

Arizona Telemedicine Program

ARIZONA
TELEMEDICINE
PROGRAM



Janet Major, B.S.
Associate Director for Education & Facilities
Distance Learning Outreach
Arizona Telemedicine Program
Southwest Telehealth Resource Center
Board Member ATIC
Chair of USDLA
United States Distance Learning Association



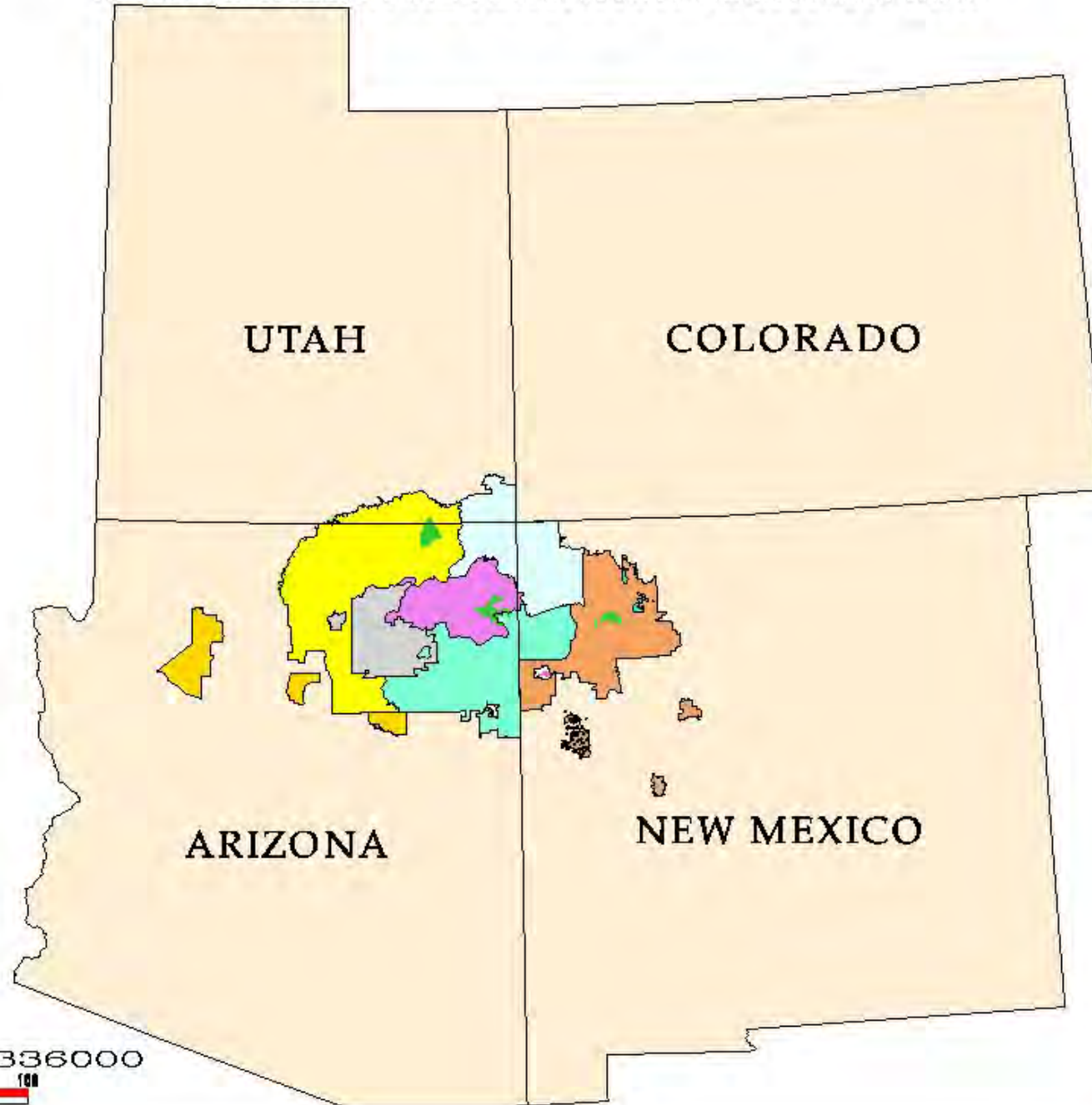
How to put the TELE into Telehealth for Educational & Clinical Applications



