Improving Access to Quality Medical Care Webinar Series

Presented by

Southwest Telehealth Resource Center
and the Northwest Telehealth
Regional Telehealth Resource Center

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Welcome

SWTRC region - AZ, UT, CO, NM & NV

NRTRC region – WA, OR, ID, MT, UT, WY, AK

Fellow HRSA Telehealth Resource Centers

All other participants from the US & abroad

The **Northwest Regional Telehealth Resource Center** & the **Southwest Telehealth Resource Center** welcome you to this free webinar on the implementation & practice of telemedicine. The practice & delivery of healthcare is changing, with an emphasis on **improving quality, safety, efficiency, & access to care**.

Telemedicine can help you achieve these goals!

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Webinar Tips & Notes

- Mute your phone &/or computer microphone
- Time is reserved at the end for Q&A
- Please fill out the post-webinar survey
- Webinar is being recorded
- Recordings will be posted on the SWTRC website

http://www.southwesttrc.org

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"Building Successful Telemedicine, Telehealth, and mHealth Programs: Opportunities and Barriers"

Ronald S. Weinstein, MD

Director, Arizona Telemedicine Program

PI, Southwest Telehealth Resource Center

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Disclosure

Start-up company (1984): "OWLCAT Educational Software"
(for IBM PC-computers)

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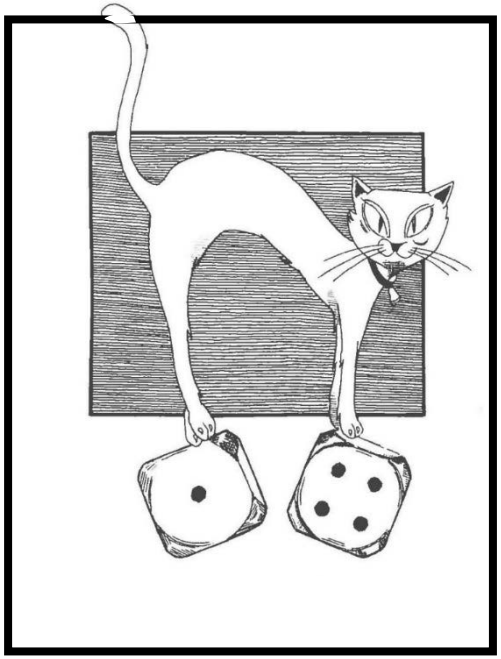

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Western Governor's Association Telemedicine Action Report 1995 - Barriers

- Infrastructure Planning & Development
- Telecommunications Regulation
- Reimbursement for Telemedicine Services
- Licensure & Credentialing
- Medical Malpractice Liability
- Confidentiality

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Leadership

ARIZONA Telemedicine

TeleHealth.....mHealth.....Connected Health

It's been a great 20 years.

It was back in 1993 that Bob Burns – then a State Representative, now a Commissioner with the Arizona Corporation Commission - presented his immodest proposal to Jim Dalen, MD, Vice President for Health Sciences and Dean of the College of Medicine at the University of Arizona.

Burns' idea was to create a pilot telemedicine program, to try to expand health care options for people in rural Arizona. Dalen's response was an emphatic "Yes!" Ronald S. Weinstein, MD, was then head of the Department of Pathology, and already working in telepathology, a branch of telemedicine. When Dalen asked Weinstein if he would head up the project, the response was equally affirmative.

The Arizona Legislature provided the funds to start the Arizona Telemedicine Program (ATP) three years later, and has funded it every year since.

ATP went live in 1996 from its home base at the University of Arizona, via telecommunications links with the Mariposa Community Health Center in Nogales, Arizona, and the state Department of Corrections prison in Yuma.

Since then, the program has grown exponentially and stimulated the growth of many affiliated programs in Arizona. ATP's broadband network now connects to 160 sites in more than 70 Arizona communities. Number of cases handled: more than 1 million.

Now a patient in a remote community can benefit from immediate access to highly trained specialists who can diagnose the patient's cardiac or skin condition or stroke as rapidly – and as accurately – as if the patient and specialist were in the same room.

This report will give you a look at some of Arizona's outstanding telemedicine programs. For example:

- A tele-echocardiography system in Yuma Regional Medical Center's neonatal ICU, enabling rapid diagnosis of critical cardiac conditions in newborns. *(Page 4)*
- A nationally recognized distance-learning program for physicians, nurses and other health professionals. *(Page 12)*
- Flagstaff Medical Center's long-distance monitoring program for patients with congestive heart failure – including patients without electricity in their homes *(Page 20)*.
- A teleophthalmology program for Native Americans that provides early detection and treatment for diabetic retinopathy, reducing medical costs for people who lose their sight *(Page 22)*.
- The telestroke program started by the Mayo Clinic – Scottsdale and the Arizona Department of Health Services, which has equalized stroke care at small rural and larger urban hospitals *(Page 26)*.
- The Banner Health electronic Intensive Care Unit, which links a two-way audio/video monitoring system in every ICU patient room to a remote team of nurses and doctors who back up the ICU staff. *(Page 28)*.

So many new ideas have been put into practice over the last 20 years, it amazes all of us who have been with the program since the early days.

The results have been all that we – and the Legislature – hoped for.

Governor Jan Brewer summed it up nicely on May 23, 2013, when she signed Senate Bill 1353, the Telemedicine Reimbursement Parity Act, which requires health insurers to cover many telemedicine services on par with clinic visits. The Arizona House and Senate passed the bill without a single "nay" vote. *(Page 15)*

"Telemedicine saves money," Governor Brewer said, "and it saves lives."

To that we can only add: It's been a great 20 years.

Robert "Bob" Burns
Co-founder, Arizona Telemedicine Program
Chair, Arizona Telemedicine Council

Ronald S. Weinstein, M.D.

Ronald S. Weinstein, MD
Co-founder and Director

Arizona Telemedicine Program Staff

160+ Sites

- Urban & rural hospitals
- Native American healthcare
- Prisons & jails
- Community health centers
- Schools
- Distance learning affiliates
- International Sites

