

**ARIZONA
TELEMEDICINE
PROGRAM**



Arizona Telemedicine Program

How to put the Tele into Telegenetics

Janet Major, B.S.

Associate Director, Education & Facilities

Arizona Telemedicine Program

Southwest Telehealth Resource Center

Distance Learning Outreach

University of Arizona Health Sciences Center

Board Member – Telehealth USDLA



GENETICS

This is how it works.

fakeposters.com

Genetics

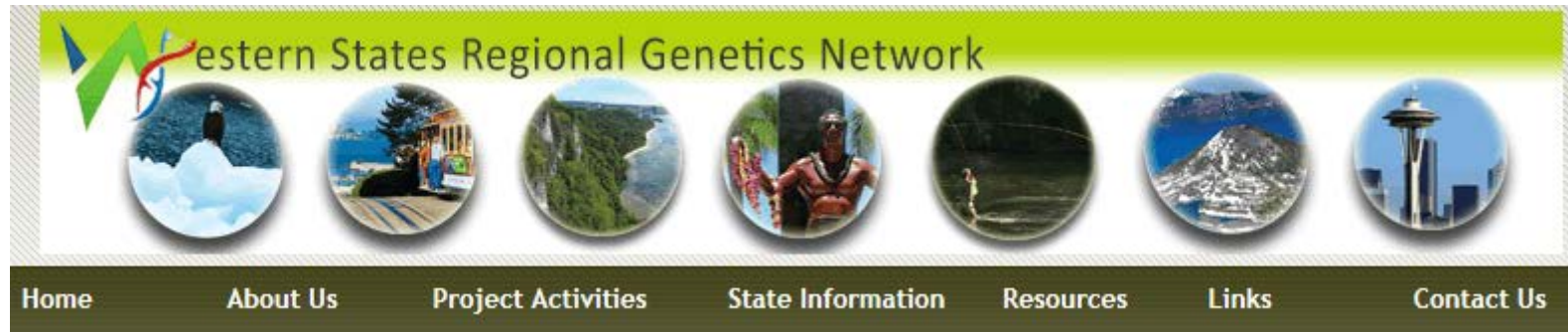
Genetics is the study of genes, genetic variation, and heredity in living organisms. It is generally considered a field of biology, but it intersects frequently with many of the life sciences and is strongly linked with the study of information systems.

Genetic counseling is the process by which the patients or relatives at risk of an inherited disorder are advised of the consequences and nature of the disorder, the probability of developing or transmitting it, and the options open to them in management and family planning.

Collaborative Partnerships & Organizations

- WSRGN Western States Regional Genetics Network
- TRC's Telehealth Resource Centers (PBTRC)
Resources, Best Practices & Training (SWTRC facilities)
- Health Departments of Hawaii, Washington State, Iowa
- Schools of Medicine from the University of Arizona, University of Hawaii, University of Arkansas and University of Iowa
- AMCHP American Association of Maternal & Child Health Programs
- ACMG American College of Medical Genetics and Genomics
- USDLA United States Distance Learning Association

<http://westernstatesgenetics.org/>



Alaska

California

Guam

Hawaii

Idaho

Oregon

Washington State

Sylvia Mann, MS, CGC

**Director, Genomics Section, Western States Genetic Services
Collaborative**

State Genetics Coordinator, Hawaii Department of Health

Workshop Locations: State Universities of Arizona, Hawaii, Iowa, Utah, Massachusetts, Southern California @ Irvine and Health Departments of Hawaii & Washington