Technology
+
Telecommunications
=
Telehealth/Telemedicine



NAVAJO INDIAN RESERVATION LOCATION MAP



SCALE 1:6336000



February 28, 2003

NAVAJO LAND DEPARTMENT

NAVJO NATION
SAGOL OOD LAND DEPARTMENT
GEOGRAPHIC INFORMATION SYSTEMS SECTION
P.O. BOX 1000
TUCSON, ARIZONA 85724

www.telehealthresourcecenter.org



<https://southwesttrc.org/> = SWTRC

Resources

Arizona

Colorado

Nevada

New Mexico

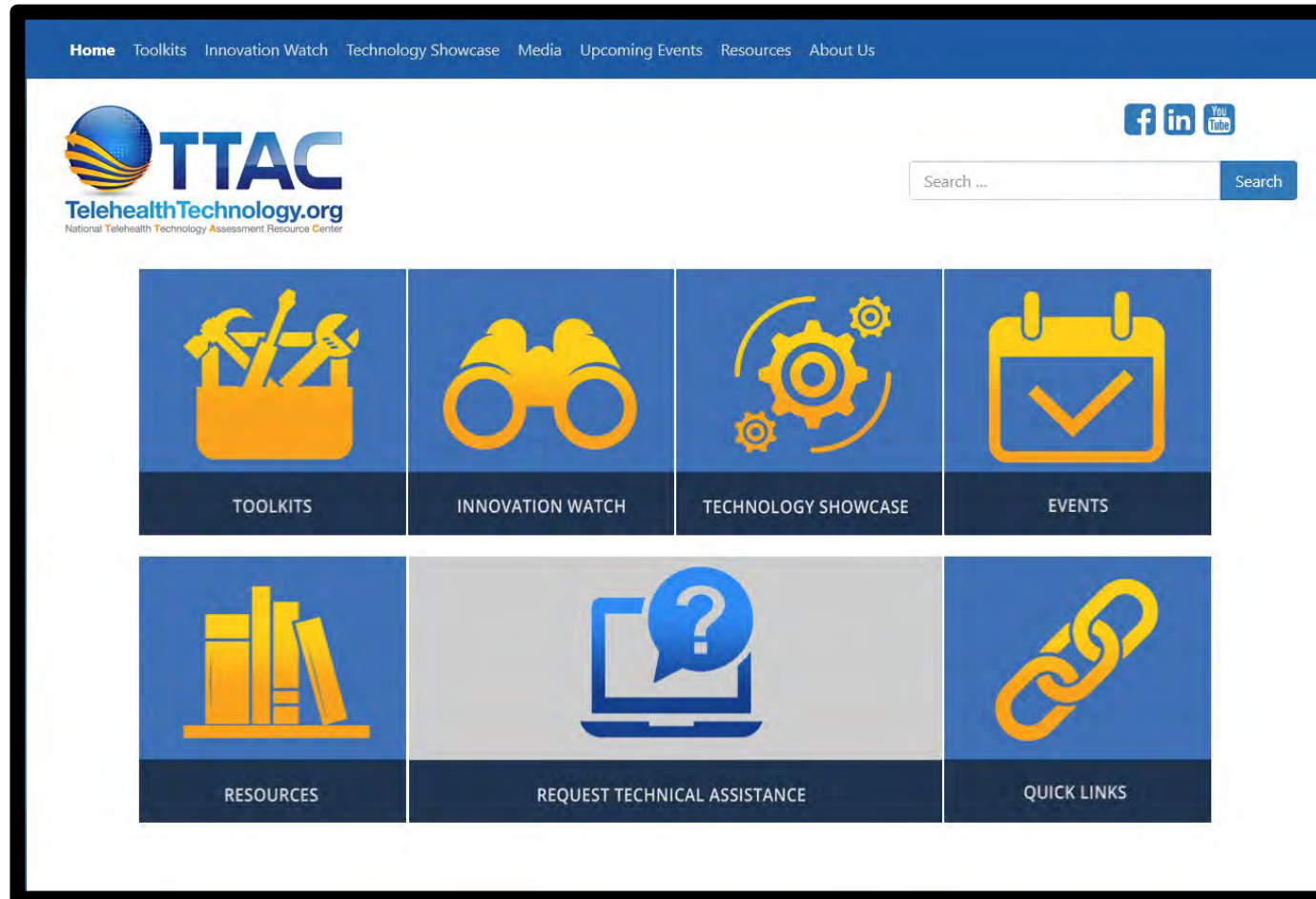
Utah



- Telemedicine & Telehealth Service Provider Directory
- Business & Finance
- Form Templates
- Policy & Sustainability
- Standards & Guidelines
- Telemedicine Information
- Tools & Tips
- General

National Consortium of Telehealth Resource Centers (NCTRC) - Find your TRC

TTAC National Telehealth Technology Assessment Center telehealthtechnology.org



Technology for Telehealth

- Resources/where to shop
- How to shop
- Network and interview who has been doing what – with what!
- Pricing
- Ease of use/training protocols/end user
- Network support
- Contractual agreements/licenses/maintenance fees
- Efficiency?

www.telemedicine.arizona.edu/webinar



The Arizona Telemedicine Program, the Southwest Telehealth Resource Center and the mHealth, Technology & Distance Learning Special Interest Group of the American Telemedicine Association invite you to a **free** webinar to review the telemedicine and telehealth technology recently exhibited at the American Telemedicine Association's 23rd Annual Telemedicine Meeting & Trade Show: ATA 2018

Webinar

Thursday, August 9, 2018 ~ 12:00pm Arizona Time
(12pm PDT; 12pm Arizona; 1pm MDT; 2pm CDT; 3pm EDT)

“ATA 2018 Exhibit Hall Technology Review”

Learning Objectives:

1. Review some of the current trends observed at the annual signature event for telemedicine technology.
2. Take a virtual tour of the ATA 2018 Exhibit Hall & Showcase at the Chicago Convention Center.
3. Learn who and where you can go to get access to the best resources in telemedicine and telehealth technology.



Janet Major, B.S.
Associate Director
for Telemedicine
Education & Facilities



Janet Major is the Associate Director of Facilities for the Arizona Telemedicine Program (ATP). She earned her B.S. Degree in Telecommunications from Northern Arizona University with her major emphasis in producing and directing. She has worked at the University of Arizona for 30 years and was initially the primary manager of videoconferencing services at the Arizona Health Sciences Center. She has since been employed by ATP for 20 years. As Associate Director of Telemedicine Education & Facilities, her current responsibilities include the design, development and installation of the teleconferencing and telemedicine peripheral equipment used for telemedicine services. She also provides training to healthcare professionals in the effective use of teleconferencing for both clinical and educational applications. Ms. Major has served as Co-Chair as well as Chair for the mHealth, Technology & Distance Learning Special Interest Group of the American Telemedicine Association as well as for the board of USDLA; the United States Distance Learning Association, representing the telehealth constituency and ATIC; the Arizona Telecommunications and Information Council where she is currently working with fellow telecommunications experts to implement a broadband plan to eliminate telecommunications disparity in rural and urban Arizona.

For more information and registration instructions please visit our website:
<http://www.telemedicine.arizona.edu/webinar>