Infrastructure

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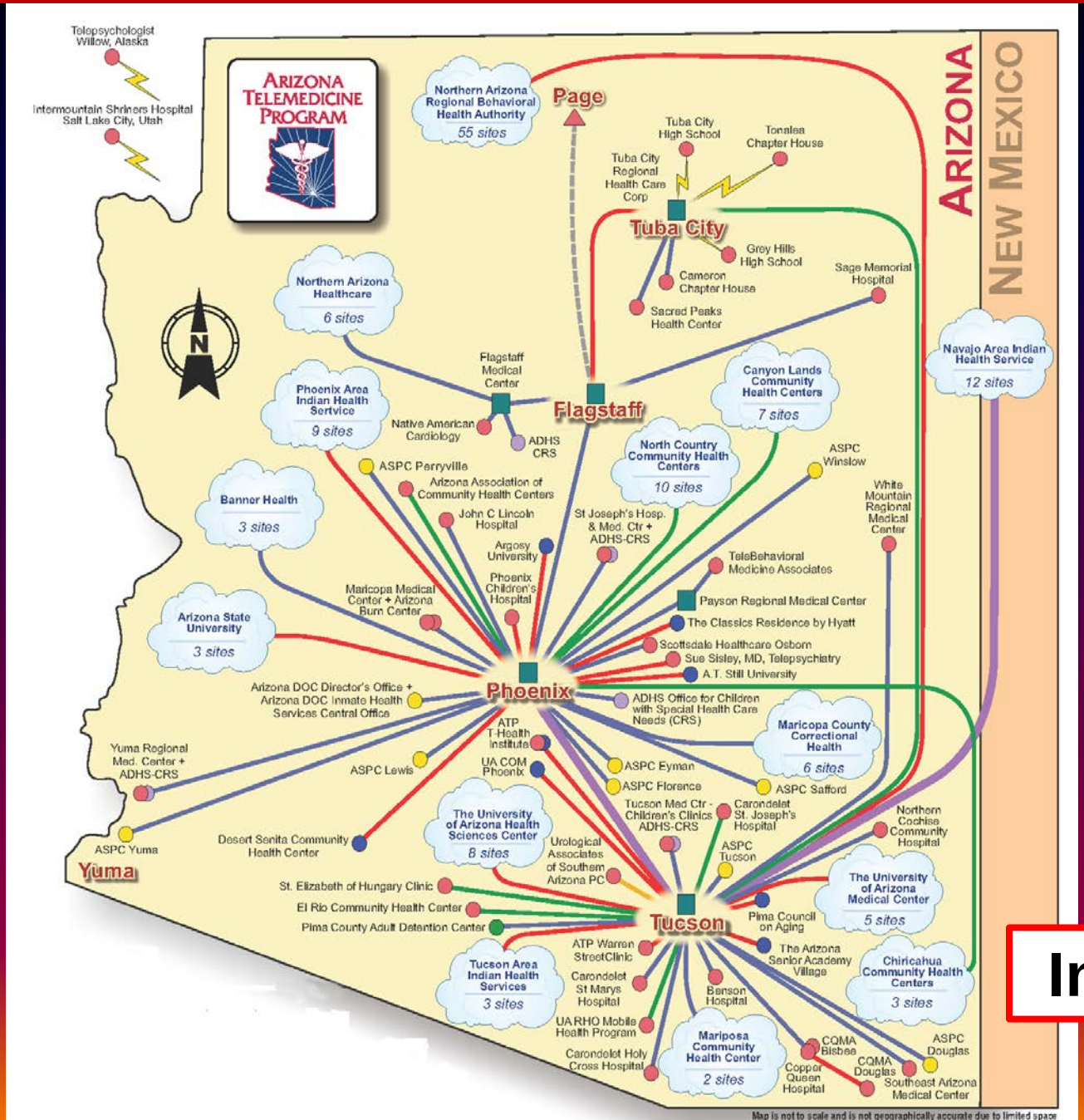
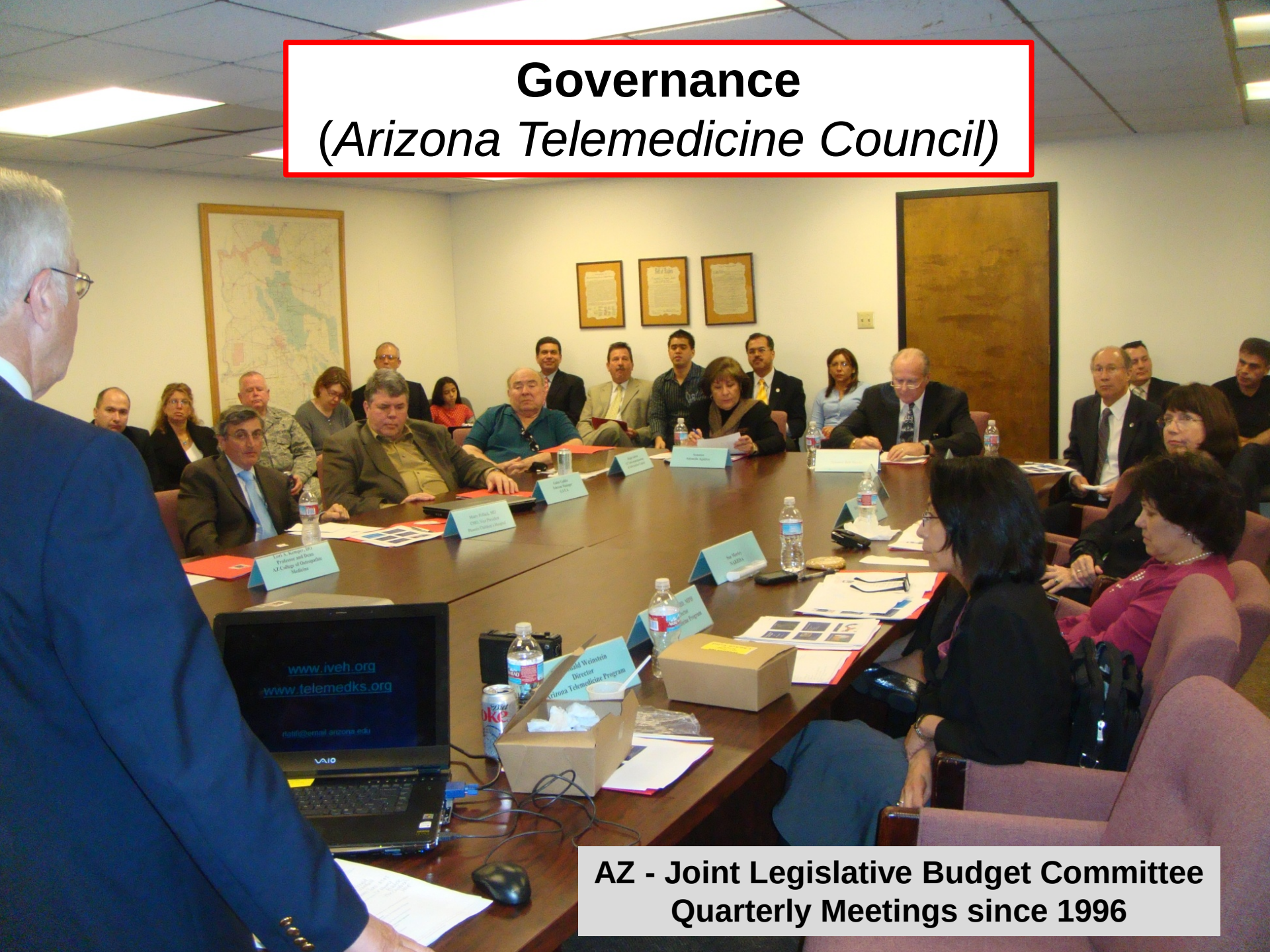
Arizona Telemedicine Network