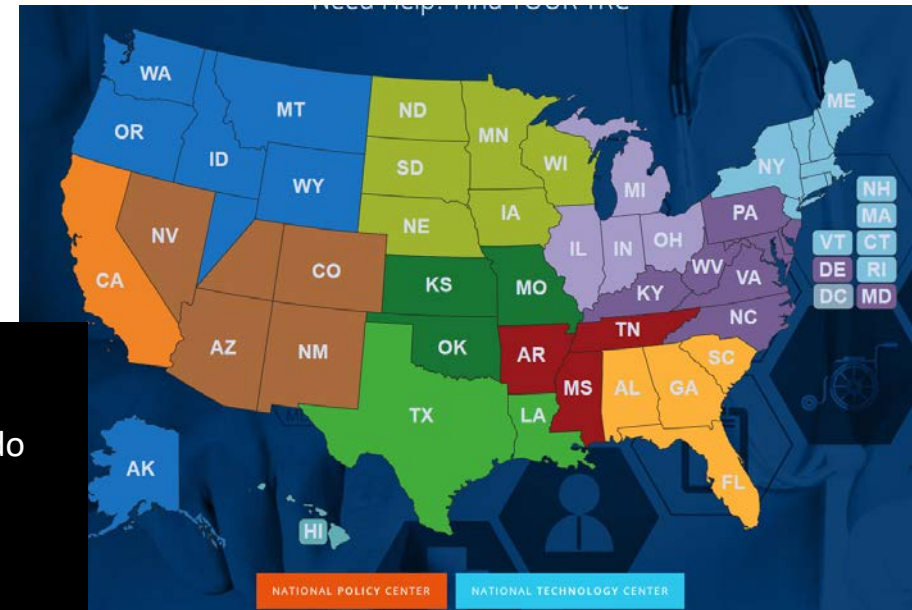
Iowa Institute of Human Genetics





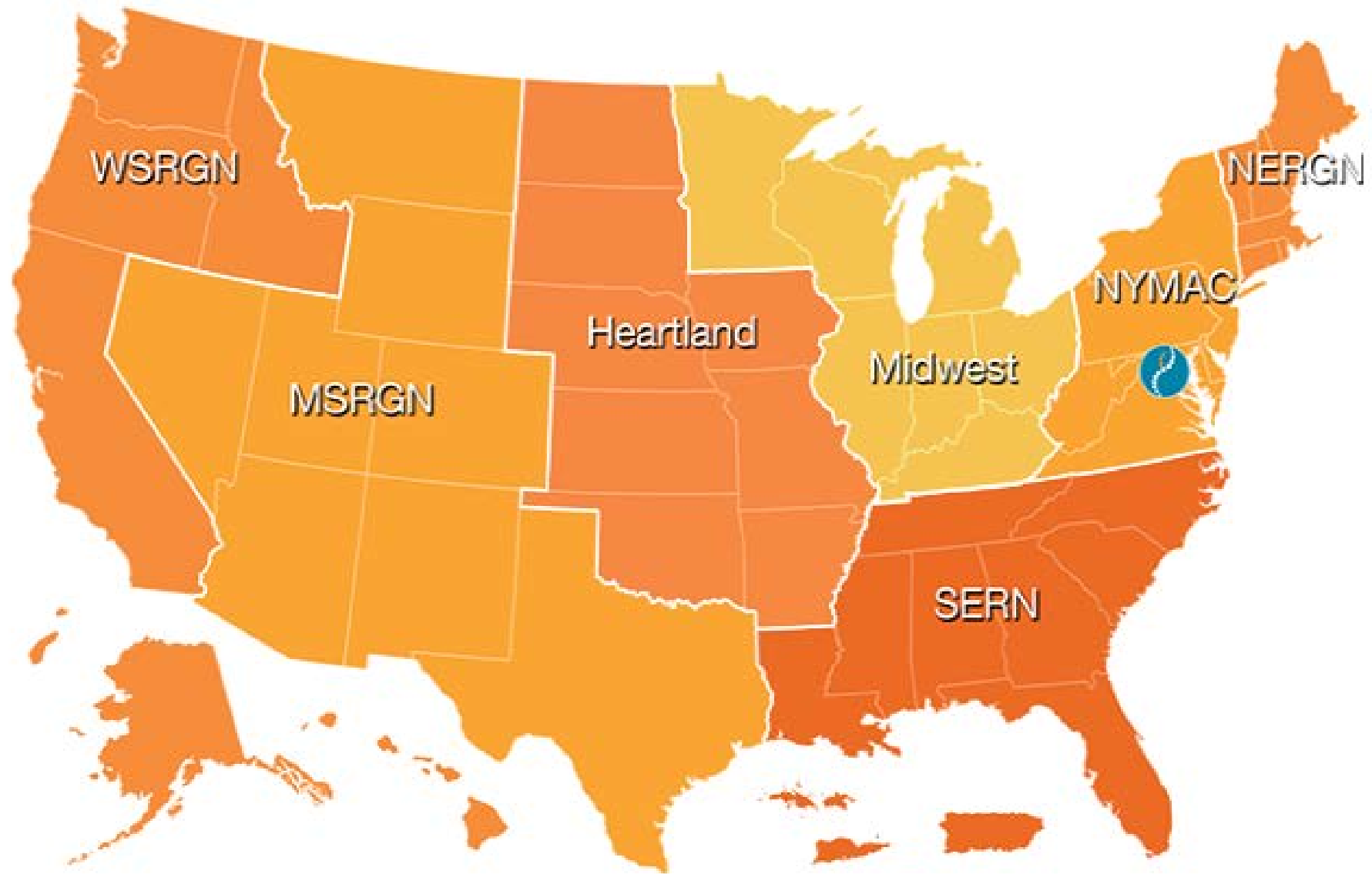
The Region We Serve





Alaska
California
Guam
Hawaii
Idaho
Oregon
Washington

Nevada
Utah
Colorado
Arizona
New Mexico



www.telehealthresourcecenter.org



September 22 – 23, 2014

YOUR CONNECTION TO TELEHEALTH IN THE SOUTHWEST



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Western States Genetic Services Collaborative

By Elizabeth A. Krupinski on Aug 19, 2015

The need for genetic counselors is immense as there simply are not enough to cover the number of patients requiring their services.

Sound familiar? Can you think of a solution? Telegenetics of course!

But as we all know, you can't just jump into telemedicine without some degree of training. That's where the [Western States Genetic Services Collaborative](#) (WSGSC) comes into play.

WSGSC is a HRSA-funded, multi-state project seeking to improve genetics and newborn screening services through sharing of resources across the region. The WSGSC includes Alaska, California, Guam, Hawaii, Idaho, Oregon, and Washington.

The Telegenetics Education and Training Program is a joint effort organized by the WSGSC and the Heartland Regional Genetics and Newborn Screening Collaborative. Working collaboratively with the Southwest Telehealth Resource Center (SWTRC) in Tucson, Arizona, and the South Central Telehealth Resource Center

Blog Categories

- News & Events
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TELEGENETICS EDUCATION AND TRAINING PROJECT (HRSA)

This inter-regional project was developed to offer training about telegenetics in order to increase understanding of and uptake of use of telemedicine among genetic specialists. The WSRGN helped create the foundation for increasing access to genetic services by training new providers to incorporate telemedicine as part of routine practice. This effort has been expanded to other regions that are now offered this training. Two trainings have been held as of summer 2016 with three additional trainings scheduled for 2016 and quarterly for 2017

*This is now a national program!

Project Lead: Sylvia Mann

Staff Lead: Michelle Takemoto

ATP Lead: Tracy Skinner

[List of Telegenetics Resources](#)

[Information for Telegenetics Trainees](#) (Password Protected)