Telehealth Technology Resources

Arizona Telemedicine Program

www.telemedicine.arizona.edu

Telemedicine & Telehealth Service Directory

<http://telemedicine.arizona.edu/servicedirectory>

Southwest Telehealth Resource Center

www.southwesttrc.org

National Telehealth Resource Centers

www.telehealthresourcecenter.org

ATA American Telemedicine Association

www.americantelemed.org

USDLA United States Distance Learning Association

www.usdla.org

University of New Mexico Center for Telehealth

<http://hsc.unm.edu/community/telehealth/>

Project ECHO

<http://echo.unm.edu/>

ATP Project ECHO

<http://telemedicine.arizona.edu/echo/>

UNR Project ECHO

<https://med.unr.edu/echo>

TTAC Telehealth Technology Assessment


www.telehealthtechnology.org

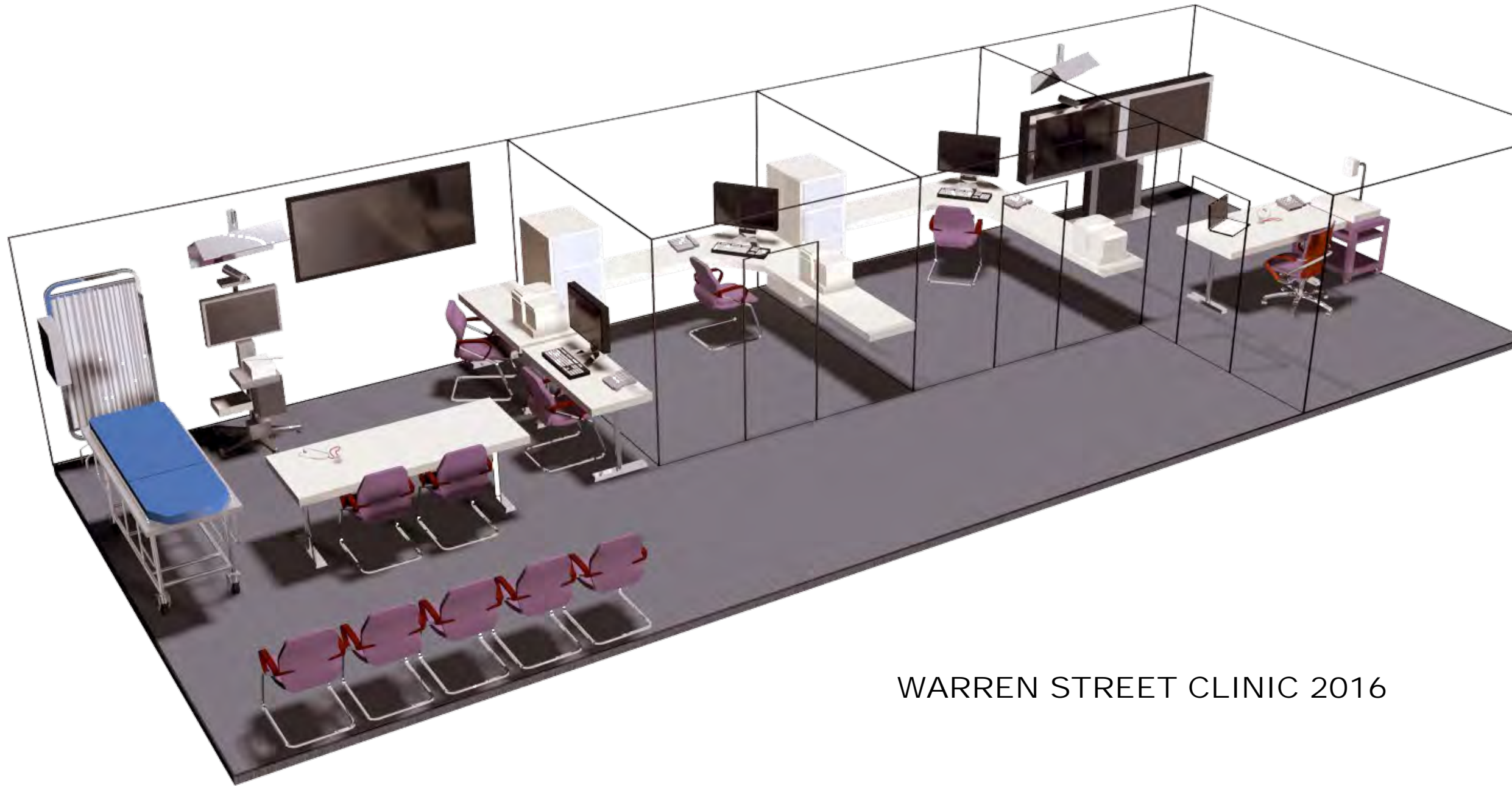
Resource Center



A scenic view of a mountain range, likely the Grand Canyon, with the word "Telepresenting" overlaid in blue text. The image shows a vast, deep canyon with layered rock formations, surrounded by evergreen trees in the foreground. The sky is blue with scattered white clouds. The text "Telepresenting" is centered in the middle of the image in a bold, blue, sans-serif font.

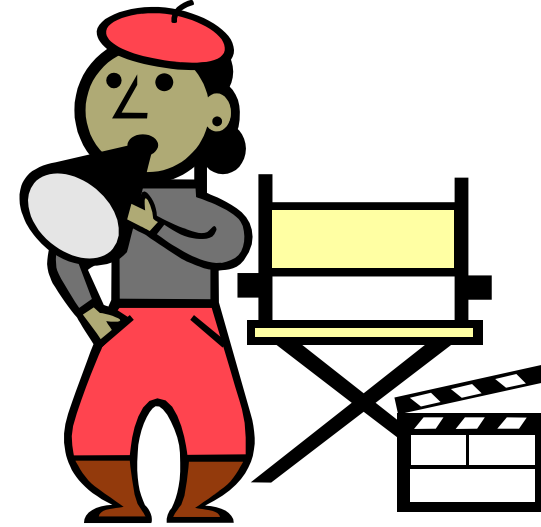
Telepresenting

Telemedicine = 



WARREN STREET CLINIC 2016

Communication Technology



- Lights, Camera ACTION!
- BACKGROUND
- Two way videoconferencing
- Web cams using secure sites over the internet
- Other devices or programs which connect to your laptop or desktop @home or bedside

Telemedicine

- Information needs to be medically accurate
- Teaches participants to practice being good listeners as only 1 person can speak at a time
- Patient benefits from the undivided attention of a physician
- Economizes the use of time for all participants

Elements of Production

- **Sound**
 - microphones
 - electronic stethoscope
- **Lighting**
 - color temperature
 - angle
- **Space and geography of the room**

- **Same Elements of production whether you are in a state-of-the-art videoconferencing suite, using a videophone or a webcam @ your desktop!**
- **Background**
- **Lighting**
- **Audio**
- **Camera skills – be sure you are looking GOOD!**





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telemedicine
=
medicine at a distance

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Telehealth

Telehealth is sometimes discussed interchangeably with telemedicine. The [Health Resources and Services Administration](#) distinguishes telehealth from telemedicine in its scope. According to them, telemedicine only describes remote clinical services; such as diagnosis and monitoring, while telehealth includes preventative, promotive and curative care delivery. This includes the above-mentioned non-clinical applications like administration and provider education which make telehealth the preferred modern terminology.