Arizona Telemedicine Program

Infrastructure

Governance
(*Arizona Telemedicine Council)*



AZ - Joint Legislative Budget Committee
Quarterly Meetings since 1996

Branding

1996

Branding

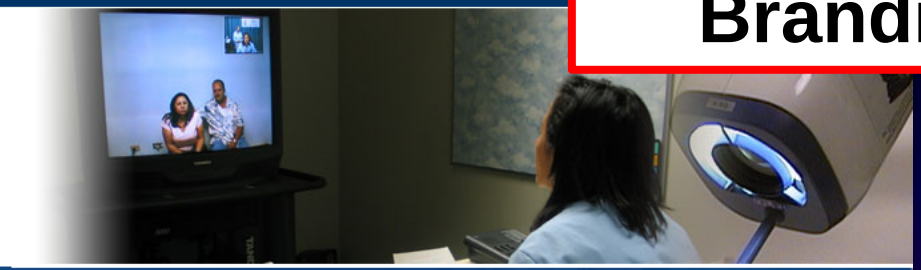
“Telemedicine Blue”

“Telemedicine Blue”

"Telemedicine Blue"
ARIZONA
TELEMEDICINE
PROGRAM

Branding

ARIZONA TELEMEDICINE PROGRAM



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Telemedicine Telehealth Service Provider Showcase

Webinars and Events

SOUTHWEST TELEHEALTH RESOURCE CENTER TRC

Events

2016 National Telemedicine and Telehealth Service Provider Showcase. (Conference) ~ Jun 21, 2016 8:00am MST to Jun 22, 2016 5:00pm MST

Lynnette Grey Bull: Human Trafficking in Arizona (Webinar) ~ Apr 26, 2016 12:00pm to 1:00pm MST

Ronald S. Weinstein, MD - Telemedicine, telehealth and mobile health applications that work: Opportunities and Barriers (Webinar) ~ Apr 28, 2016 12:00pm to 1:00pm MST

Developing a Telemedicine Program (Training) ~ Phoenix ~ May 2, 2016 9:00am to 5:00pm MST

Developing a Telemedicine Program (Training) ~ Tucson ~ May 2, 2016 9:00am to 5:00pm MST

View All Events

Blog

At the Southern Edge of Alaska's Denali Wilderness, Telemedicine Links Behavioral Health Patients and Provider

Overcoming the Barriers to Telehealth Use in Urban Settings

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Product

Telemedicine Services
Telehealth Training
Distance Learning

Clinical Research
Technology Transfer

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Telemedicine

Subspecialty Consultations

SOUTHWEST TRC TELEHEALTH RESOURCE · CENTER

- Anesthesiology
- Cardiology
- Dental
- Dermatology
- Endocrinology
- Fam. & Comm. Med.
- Gastroenterology
- Genetics
- Geriatrics
- Hematology/Oncology
- Hepatology
- Infectious Disease
- Integrative Medicine
- Internal Medicine
- Molecular Diagnostics
- Nephrology
- Neurology
- Neurosurgery
- Ob/Gyn
- Ophthalmology
- Orthopedics
- Otorhinolaryngology
- Pain Clinic
- Pathology
- Peds. Cardiology
- Peds. Dermatology
- Peds. Endocrinology
- Peds. Gastroenterology
- Peds. Hem/Onc
- Peds. Infec. Disease
- Peds. Nephrology
- Peds. Neurology
- Peds. Ophthalmology
- Peds. Oral Surgery
- Peds. Orthopedics
- Peds. Psychiatry
- Peds. Pulmonology
- Peds. Rheumatology
- Peds. Urology
- Psychiatry
- Radiology
- Reprod/Infertility
- Rheumatology
- Sports Medicine
- Surgery
- Surgical Oncology
- Transplantation
- Toxicology
- Urology
- Vascular
- Wound Management

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Product

Telemedicine Services

- **Boutique**
- **Standard-of-Care**
- **Hybrid model**

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ARIZONA Telemedicine

ARIZONA HEALTH SCIENCES CENTER | ARIZONA TELEMEDICINE PROGRAM

Product

“Telemedicine saves hundreds of thousands of dollars in travel expenses for doctors, nurses and patients each year.”

Robert Kerr
Budget Analyst, Principal
Arizona Telemedicine Program

Advances in Telemedicine, Telehealth, mHealth and Connected Health

Testimonial Issue
2014

ARIZONA TELEMEDICINE PROGRAM

A publication of the Arizona Telemedicine Program

Arizona Telemedicine Program patient services

ARIZONA Telemedicine Report

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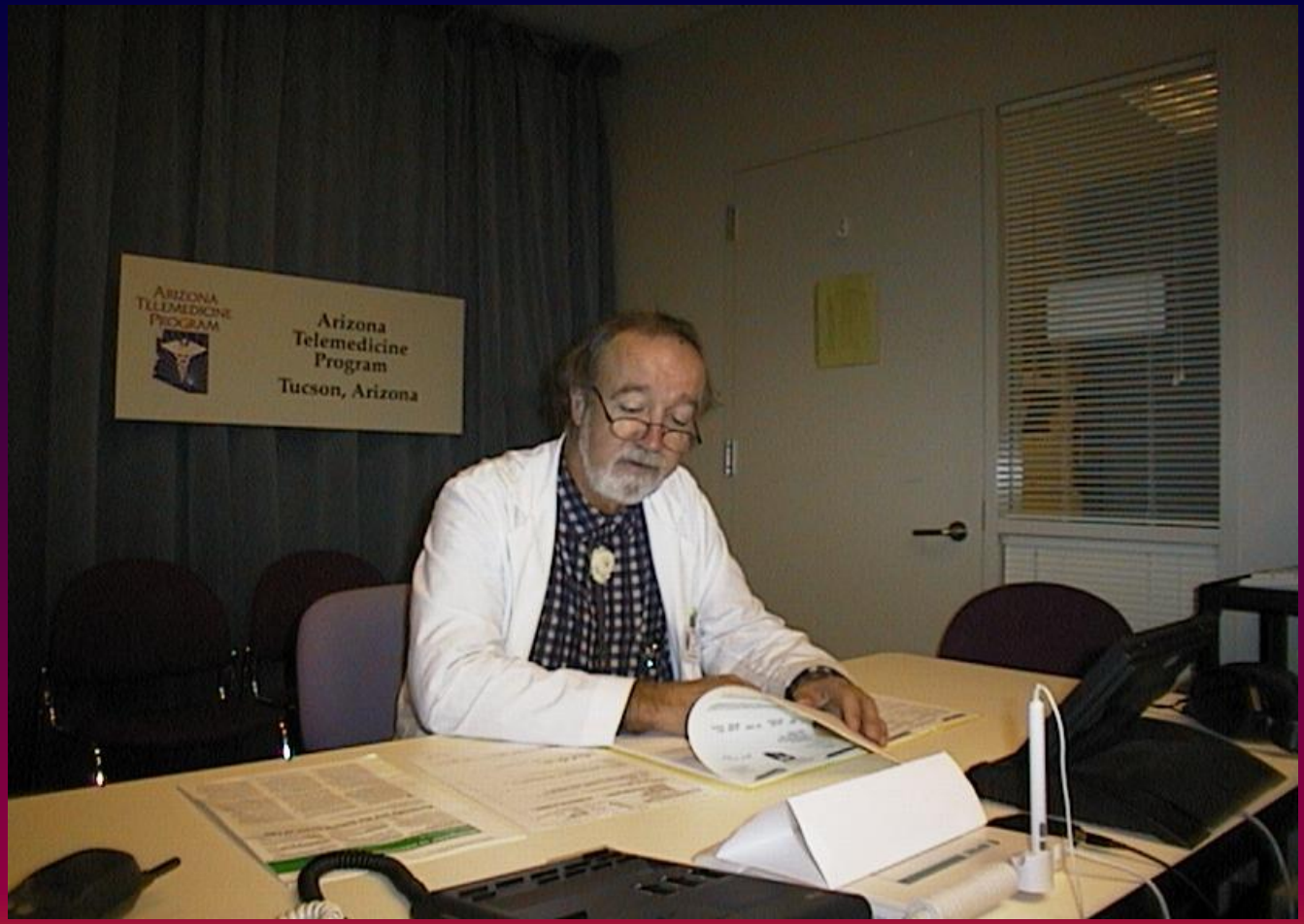
ARIZONA HEALTH SCIENCES CENTER | ARIZONA TELEMEDICINE PROGRAM