Recruitment



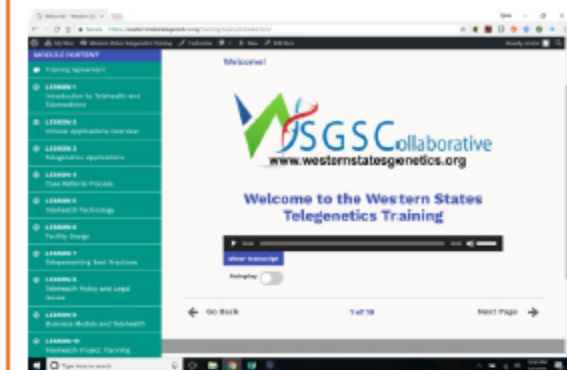
Application in E-Learning System



Review and Selection of Trainees



Registration



10 on-line modules



2 webinars



1 day in-person training

Continuing support



Online Modules

Introduction to Telehealth and
Telemedicine

Clinical Application Overview

Telegenetics Applications

Case Referral Process

Telehealth Technology

Facility Design

Telepresenting Best Practices

Telehealth Policy & Legal Issues

Business Models and Telehealth

Telehealth Project Planning

In-Person Telegenetics Training
August 22, 2017
University of Arizona
Tucson, AZ

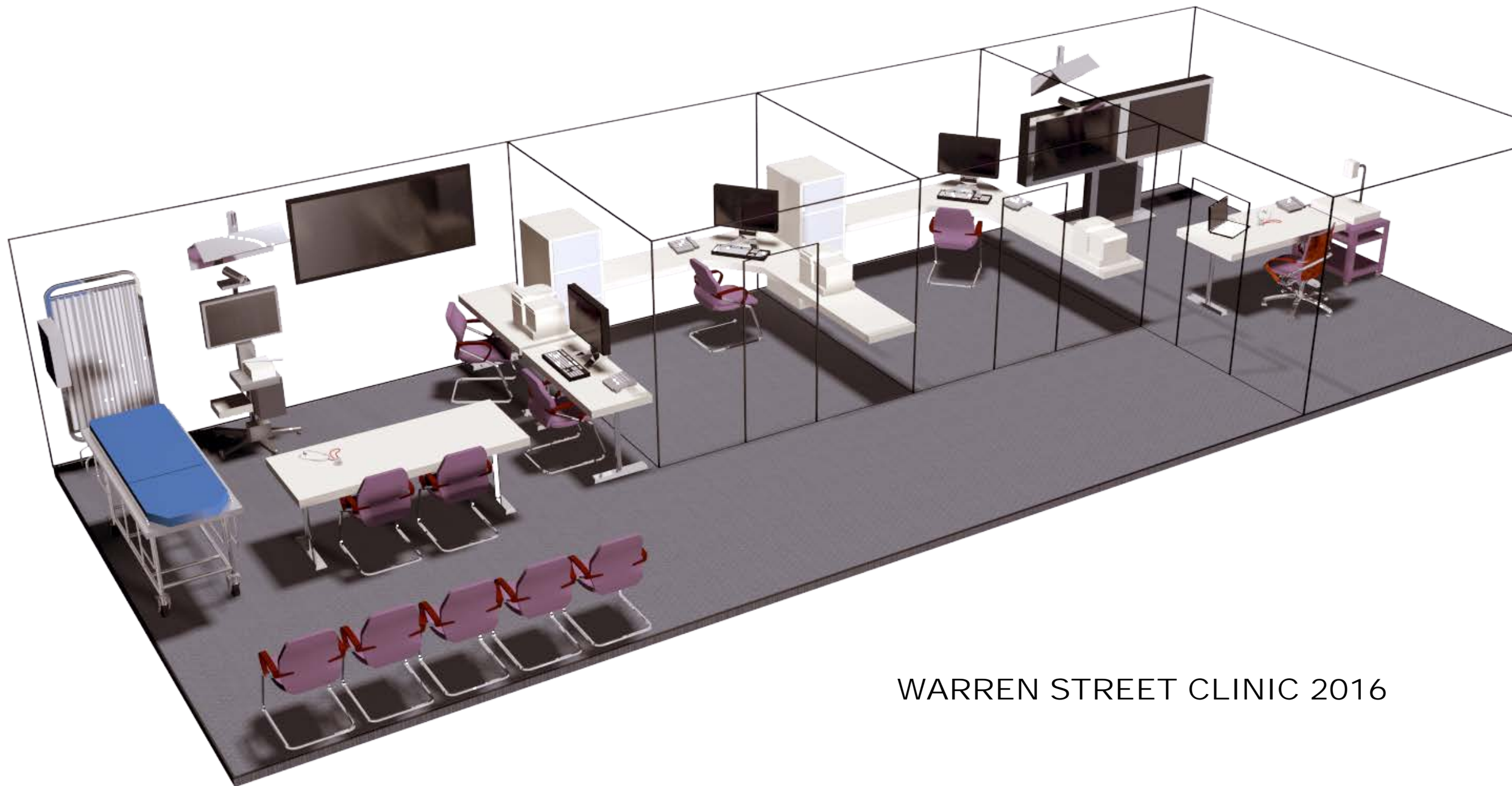
- 9:00 – 9:30 Welcome and Introductions – Sylvia Mann/Tracy Skinner**
An introduction of staff and participants, discussion of meeting goals and objectives, and review of housekeeping items including CE forms.
- 9:30 – 10:00 Review and Discussion of information from on-line modules – Lila Aiyar**
- 10:00 – 11:00 Technology Review – Janet Major**
A review of different technology options, prices, tools, and uses
- 11:00 – 11:15 Break**
- 11:15 – 11:45 Telepresenting 101 – Janet Major**
An overview of how to use telemedicine equipment set up a room to make telemedicine successful, and interact with patients and families.
- 11:45 – 12:45 Lunch**
- 12:45 – 2:30 Simulated Patient Needing Education and Counseling- all**
Students will take turns using the telemedicine equipment to role-play. Students will have a chance to be a genetic counselor and a patient using provided scenarios.
- 2:30 – 3:30 Policy Issues – Sylvia Mann**
A discussion of the policies (licensure, credentialing, coverage, and reimbursement, etc.) affecting provision of services using telegenetics
- 3:30 – 4:00 Evaluation of Telegenetics Activities – Lila Aiyar**
A discussion of the tools available for evaluation and what long term evaluation will be done for this training
- 4:00 – 4:30 Wrap Up and De-Brief – Sylvia Mann/Lila Aiyar/Tracy Skinner**
- 4:30 Adjourn**

Curriculum

- Hybrid Certificate Course
- Online Learning Modules with a post-test before 1 day onsite training
- Meet with colleagues onsite for a one or two day course that includes an agenda and hands-on real life scenarios
- All counselors rotate thru the interactive videoconference role playing experience and participate as a counsellor as well as a patient with challenging scripts
- A National network of TeleGenetic Counsellors is being built as a product of this collaborative effort
- Genetic Counselors often deliver very BAD news!