Robots for Education





Sells IHS, AZ





A word cloud of video conferencing software names. The words are arranged in a roughly rectangular shape, with varying sizes and colors. The colors include red, green, and blue. The words are: Vidyo (green), Google Hangout (red), Adobe Connect (green), Skype (red), WebEx (green), Blackboard (red), Elluminate (green), RealPresence (blue), Windows (red), ZOOM (blue), Go To Meeting (red), LIVE (green), and Bluejeans (red).

Vidyo
Google Hangout
Adobe Connect
Skype
WebEx
Blackboard
Elluminate
RealPresence
Windows
ZOOM
Go To Meeting
LIVE
Bluejeans

HIPAA Health Insurance Portability And Accountability Act of 1996



To be a good telepresenter you must be a good communicator.

- **verbally**
- **non-verbally**

SELFIES!







Teleconferencing Tips

- wear appropriate clothing and jewelry
- be aware of your body language
- use an agenda and facilitate introductions
- develop protocols for questions
- be familiar with the equipment
- test all equipment and network connectivity in advance
- connect with remote sites at least 15 minutes early

Telehealth Best Practices



Telehealth Best Practices

Video developed by the Hawaii Department of Health Genomics Section and available on the Pacific Basin TRC Website www.pbtrc.org

Technology



- **Makes the world a smaller place**
- **Keeps people in their communities**

Best Practices

- **Technical Protocols**
- **Clinical Protocols**
- **Mock Patients**
- **Training**



Telehealth Networking

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Distance Education



CE Requirements

- MD 20 per year (AZ)
- PA 50 every 2 years (AZ)
- RN 15-30 every 2 years
- NP 30 every 2 years
- EMS 60 per 2 years
- DO 20-50 per year





Participant Diversity

MD

Promotora

Technology

EMS, Fire, Safety

Respiratory Therapist

Behavioral Health

Registered Dietitian

DO

PhD

Education & Training

Clinical Staff

RPH/PharmD

Radiology Technician

Social Worker

PA-C

Nursing

DDS

Medical Student

Physical Therapist

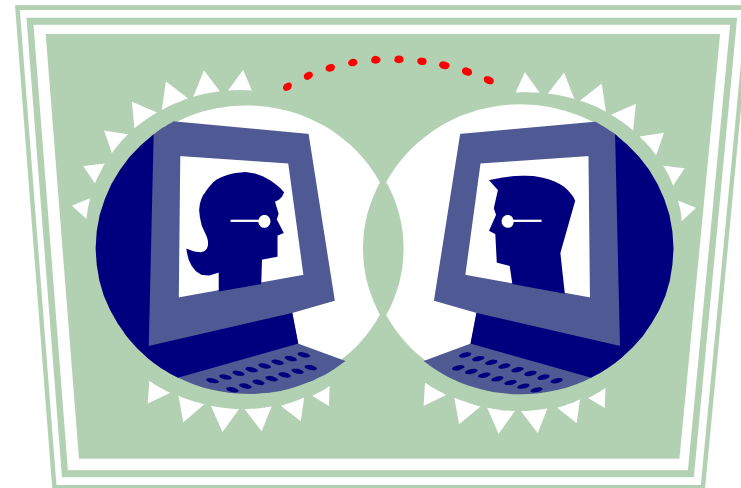
Administrative Staff

Types of Events

- Grand Rounds
- Satellite Broadcasts
- Webinars
- Videostreaming LIVE or Recorded Archive
- Multi-Point LIVE Events, i.e. Emergency Preparedness
- Training
- Administrative

Types of Administrative Events

- Bioterrorism Task Force
- Statewide or Country Roundtables
 - Fires
 - West Nile Virus
 - Diabetes
- Special Interest
 - IHS
 - ADHS
 - CRS (HRSA)
 - ADOC





Arizona Telemedicine Program Events Calendar

[+ ADD EVENT](#) [✉ EMAIL TO LIST](#) [⚙ ADMIN MENU](#) [👤 ACCOUNT](#)

[Search](#) [Export](#) [iCal / RSS](#)

[Share](#) [Print](#) [Help](#) [Logout](#)

◀ October 2018 ▶

[Today](#) [Go to Date](#)

Select Category

Education

Go

Month

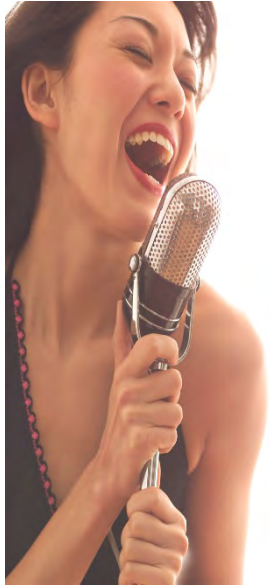
Week

Day

List

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|--------|---|---------|---|----------|--------|----------|
| | 1 | 2 | 3 ● Surgery Grand Rounds 8:00am - 9:00am (edit) ● Medicine Grand Rounds (YRMC) 12:00pm - 1:00pm (edit) | 4 | 5 | 6 |
| 7 | 8 Columbus Day ● Advances in Aging Grand Rounds 12:00pm - 1:00pm (edit) | 9 | 10 ● Surgery Grand Rounds 8:00am - 9:00am (edit) ● Medicine Grand Rounds (YRMC) 12:00pm - 1:00pm (edit) | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 ● Surgery Grand Rounds 8:00am - 9:00am (edit) ● Medicine Grand Rounds (YRMC) 12:00pm - 1:00pm (edit) | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 ● Surgery Grand Rounds 8:00am - 9:00am (edit) ● Medicine Grand Rounds (YRMC) 12:00pm - 1:00pm (edit) | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 ● Surgery Grand Rounds 8:00am - 9:00am (edit) ● Medicine Grand Rounds (YRMC) 12:00pm - 1:00pm (edit) | | | |

Video Conference Rules



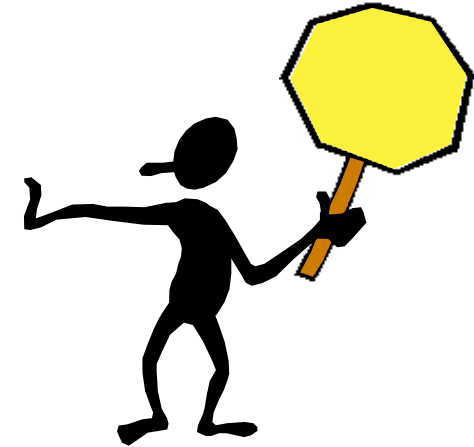
1. Always assume that your microphone is on