Infectious Disease



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NEONATAL INTENSIVE CARE UNIT:

Telemedicine 'Indispensable' in Yuma's Newborn ICU

Yuma Regional Medical Center has one of the top-ranked neonatal ICUs in Arizona. One reason is the Arizona Telemedicine Program, which helps the hospital fulfill its promise of "care close to home."

Neonatologist Greg Warda, MD, arrived at Yuma Regional Medical Center 15 years ago as the hospital's only neonatologist and medical director of its neonatal intensive care unit (ICU).

Back then, Dr. Warda's most urgent challenge was determining when a sick baby could remain in the Yuma hospital or needed to be transported to a larger hospital where multiple specialists could oversee the baby's care.

If a baby showed signs of congenital heart disease, for example, diagnosing the problem could take hours, even days. An echocardiogram would have to be done, but the hospital lacked technicians trained to do an "echo" on a newborn. That sometimes meant the study had to be repeated. In any case, the echocardiogram – either on paper or DVD – would have to be shipped to Tucson or Phoenix or San Diego to be read by a pediatric cardiologist.

It could take a week or 10 days to get a final diagnosis.

For the parents of the newborn, it was an agonizing process, often compounded by the need to transport their baby to a larger hospital 200 or more miles away. Families often were split apart. The father likely had to stay in Yuma to work. If the mother had a C-section, she might have to stay behind as well. And even if she could go, there was the problem of lodging, and being able to afford it.

"There were just all kinds of issues, for us and for the parents," Dr. Warda recalls. "Fortunately, a lot of that has changed."

The change came in 2006, – when Yuma Regional Medical Center signed a new contract with the Arizona Telemedicine Program.

That linked Dr. Warda and his team at Yuma Regional – which, since 2009, includes Nedal Machhor MD, the hospital's second full-time neonatologist – to the pediatric cardiologists and other specialists at The University of Arizona Medical Center in Tucson.

Instead of having to ship a DVD, the echocardiogram can now be transmitted over the broadband telemedicine network. In most cases, Dr. Warda gets a definitive diagnosis almost immediately, or within the same day.

"We've had a number of cases where we would hear a (heart) murmur on a baby who was otherwise fine, only to find out that the baby had to be transported immediately," Dr. Warda says. "And if we hadn't been able to do that echo via telemedicine, we would have let the baby go home, and the baby would have come back to us in heart failure or, worse, the baby could have died.

"Telemedicine has saved so many babies."

Dr. Daniela Lax heads the University of Arizona Health Network's tele-echo program, which includes her and four other pediatric cardiologists. Another huge benefit of telemedicine, Dr. Lax says, is that the pediatric cardiologist is often available to view the echocardiogram while the technician is doing the study.

"That allows us to coach the technician, to tell them if we need a closer look, for example, and the result is that they are now very well trained to do excellent studies," Dr. Lax says.

Each week, Dr. Lax's group consults on four or five Yuma pediatric echocardiograms, she says. The doctors also spend a day and a half each month in Yuma, following up on babies and children who were born with heart disease or defects.

While most of the cases referred to Dr. Lax and her colleagues involve newborns, the doctors see patients as old as 18, or older if the patient was born with congenital heart disease.

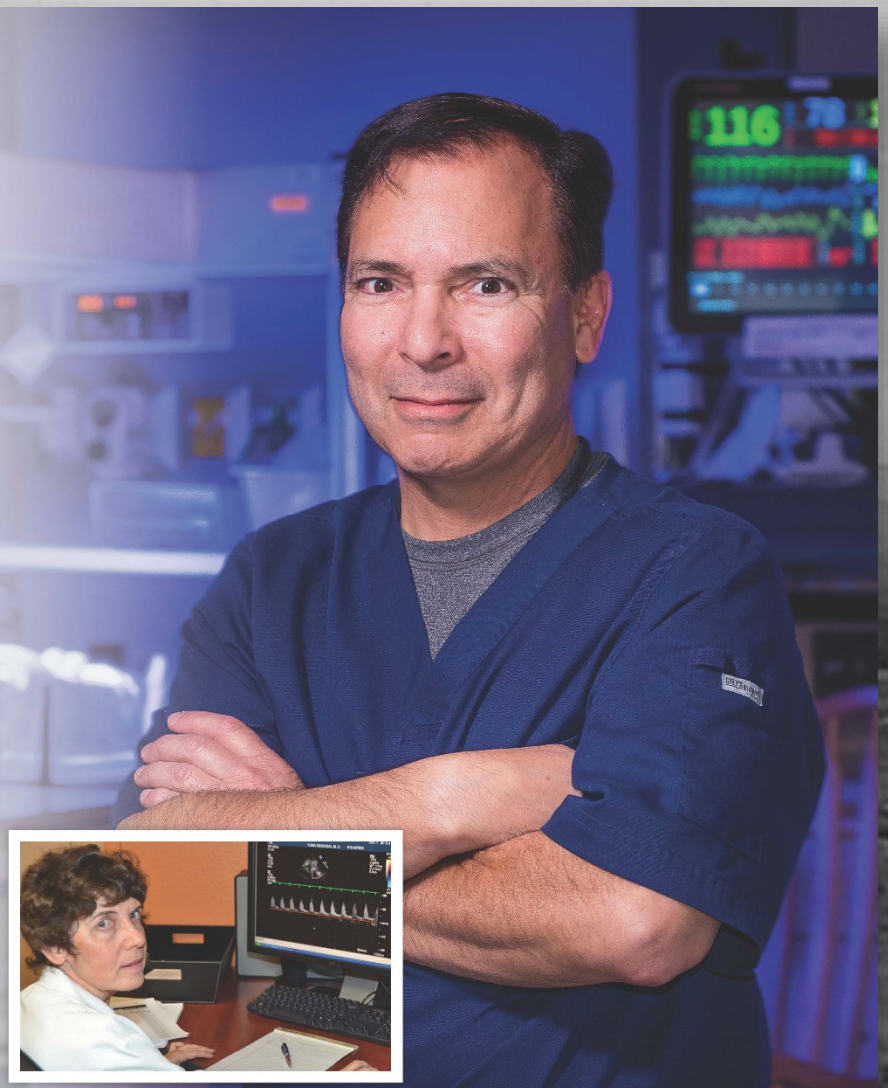
This collaborative effort resulted in the publication of a seminal article authored by Dr. Lax, Dr. Warda and colleagues. Published in 2012 in *Telemedicine and e-Health*, the leading telemedicine journal, it confirmed that neonatal echocardiograms viewed and interpreted via telemedicine are as accurate as echocardiograms recorded and shipped to the interpreting physician in another city. And both are "indispensable in the remote diagnosis of congenital heart disease."

