welcome it.  
"They're so happy that they don't have to travel, but can get their family doctor here and a doctor up in Odessa or Lubbock discussing the case. The patients feel like, 'Hey, my doctor here is telling them the whole story and I've got the head guru up there taking a look at it.' My experience has been that the patients are quite pleased," Luecke says.

Steve Grappe, MEDNET's director of administration and finance, points out that the quality of video images transmitted through digital T-1 telephone lines has dramatically improved in recent years and the cost of telemedical equipment has

declined substantially.  
"Interactive video brings all of the key individuals into the equation of patient care," Grappe says. "It brings a whole new dimension to healthcare and it seems like everybody's a winner."  
"Things are going to be done differently in medicine as a result. There's so much good that can be derived from the concept and it's one of those things that, as more people get involved, (regulatory issues) will come up for change. I really think it's just a matter of time before they will."

In the meantime, MEDNET hopes to extend an interactive link from Texas Tech's Health Sciences Center in Lubbock 400 miles south to Presidio, a small town on the U.S.-Mexico border, to enhance services offered by a local clinic. Hartman also hopes to establish a second digital MEDNET link to Odessa, "because we need it."

Is telemedicine a growing trend? "I certainly hope so," says Hartman. "It is one of very few ways we have to provide access to quality healthcare for many people who live in remote areas."

"And, it's not just a Texas issue. It is a nationwide issue." ■