2. Always assume that someone can see you



Barriers

- Time zone differences
- Room size
- Reduced travel



Benefits



- Cost savings (travel / registration fees)
- Reduced time away from work
- Wider variety of opportunities
- Convenience
- Access to national and International experts

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Melanie Esher-Blair, MAdm
Training Coordinator

mesher@telemedicine.arizona.edu

<https://echo.unm.edu/> ECHO=Extension for Community Healthcare Outcomes

Project ECHO: A Revolution in Medical Education and Care Delivery

Project ECHO is a lifelong learning and guided practice model that revolutionizes medical education and exponentially increases workforce capacity to provide best-practice specialty care and reduce health disparities. The heart of the ECHO model™ is its hub-and-spoke knowledge-sharing networks, led by expert teams who use multi-point videoconferencing to conduct virtual clinics with community providers. In this way, primary care doctors, nurses, and other clinicians learn to provide excellent specialty care to patients in their own communities.



People need access to specialty care for their complex health conditions.



There aren't enough specialists to treat everyone who needs care, especially in rural and underserved communities.



ECHO trains primary care clinicians to provide specialty care services. This means more people can get the care they need.



Patients get the right care, in the right place, at the right time. This improves outcomes and reduces costs.



Project ECHO Hubs (Global)

Hub Locations

| | | |
|-----------------------|------------------|----------------------|
| ECHO Countries | ECHO Hubs | ECHO Programs |
| 34 | 253 | 574 |



Search for Hubs & Programs

Filter by Area(s) of Focus

- Ambulatory Care
- Autism
- Behavioral/Mental Health
- Business
- Cancer
- Cancer Diagnosis
- Cancer Prevention & Risk Reduction
- Cancer Screening
- Cancer Survivorship

Filter by Hub Country

 [Clear All](#)

| ECHO Hub | Program Name | Area(s) of Focus | Email | Website | Hub City | Hub St./Pr./Reg. | Hub Country |
|--|-----------------|----------------------------------|-------------------|-------------------|----------|------------------|-------------|
| National Center for Tuberculosis and Lung Diseases | Tuberculosis/TB | Infectious Disease, Tuberculosis | ✉ | 🌐 | Tbilisi | Tbilisi | Georgia |

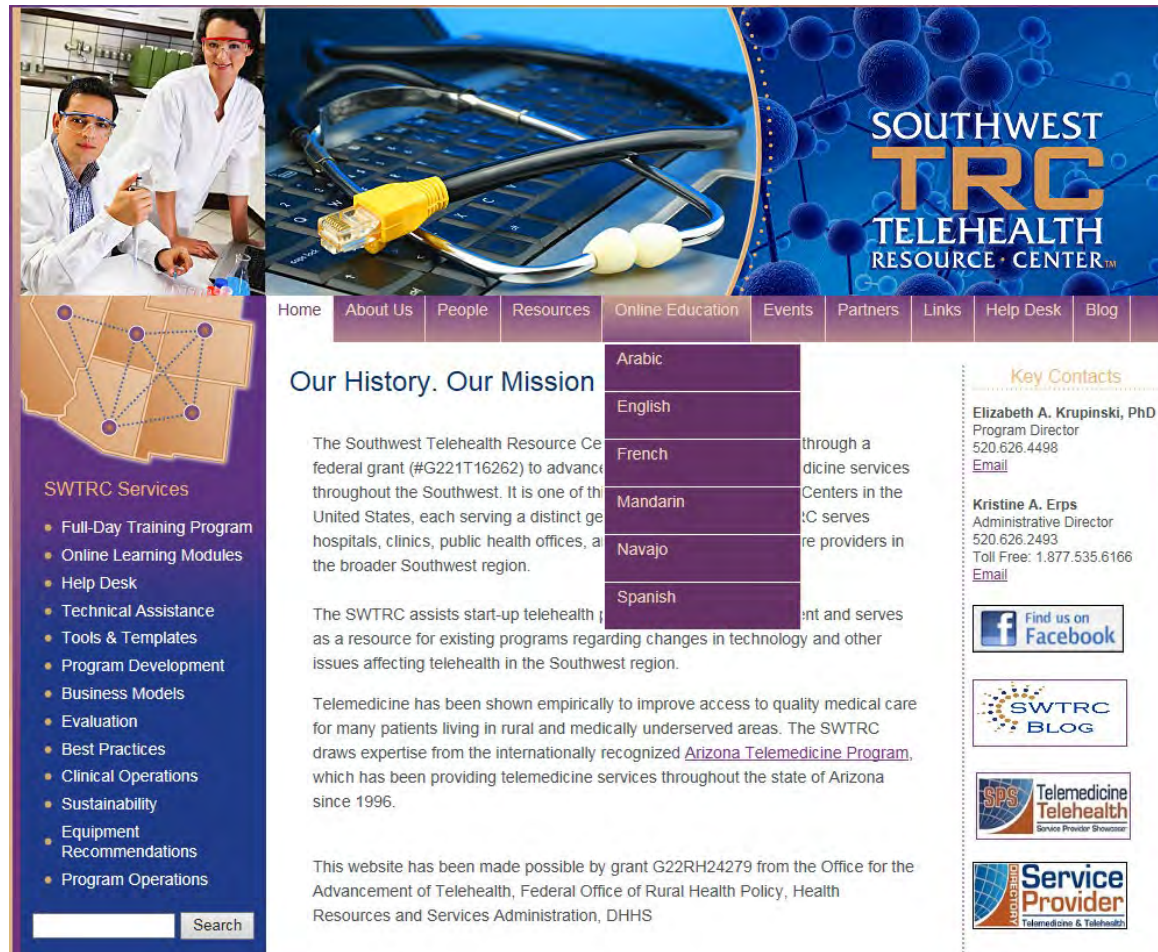
Telerheumatology ECHO



NeoECHO



Clinical Case Presentation



SOUTHWEST TRC TELEHEALTH RESOURCE CENTER™

Home About Us People Resources Online Education Events Partners Links Help Desk Blog

Our History. Our Mission

The Southwest Telehealth Resource Center was established through a federal grant (#G221T16262) to advance telemedicine services throughout the Southwest. It is one of the largest telehealth programs in the United States, each serving a distinct geographic region. SWTRC serves hospitals, clinics, public health offices, and other telehealth providers in the broader Southwest region.