Dr. Warda expects telemedicine will continue to play a vital role in his newborn ICU, especially as the technology continues to evolve.

"I can't say enough about the university cardiologists over in Tucson," Dr. Warda adds. "They've all been wonderful. They've all made themselves as available to us as they can be. They have never hesitated to help us out.

"It's also really nice just to be able to talk to them while the study is going on," says Dr. Warda. "It builds up a camaraderie and a comfort zone when you can put a face to the name.

"The greater benefit is to the families," Dr. Warda says. "They can be right there with their baby and get a diagnosis from the cardiologist in Tucson almost right away. And I can tell you, when you have a baby who's sick, that means so much, instead of having to wait until tomorrow or the next day, or even longer to get an answer."



Daniela Lax, MD
Pediatric Cardiologist
Universiy of Arizona Health Network, Tucson, AZ

Gregory R. Warda, MD
Neonatologist
Yuma Regional Medical Center

TELE-HOME HEALTH CARE:

‘Care Beyond Walls and Wires’ Enhances Life for Patients with Congestive Heart Failure

More than 5 million people in the U.S. suffer from congestie heart failure (CHF), according to the Centers for Disease Control and Prevention (CDC). The annual cost is estimated at more than $32 billion in health care services, medications, and lost earnings, the CDC says. Northern Arizona Healthcare’s “Care Beyond Walls and Wires” can improve CHF patients’ health and reduce health care costs.

Woody Smith and his daughter, Rita Yazzie, used to drive as often as twice a month from their home on the Navajo Reservation to Flagstaff Medical Center, nearly two hours away. Mr. Smith is living with congestive heart failure, with symptoms so severe he required frequent hospitalizations.

But Mr. Smith can now
months without ha
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Ms. Yazzie says
Wires “is the be
best thing for my
two hospital readm
the program more than

And at 90, Mr. Smith has been able to return to his favorite activity: riding his horse.

Care Beyond Walls and Wires provides patients with a backpack containing the equipment they need to check their blood pressure, measure their oxygen level, and check their weight daily; the latter because patients with CHF can gain and drop weight suddenly. The data are automatically transferred to a smart phone that transmits the information to Northern Arizona Healthcare’s care coordination office, which provides the smart phone, monitoring equipment and backpack to every patient enrolled in Care Beyond Walls and Wires.

Some of the program’s patients have no
electricity at home, so they also are given

perspective, the idea for Care Beyond Walls and Wires originated with the National Institutes of Health Office of Public and Private Partnerships, which was looking for better ways to monitor patients with CHF who live in rural areas. The goal was to provide better care while keeping the patients out of the hospital, thus reducing health-care costs.

The San Diego telecommunications company Qualcomm was chosen to lead the project, with Maryland-based Zephyr Technology and Verizon providing software, smart phones and remote-monitoring hardware.

Northern Arizona Healthcare agreed to
conduct a pilot project involving 50 patients.
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Arizona Healthcare
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Ms. Sorenson says,
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penalizes hospitals
onditions, including
are readmitted
discharged.

endous patient
atients like the feeling that they have more control over their health,” Ms. Sorenson says. “We couldn’t have asked for anything more. It’s a global win.”

> *“Care Beyond Walls and Wires is the best thing ever for me, and the best thing for my dad.”*
>
> Rita Yazzie

TELE-INFECTIOUS DISEASE:

'I Couldn't Do This Without Telemedicine'

Steve McCrosky is a family nurse practitioner with 200 patients scattered across more than 60,000 square miles in northern Arizona. With his employer, North Country HealthCare, he created a program for patients with HIV and AIDS. Because North Country is on the Arizona Telemedicine Program telecommunications network, Mr. McCrosky can see patients via telemedicine or face to face, as often as they need to see him.

Steve McCrosky was 16 when the Centers for Disease Control Prevention issued its first re dying from diseases that ve had ever heard of. He grad high school in 1983, when of illnesses had been name immunodeficiency virus, or cause of acquired immune syndrome, also known as A

Mr. McCrosky was captivat medical and social implicat growing epidemic. After hig enrolled at Northeastern U Boston, where he received degree. In 1994, he heade Francisco, where he witnes epidemic up close. He reali he wanted to be on the fro unprecedented pandemic. University of California, San completed training to be a fa practitioner.

A few years ago, Mr. McCrosky was living in Flagstaff and practicing family medicine in Winslow, Arizona, which borders on the Hopi and Navajo reservations. He asked his employer, North Country HealthCare – a Federally Qualified Health Center with clinics in Flagstaff and 13 other communities – if he could develop a program specifically for patients with HIV and AIDS. He wanted to divide his practice between telemedicine and in-person patient visits. North Country readily agreed.

His practice is now devoted to about 200 patients with HIV and AIDS. About half his time is spent seeing patients either in

"I couldn't do this without telemedicine," Mr. McCrosky says.