Hands-on!





WARREN STREET CLINIC 2016

ATP Telegenetics Cases

- Oncology Genetics
 - 42 Komen grant
 - Adults male/female
- Pediatric Genetics
 - 53 mostly with FMC
 - Dr Cuniff & Dr Erikson

Telegenetics Counseling Training

August 4-5, 2015



This training was in coordination with the University of Arkansas and the University of Arizona. Participants came from Washington, Hawaii, Arkansas and Kansas. This was a two-day training session with AMA and CEU credits.

TeleGenetics Hawaii & Washington State Department of Health



**ARIZONA
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**Telegenetics
Tuesday August 2, 2016
Tucson, AZ**



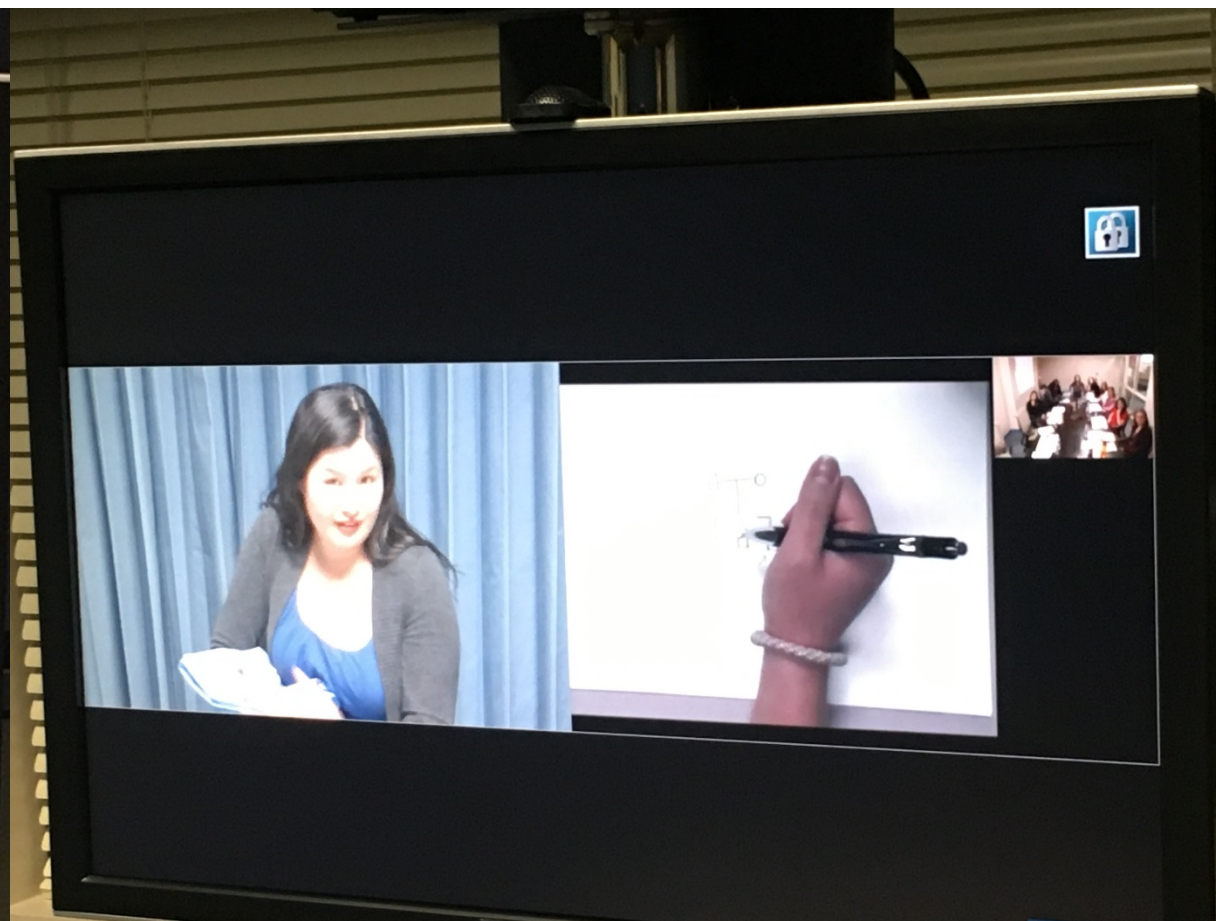
Genetic Counselors from Colorado, Utah, Pennsylvania, Rhode Island, California, Alaska and Hawaii