The SWTRC assists start-up telehealth programs and serves as a resource for existing programs regarding changes in technology and other issues affecting telehealth in the Southwest region.

Telemedicine has been shown empirically to improve access to quality medical care for many patients living in rural and medically underserved areas. The SWTRC draws expertise from the internationally recognized [Arizona Telemedicine Program](#), which has been providing telemedicine services throughout the state of Arizona since 1996.

This website has been made possible by grant G22RH24279 from the Office for the Advancement of Telehealth, Federal Office of Rural Health Policy, Health Resources and Services Administration, DHHS

SWTRC Services

- Full-Day Training Program
- Online Learning Modules
- Help Desk
- Technical Assistance
- Tools & Templates
- Program Development
- Business Models
- Evaluation
- Best Practices
- Clinical Operations
- Sustainability
- Equipment Recommendations
- Program Operations

Search

Key Contacts

Elizabeth A. Krupinski, PhD
Program Director
520.626.4498
[Email](#)

Kristine A. Erps
Administrative Director
520.626.2493
Toll Free: 1.877.535.6166
[Email](#)

Find us on Facebook

SWTRC BLOG

SPS Telemedicine Telehealth Service Provider Showcase

Service Provider Telemedicine & Telehealth

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The Telemedicine Referral Case Process

Phyllis Webster,
Program Coordinator, Sr.
Arizona Telemedicine Program

Case Management

Go through the steps required to set up, carry out and complete a clinical telemedicine referral.





How does this whole thing work, anyway?

- Who decides to refer a case via telemedicine?
- What is the procedure for referring a case?
For consulting on a case?
- What kind of information does the teleconsultant require in order to staff the referral?
- Who organizes the case information, triages the case, does the scheduling, manages network connections, and facilitates the session?



Key Participants in the Referral Case Process

- **The Patient**
- Referring Healthcare Provider
- Telemedicine Site Coordinator (referring end)
- Telemedicine Case Coordinator (consulting end)
- Medical Director for Telemedicine (either end)
- Network Engineer(s); IT Staff
- Consulting Healthcare Specialist

Required Referral Case Information

- Patient Consent Form
- Patient History Form
- Patient Information Form
- Pertinent adjunct medical information (labs, progress notes, radiology/other imaging reports, digital images, outside consultation reports)



Referral Case Flow:

How referral cases are processed
using the ATP model

- The organization of every telemedicine program is unique. Thus, infrastructure, types of services, utilization of support staff, and other operational processes will vary widely, are influenced by many factors, and should be designed to facilitate work flow as efficiently as possible.
- This next section outlines just one example of such a process that has been developed specifically for staffing *non-emergent, provider-referred, appointment-based, multi-specialty outpatient clinical consultations* (via either real-time interactive videoconference or asynchronous store-and-forward case review).
- The process does not apply to inpatient, trauma, teleradiology, or telepathology services, for which different technologies and separate protocols are used.


Telemedicine Site Coordinator with referring provider, reviewing and selecting case information for transmittance to the consulting site



Reviewing the steps in the telemedicine referral process and obtaining informed consent from the patient



Basic information sheet given to referral patients explaining the procedures, privacy, and research components of telemedicine



ARIZONA TELEMEDICINE PROGRAM
Information for Telemedicine Referral Patients

What is Telemedicine?
Telemedicine is an evaluation of your problem by a specialist at another hospital using video, audio, and computer data connections. By using telemedicine, you may not have to travel to a major health center to receive care. You will receive the benefit of a specialist at this facility. Your local health care provider will be in contact with experts who will be playing an important role in your care.

Procedures
A telemedicine session is similar to a routine medical office visit. At this session, special instruments may be used so that sounds and pictures can be sent to the specialist. There should be no discomfort from any of the specialty equipment used. Your health history will also be sent with the pictures. If it is a “live” telemedicine session, special video equipment will be used so that the specialist can see and talk to you. At the same time, you will be able to see and talk to the specialist.

Privacy
You will have the same privacy as you would in any examining room. The specialist is also in a private telemedicine room. All of your health history information and any pictures sent to the specialist will be kept confidential unless released in writing by you. Only pictures and health information pertinent to your diagnosis will be recorded and sent to the specialist. Your medical file will be treated with the same confidentiality as if it were at your local facility.


Research



PROGRAMA DE TELEMEDICINA DE ARIZONA
Información para Pacientes Enviados a Telemedicina

¿Qué es la telemedicina?
Telemedicina es la evaluación de problemas de salud por un especialista desde un hospital distante de la localidad del paciente. Para esta evaluación se utilizan conexiones de video, audio y datos computarizados. Mediante la telemedicina es posible que Ud. no tenga que viajar a uno de los principales centros de salud para recibir su atención médica. Usted tendrá aquí el beneficio de los servicios de un especialista. Su proveedor de servicios de salud estará en contacto con expertos que desempeñarán un papel importante en su atención médica.

Procedimientos
Una sesión de telemedicina es similar a una consulta regular. En esta sesión puede ser que se utilicen instrumentos especiales para poder enviarle sonidos y fotos al especialista. El equipo especializado que se utilice no le causará a Ud. ninguna incomodidad. Su historia clínica también será enviada con las fotos (o imágenes de video). Si la sesión de telemedicina es “en vivo” se usará equipo especial de televisión de modo que el especialista pueda verlo y platicar con Ud. Igualmente, Ud. podrá ver al especialista y platicarle.


Privacidad
Ud. tendrá la misma privacidad que tendría en cualquier sala de examen. El especialista estará también en una sala privada de telemedicina. Toda la información de su historia clínica al igual que las fotos enviadas al especialista serán confidenciales a menos que Ud. autorice cederlas, por escrito. Únicamente las fotos y la información sobre su salud que sean pertinentes para su diagnóstico serán grabadas y enviadas al especialista. Su expediente clínico será guardado con la misma confidencialidad como si fuera archivado en el centro médico de su localidad.