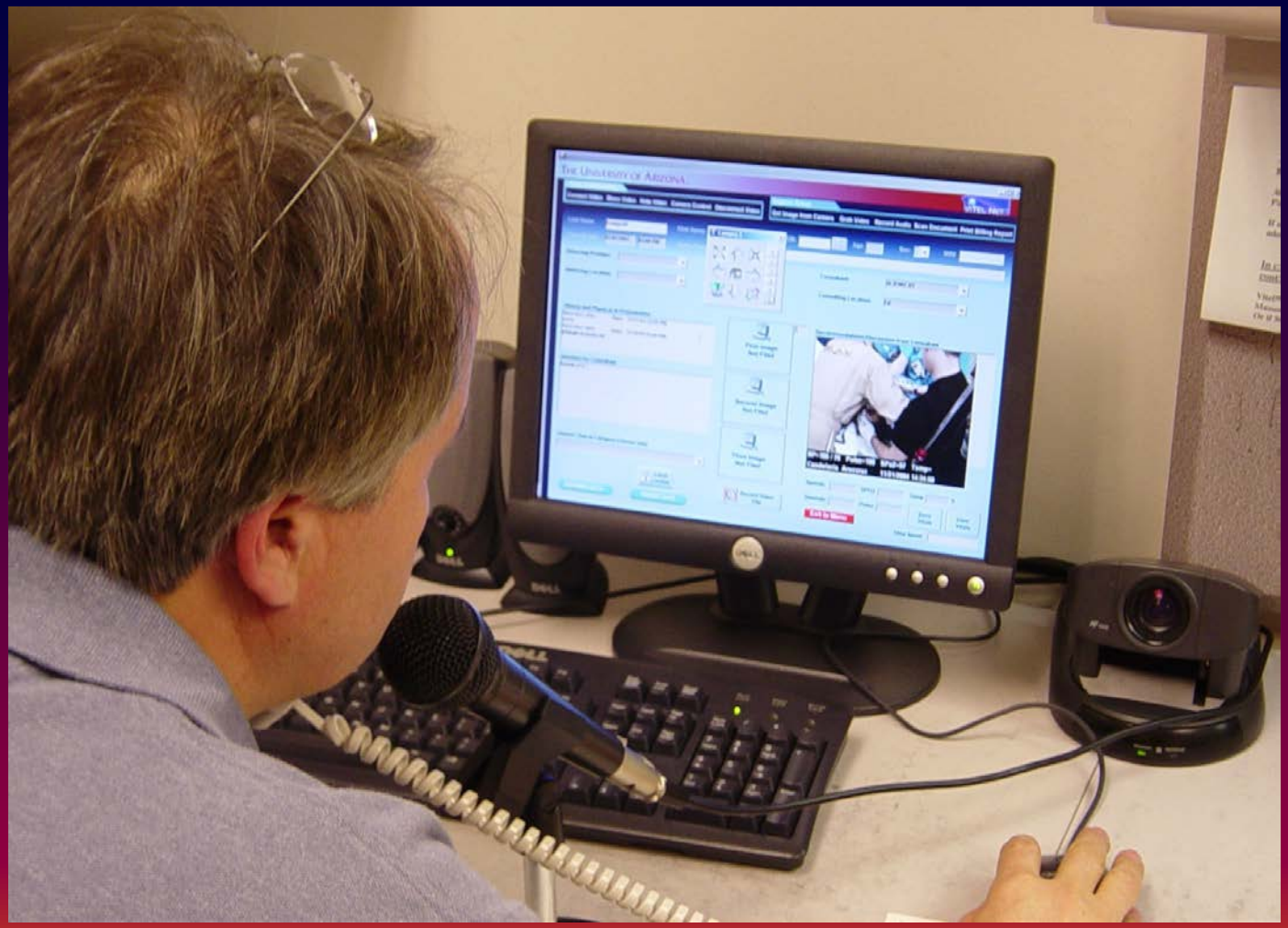
Nor could his patients. Christopher Estudillo, a member of the Laguna tribe of western New Mexico, lives in Winslow. He walks six blocks from his house to the Winslow clinic, where he can have a virtual visit with Mr. McCrosky, or a face-to-face visit on the two days a year Mr. McCrosky visits the clinic. Mr. Estudillo's other option is driving 60 miles to Flagstaff.

Another of Mr. McCrosky's patients, who wants to be anonymous, was infected with HIV from a transfusion almost 30 years ago.

> *"Yes, telemedicine did feel weird at first. But it works. You get used to it. I think it's the wave of the future."*
>
> Patient

Steve McCrosky, FNP, with patient

Teletrauma



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Teletrauma

Over Crowded Roll Over Vehicles Smuggling Illegal Immigrants:
41 people in a pick up truck

Teleophthalmology

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Teledermatology

@2016, Arizona Board of Regents

CANCER SUPPORT GROUPS TELE-EDUCATION:

¡VIDA!™

Providing Health and Wellness Information to Cancer Survivors and Health Care Professionals

Survival is just one goal for cancer patients. These monthly multi-site video gatherings offer patients information in Spanish and English to help them live healthier, more fulfilling lives.

Kathie McHugh is a breast cancer survivor, grateful and proud to be seven years out from the day she was diagnosed.

She also likes to describe herself as "a very thirsty information seeker," who feels her health and well-being have been greatly enhanced by monthly meetings of an educational program called *¡Vida!*.

¡Vida! – the name comes from the Spanish word for life – began with grant support from the Susan G. Komen Foundation in 2008.

"*¡Vida!* grew out of our work with breast cancer survivors who told us that they wanted information to help them not just survive, but to be healthy and live well," says Ana Maria Lopez, MD, MPH, who is *¡Vida!* director, medical director of the Arizona Telemedicine Program, and a University of Arizona Cancer Center oncologist who specializes in breast cancer.

"As patients, they need and want to be well prepared to take charge of their health."

Left to Right: ¡Vida! volunteer Isela Macias, volunteer Kathie McHugh, ¡Vida! program coordinator Bettina Hofacre, volunteer Virginia Aragon

Guided by a broad-based community advisory group, *¡Vida!* has been proactively addressing the information needs of patients and their families across the state of Arizona.

While *¡Vida!* originally began with a focus on breast cancer survivorship, the series has evolved to include topics related to lifestyle medicine, wellness, and advocacy, with the overarching goal of engaging Arizona's citizens in their own health. Recent *¡Vida!* sessions have covered such varied topics as young women and cancer, medicinal plants of the Sonoran Desert, the Affordable Care Act and Medicaid expansion, and breathing techniques that lead to relaxation.

"As patients and their families have repeatedly informed us, the cure to the stress and anxiety that their illness brings is knowledge and information," Dr. Lopez says.

The program offers monthly sessions developed for both patients and health-care professionals. The sessions are offered to a local audience at the University of Arizona Health Sciences Center campus and University of Arizona Cancer Center in Tucson.

Each program is first offered to physicians and other health-care professionals, so they can be prepared to respond to questions from patients who attend the *¡Vida!* sessions. The sessions for professionals also offer continuing medical education credit.

All of the Arizona Telemedicine Program's 160 statewide sites are able to connect to *¡Vida!* via the program's telecommunications technology, which allows for fully interactive videoconferencing, or through UA Biomedical Communications, which facilitates real-time and delayed video-streaming.

All sessions are permanently stored, so patients and professionals can watch as many times as they want, at their convenience.

Both patients and health care professionals say they appreciate the ease of learning through *¡Vida!*, as well as being able to interact by videoconferencing with the presenter. Patients say they feel better prepared to ask questions and learn more, and professionals say they feel better prepared to address patient concerns.

Acknowledging the diversity of Arizona communities, the patient series is offered twice on the same day: one session in English and one in Spanish.

"Over time, the groups began to connect, either lingering after one session or coming in early for the other," Dr. Lopez says. "The groups could not always communicate effectively through language, but the participants found music to be the language that could bridge them. They began to play music in between the sessions and move and dance, in Tucson, in Nogales, in Payson, and in all participating sites across Arizona.

"I think of music as the universal language," Dr. Lopez says. "Our participants now come together monthly to learn together and to celebrate health through movement!"

Ms. McHugh, who lives in Tucson, started attending *¡Vida!* meetings regularly in 2013, on the recommendation of a social worker who leads a support group that she attends. In addition to being a breast cancer survivor, she underwent surgery in May 2013 for what turned out to be a benign ovarian tumor – still, a frightening experience.

Last year, Ms. McHugh was asked to serve on the *¡Vida!* planning committee. "I was delighted to have a chance to 'pay it forward' to all the people who have saved my life," she says. Ms McHugh leads the dance breaks.

Ms. McHugh has gained more than information from *¡Vida!*. She and Isela Macias, another participant, were volunteering together on *¡Vida!* when they learned they are practically neighbors. Now they are close friends. "It is amazing," Ms. McHugh says, "that the blessings that come from *¡Vida!* are so rich."