The Story of Eli Coli













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Mountain States Genetics Regional Collaborative

2017 Annual Meeting
April 20-22, 2017
Salt Lake City, Utah



Telegenetics



Mountain States
REGIONAL GENETICS NETWORK



MONTANA
WYOMING
NEVADA
UTAH
COLORADO
ARIZONA
NEW MEXICO
TEXAS

2018 Genetics Summit
October 1-3, 2018
San Antonio, TX



Mission:
To ensure that individuals with genetic disorders and their families have access to quality care and appropriate genetic expertise and information through facilitating a professional network of genetics clinics, key primary care practices, consumer advocates, and state health department resources.

ACMG

American College of Medical Genetics and Genomics

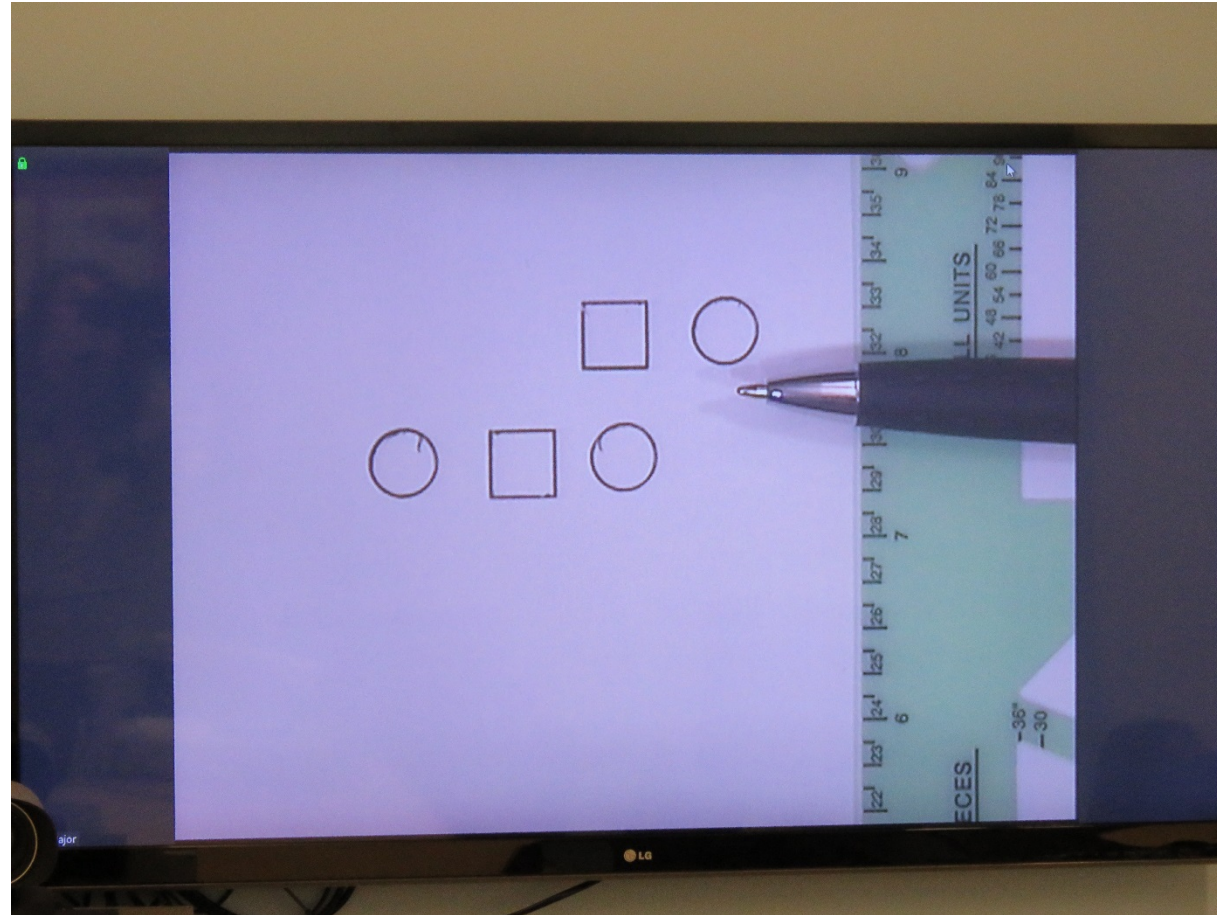


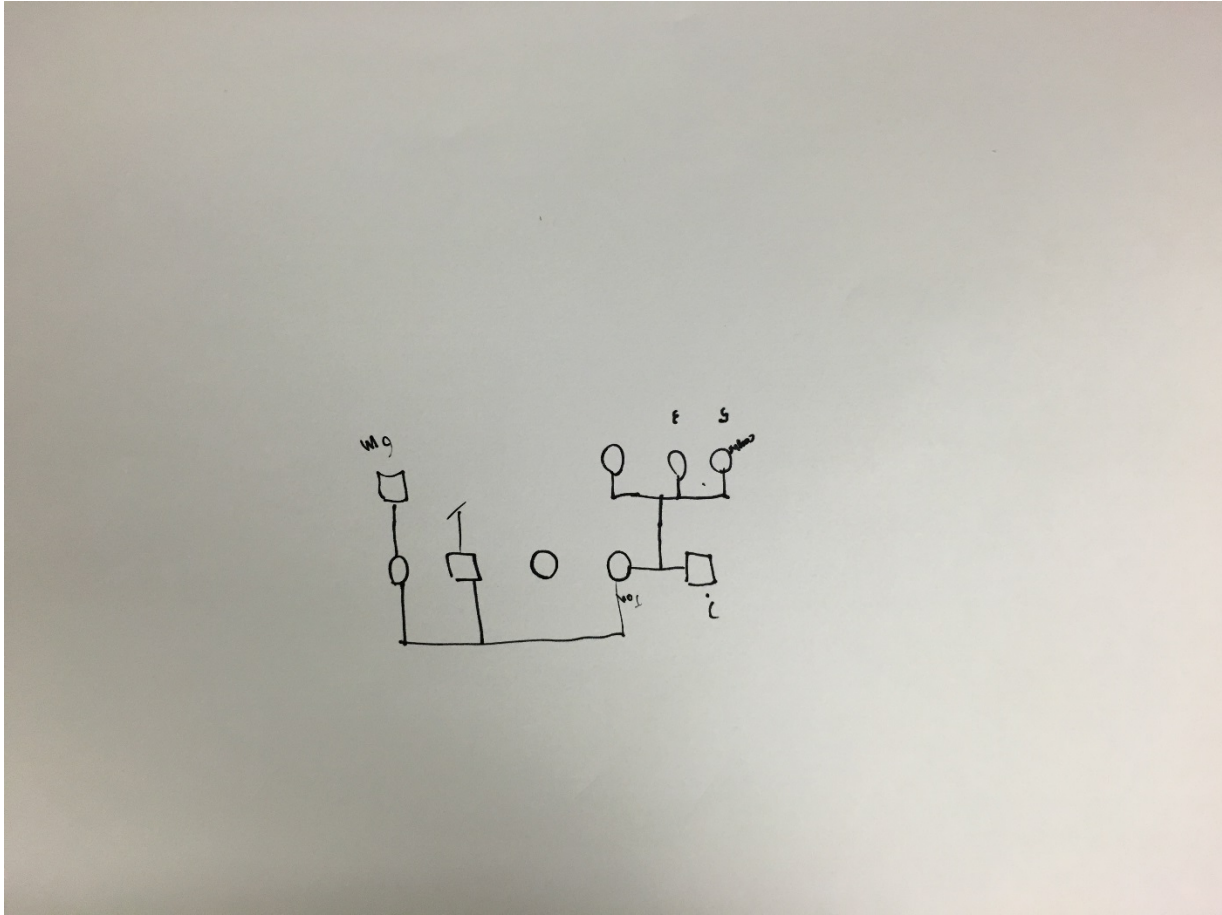
Meet & Greet March 23, 2017

T Health Institute Phoenix, AZ









Web **Images** Videos Maps News Explore

Image size Color Type Layout People Date License SafeSearch: **Moderate**

Unaffected Individual

○ FEMALE □ MALE △ UNKNOWN

Affected Individual

● FEMALE ■ MALE ▲ UNKNOWN

Married or formed offspring

○ □ Offspring

Female with disease

Male with disease

Well male

	Male	Female	Sex unknown or unspecified
Unaffected person	□	○	◇
Person affected with trait	■	●	◆
Multiple persons (S)	□ S	○ S	◇ S
Deceased person	◻	◊	◊
Proband (first affected family member coming to attention of geneticist)	◻*	◊*	◊*
Family history of person unknown	◻	○	◇
Family—parents and three children: one boy and two girls in birth order			
Identical, Nonidentical, Unknown			

Well female

Female with Huntington's Disease

Well male

Male with Huntington's Disease

shutterstock

Family Drissenidae

1-day telemedicine training (8 participants)
..... **\$2,400**

Charge includes; room usage, video connection, engineer support,
ATP/SWTRC training faculty time & lunch



Telegenetics Training Tuesday August 2, 2016 Tucson, AZ