**AMERICAN
TELEMEDICINE
ASSOCIATION**

PRACTICE GUIDELINES FOR
DERMATOLOGY

April 28, 2016



Ex: Poor diagnostic quality digital images for teledermatology referral case review 😞

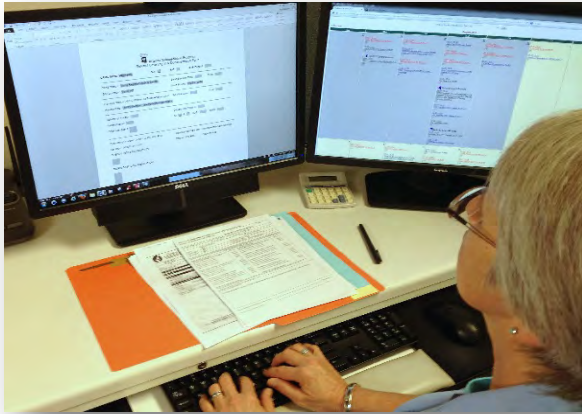


Telemedicine Case Coordinator

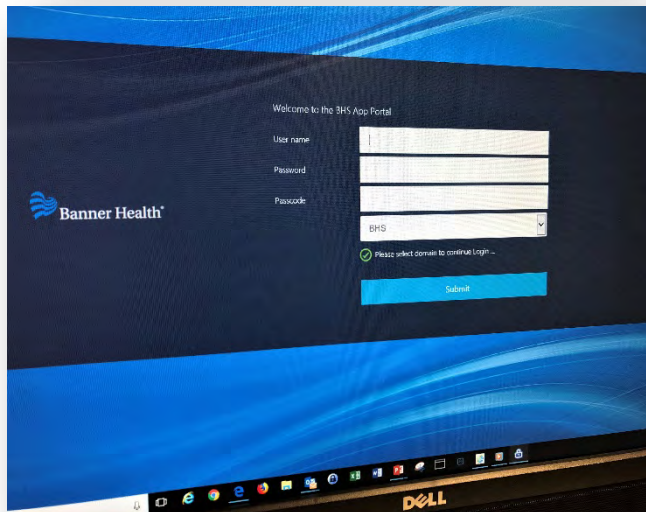


- Receives the case information and records the teleconsultation request
- Compiles and inspects demographic and clinical case information (administrative review)

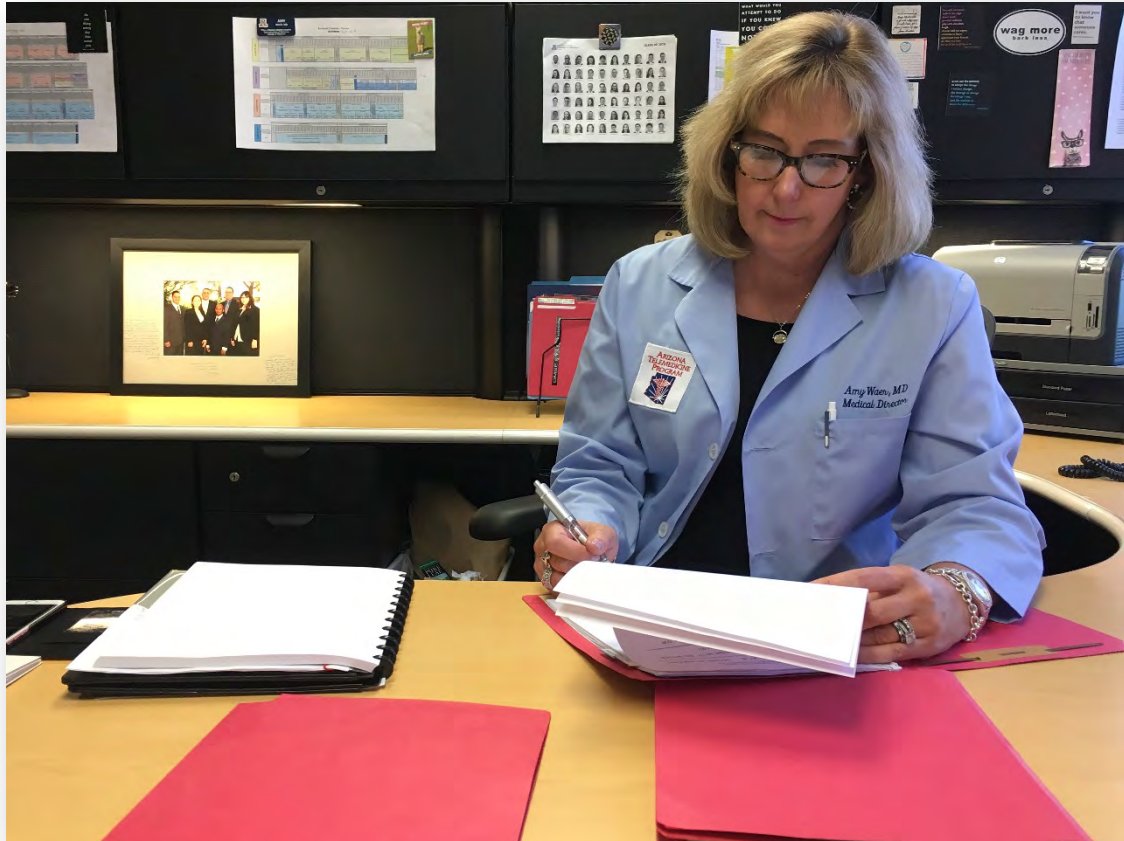
Telemedicine Case Coordinator



- Registers the patient
- Begins referral case processing and documentation
- Notifies Medical Director of request



Medical Director (Consulting site)



- Reviews the chart (clinical review)
- If further information is needed, notifies the TCC who then relays the request to the TSC
- If information is complete, permits the TCC to initiate scheduling

Telemedicine Case Coordinator

- For store-and-forward requests, schedules case review with teleconsultant
- For real-time videoconferenced requests, works with TSC to coordinate appointment scheduling for standing clinics



Using an online calendar to schedule network activities

The screenshot shows a web-based calendar interface for the Arizona Telemedicine Program. The page title is "Arizona Telemedicine Program Events Calendar". The calendar is for the month of September 2018. The interface includes a search bar, navigation buttons for "Today" and "Go to Date", and a "Select Category" dropdown menu. The calendar grid shows events for various days of the month, including "Labor Day" on September 3rd and several "Grand Rounds" events in Surgery, Medicine, and Psychiatry. A blue highlight is visible on Thursday, September 6th.