Standards-of-Care

Teleradiology

Telestroke

eICU (electronic Intensive Care Units)

Telestroke

Stroke Centers and Telestroke

Stroke Centers

Certification Information

Joint Commission Primary Stroke Center Certification

Acute Stroke Process

t-PA Training

Mock Stroke Codes

Outcomes

Comprehensive Stroke Centers

Stroke Center Best Practices

Time-Saving Practices

Stroke Center Fundamentals

Telestroke Networks

What Is Telestroke?

Hub and Spoke Model

Third-Party Consult Model

Key Elements of a Telestroke System

Equipment and Personnel

Common Challenges

Best Practices

Telestroke Resources

Telemedicine Providers

Link to Organizations

Telestroke Network Map

Telestroke Networks

The American Heart Association/American Stroke Association (AHA/ASA) recommends the use of telemedicine, or telestroke, to improve stroke care in rural, remote, or underserved areas.[21]

Discover how telestroke allows for specialized stroke care in underserved areas:

▶ What Is Telestroke?	Learn about the different telestroke models.
▶ Key Elements of a Telestroke System	Find out about equipment, challenges, and best practices associated with telemedicine.
▶ Telestroke Resources	Explore resources on telestroke.
▶ Telestroke Network Map	View telestroke networks on a national scale.

Safety First!

Before you start exploring, please read the Important Safety Information.

Download Full Prescribing Information

Education and Training

HealthStream

Free access to educational materials and training on acute ischemic stroke and Activase for your stroke center.

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Dosing and Administration

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Receive updates and gain free access to order educational resources.

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Acute Ischemic Stroke Indication

Activase is indicated for the management of acute ischemic stroke in adults for improving neurological recovery and reducing the incidence of disability. **Treatment should only be initiated within 3 hours after the onset of stroke symptoms, and after exclusion of intracranial hemorrhage by a cranial computerized tomography (CT) scan or other diagnostic imaging method sensitive for the presence of hemorrhage (see CONTRAINDICATIONS in the full prescribing information).**

Telestroke

Commercialization

Telestroke

Stroke

is the third leading cause of death in the United States and the leading cause of adult disability.

Approximately 795,000 strokes occur each year, and delays in diagnosis contribute to the mortality and disability associated with stroke.

TeleStroke

supports community hospitals by providing:

- 24-hour on-call stroke specialist
- Emergency department acute stroke consultation
- Bedside follow-up (depending on site needs)
- Stroke follow-up appointments (depending on site needs)

WHEN STROKE BEGINS, EVERY SECOND COUNTS

Stroke is a medical emergency that requires early assessment and early treatment. Rapid identification of acute stroke patients enables the timely administration of effective and appropriate stroke therapies that can improve patient outcomes. It also allows for initiation and coordination of strategies to prevent stroke progression, recurrent stroke, and common complications.

and transportation barriers with reliable technology that allows immediate access to stroke experts who can provide consultation with on-site providers to manage acute stroke as needed.

Keep stroke patients close to home.

With TeleStroke, community hospitals can provide stroke care to

HOW TELESTROKE WORKS

COMMUNITY HOSPITAL

1. Doctor reviews patients status, determining need for stroke evaluation
2. Telestroke mobile unit brought in to patient
3. Patient speaks directly to the TeleStroke doctor and follows examination instructions
4. If necessary, hopital staff prepares patient for AirMed transport

TELESTROKE DOCTOR

A. 24-7 on-call TeleStroke doctor receives call or page

B. Doctor begins video conferencing and evaluates patient data

C. Exam given via TeleStroke system to evaluate presence or severity of stroke

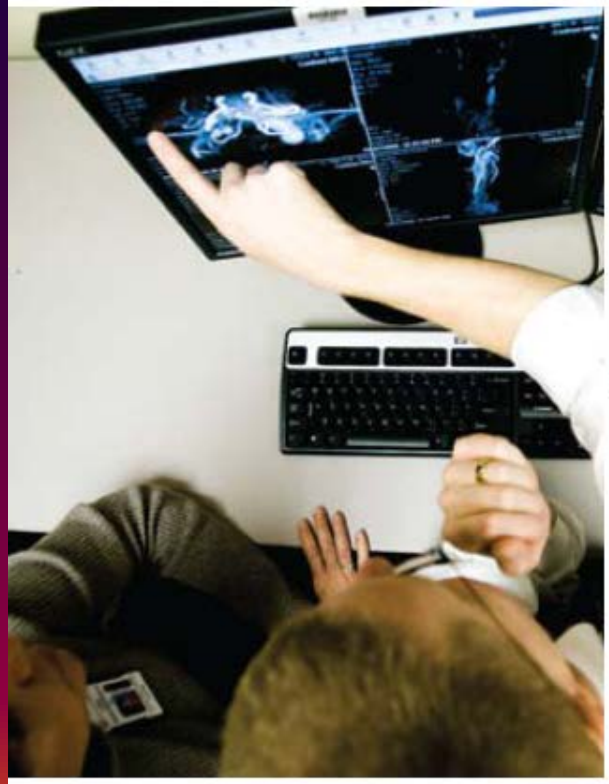
D. Consultation with community hospital on best treatment plan for patient

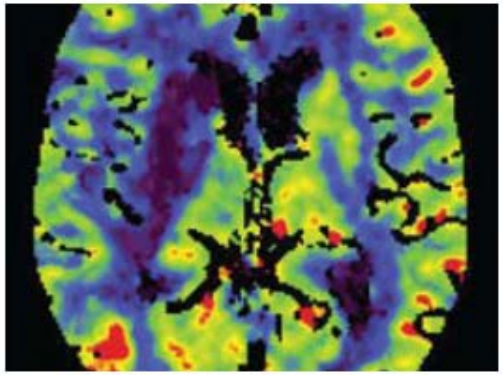
Telestroke

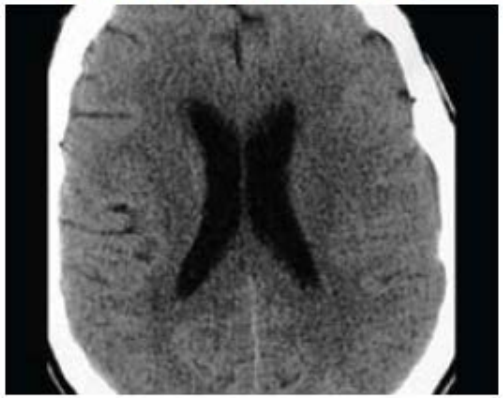
Reduced Costs

The efficient use of available health care resources is of paramount concern for all health care centers. And, the costs associated with establishing a comprehensive stroke care system may prevent smaller or more rural facilities from implementing effective stroke management.

Resource constraints no longer need to be an obstacle to acute stroke services. For community hospitals and other facilities that cannot afford 24/7 coverage by a neurologist, the TeleStroke program is a cost-effective way to deliver round-the-clock specialty stroke care to more patients.