To be a good telepresenter – and a great telegenetic counselor you must be a good communicator.

- verbally
- non-verbally

SELFIES!



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

- Age
- Technology
- Language - ACA in Spanish, VIDA in Spanish, consent forms in Navajo, sign language and translations/interpreters
- Geography and Economy – sheep herders, copper miners who need healthcare when and where it's convenient
- FOOD – what's the best flour for making tortillas?
Using technology to maximize the work of Certified Diabetes Educators OR Genetic Counselors in your state!





https://aztelemedicine.zoom.us/recording/play/XIB8_ixW8XffKfWS3XsI7zG6kSdMo67oSYo1NZZMGoZgzHlBjUkak4HZYvuAx5lO?continueMode=true

Video Interpretation Demo

Distance Learning Genetic Counsellor Training

About The Online Master of Genetic Counseling Program

Boise State

Boise State University's School of Allied Health Sciences – housed in the College of Health Sciences – **offers an innovative online Master of Science in Genetic Counseling degree program** committed to excellence through contemporary models of education with an emphasis on expanding access to the profession of genetic counseling.

The program will focus on emerging trends in the field of genetic counseling which include advancements in genetics/genomic technologies, healthcare delivery as well as the need for business skills and inter-professional experiences.

THINGS WE KNOW ABOUT THE PROFESSION:

- › Nine of ten genetic counselors (90%) report they are satisfied with their job.
- › Most genetic counselors have a Master's degree in human genetics and/or genetic counseling.
- › The average salary for a full-time genetic counselor is \$81,377 but can reach up to \$250,000 depending on specialty area and experience.
- › Employment of genetic counselors is projected to grow 29 percent by 2024, much faster than the average.