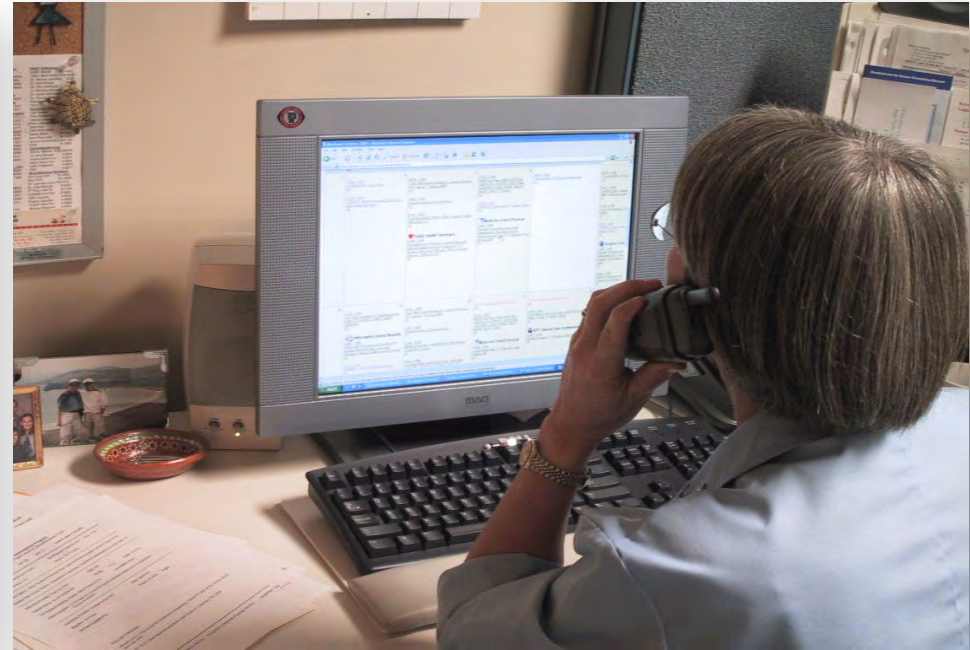
| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|--------|--|--|---|---|--------|----------|
| | | | | | | 1 |
| 2 | 3 Labor Day | 4 | 5 Surgery Grand Rounds 8:00am - 9:00am Medicine Grand Rounds (YRMC) 12:00pm - 1:00pm CANCELLED -- Psychiatry Grand Rounds 4:00pm - 5:30pm | 6 | 7 | 8 |
| 9 | 10 Advances in Aging Grand Rounds 12:00pm - 1:00pm | 11 Nursing Grand Rounds 12:00pm - 1:00pm @ Drachman Hall A326 | 12 Surgery Grand Rounds 8:00am - 9:00am Medicine Grand Rounds (YRMC) 12:00pm - 1:00pm Psychiatry Grand Rounds 4:00pm - 5:30pm | 13 Pediatric Grand Rounds 12:00pm - 1:00pm | 14 | 15 |
| 16 | 17 Developing a Telemedicine Program Training _ Onsite Only | 18 | 19 CANCELLED -- Surgery Grand Rounds 8:00am - 9:00am Medicine Grand Rounds (YRMC) 12:00pm - 1:00pm Psychiatry Grand Rounds 4:00pm - 5:30pm | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 Surgery Grand Rounds 8:00am - 9:00am Medicine Grand Rounds (YRMC) 12:00pm - 1:00pm Psychiatry Grand Rounds 4:00pm - 5:30pm | 27 Pediatric Grand Rounds 12:00pm - 1:00pm | 28 | 29 |

Network Engineer

On the day of the scheduled videoconferenced clinic, sites may be dialed directly or a network engineer may enable the calls remotely.



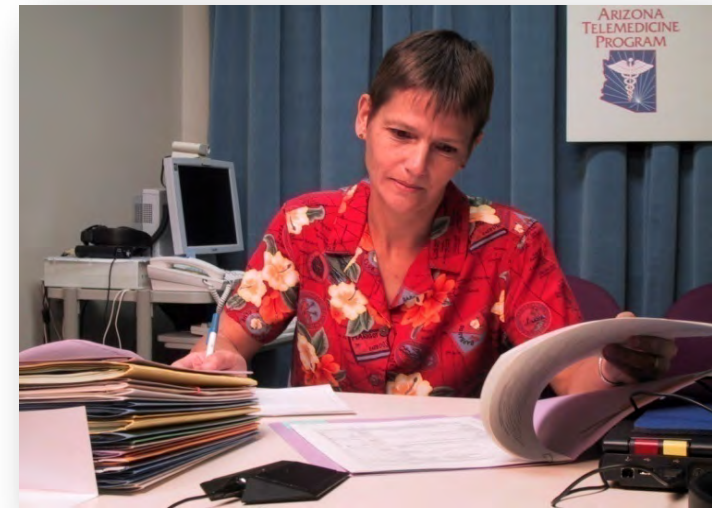
The Telemedicine Coordinator may provide administrative and technical support during the session and is always immediately accessible if any needs or problems arise



Telemedicine Case Coordinator



- Completes case management documentation and finalizes patient record
- Submits patient record to Medical Director for final chart review
- Submits patient record to Evaluation Coordinator for data collection



Telemedicine Case Coordinator



- Outside hard copy records are scanned into central EHR system on the consulting end (legal custodian of records)
- Integrated EHR system handles coding/billing
- Referral case process is complete

A Few Lessons Learned

- Regularly scheduled clinics tend to be more efficient than those scheduled on an as-needed basis.
- As much as possible, try to format telemedicine clinics after routine, in-person clinics (e.g., setting up a telemedicine suite close to patient exam rooms; following registration, prior authorization and patient check-in procedures).
- Appoint and train qualified back-up personnel. Cross-coverage is a must. On-going training is important.
- Design and post a case management work flow chart as well as step-by-step protocols (standard operating procedures).
- Clinical telemedicine practice standards and guidelines released by the American Telemedicine Association are available for free download at its website, www.americantelemed.org and on our TRC website www.southwesttrc.org



Cultural Diversity = having different cultures respect each other's differences.

- Age
- Language - ACA in Spanish, VIDA in Spanish, consent forms in Navajo, sign language and translations/interpreters
- Geography and Economy – sheep herders, copper miners
- Food – what's the best flour for making tortillas?

You can use technology to maximize the work of Certified Diabetes Educators OR Genetic Counsellors in your state!

The Future is NOW!

The Jetsons - more accurate than expected



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Thank You, Merci, Gracias y CIAO!
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