“Electronic Intensive Care Unit”

eICU

Telepsychiatry

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Telemedicine Training

@2016, Arizona Board of Regents

Telemedicine Training

@2016, Arizona Board of Regents

Arizona Telemedicine Program
Venues

- **Tucson** - e-Classrooms & Telemedicine Clinics
- **Phoenix** - T-Health Amphitheater
- **Regional** - Southwest TRC, Webinars, eLearning

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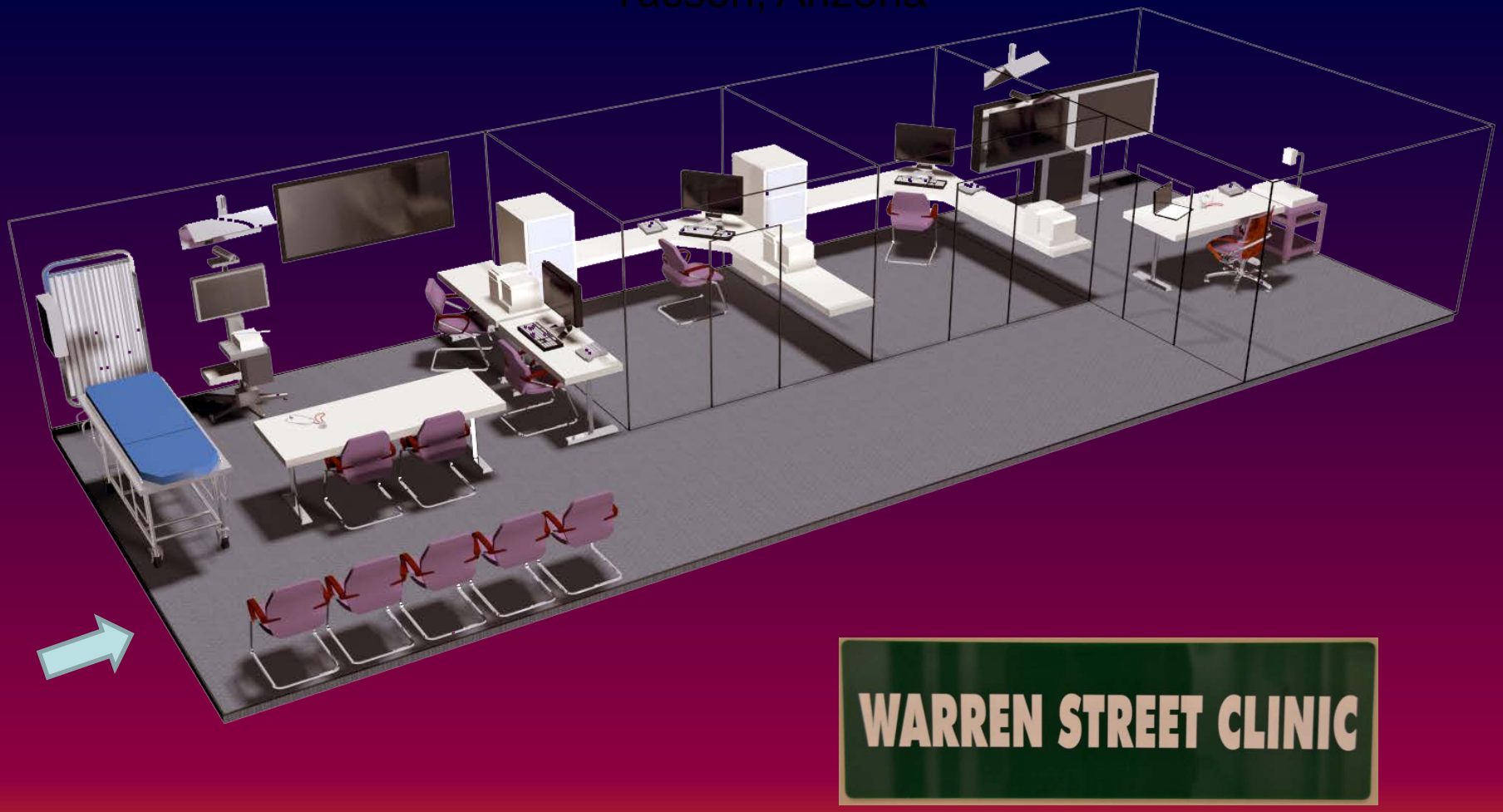
ATP Telemedicine Training Center

Arizona Health Science Center

Tucson, Arizona



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ARIZONA TELEMEDICINE PROGRAM
Hot Links
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Network
TANDBERG
Panasonic

T-Health Amphitheater, Phoenix

ATP Telemedicine Training Center

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Clinical Operations
Sustainability
Equipment Recommendations
Program Operation
e-learning
Telemedicine and Telehealth Overview
The history, progression and current uses of telemedicine and telehealth.
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Clinical services (real-time and store-forward) that have been amenable to telemedicine consultation and how these services can help underserved areas.
Telecardiology
Definition of telecardiology services, requirements to provide this service, and current applications.
Teledermatology
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Case Referral Process
Go through the steps required to set up, carry out and complete a clinical telemedicine referral.
Training Tips
How to set up a telemedicine/telehealth conference training program. Organizing a conference over distance is different than on-site conference management. Includes tips for success.
Training Telepresenters
How to develop good distance communication skills and conduct a telemedicine/telehealth
Distance Education
The role of tele-education in continuing medical education for various healthcare professionals and the necessary components to set up such a program.
Evaluation
The importance of evaluation in telemedicine/telehealth and how it relates to acquiring and organizing data about the program that can be used to obtain funding for increased sustainability.
Business
Sources of funding for telemedicine/telehealth programs, the business model developed and used by the Arizona Telemedicine Program, and paths towards sustainability and business planning.
Facility Design
Go through the steps required to set up a telemedicine/telehealth facility, including placement of the equipment, lighting, wall color, etc.
Video and Data Communication
Basic introduction to networking and data communications. Description of the Internet, local area networks, Ethernet, wireless communications and communication modes (e.g., Internet, satellite, wireless), including the advantages and disadvantages of each as they relate to telemedicine/telehealth.
Telemedicine/Telehealth Network
Basics of how a telemedicine/telehealth network is set up and the roles of various pieces of equipment: CODECs, MCUs, computer applications (e.g., videoconferencing, Skype), video bridges, gatekeepers, and communication protocols (e.g., H.239).
Culture, Etiquette & Technology
The impact of technology on social interaction and the universal rules of good manners and technology.
Information Services
The best Internet-based information resources available to healthcare professionals and consumers, as identified by university-based librarians.
Challenges & Barriers
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SWTRC

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Challenges & Barriers

Strategic Planning

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Sustainability Issues

- “Meaningful use”
- Reimbursement
- Credentialing
- Interstate medical licensure
- Telecommunications costs
- Equipment obsolescence

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2016 Telehealth Issues & Opportunities

New drivers creating need for virtual care models (ACO, etc.)

Physicians shortages – and increased numbers of patients entering the system

Consumer demands for more convenient health care services: "retail telemedicine" i.e., CVS Health

"Killer" applications

A- Gap services; B-Urgent services; C-Mandated services

***B- m*Health, *e*Health, wireless, implantable**

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Thank you

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