FIND OUT MORE
REQUEST INFO



PROGRAM HIGHLIGHTS

- ✓ 100% online coursework
- ✓ 7-week course length
- ✓ 56 semester credits
- ✓ Completed in 2 years (5 semesters)
- ✓ Faculty mentorship by leaders in the field with an emphasis on resiliency and compassionate education
- ✓ Coursework specific for the genetic counseling discipline and delivered as a comprehensive, cohesive personalized learning experience
- ✓ Wide range of in person clinical training to engage with diverse communities
- ✓ Professional development on interprofessional education and the business of healthcare giving students the skills to be leaders and entrepreneurs

Heartland Genetics Network

For Genetics Specialists

Telemedicine and Telegenetics



I am a geneticist interested in integrating telemedicine and telegenetics in my practice. Where do I begin?

The Heartland Genetics Network offers a manual for clinicians and periodic training, for those clinicians who are interested in getting started with telegenetics. Western States Genetics Network offers telehealth training and education in conjunction with the telehealth resource centers, for genetic counselors. The American Telemedicine Association and the Telehealth Resource Centers have countless resources, trainings, webinars and conference available on the topic of telehealth. Also linked below is a media article about telehealth.

Heartland

- [Telemedicine Manual for Clinical Genetic Services](#) 📄
- [American Telemedicine Association](#)
- [Telehealth Resource Centers](#)
- [Partnership with Western States on training for genetic counselors](#)
- [NCC Telegenetics Resources](#)
- [Scientific America Article about Telegenetics and Geneticists Deserts](#)



Western States Regional Genetics Network (WSRGN)

<https://www.westernstatesgenetics.org/project-activities/telegenetics-training/>



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Upcoming Telegenetics Training Dates

- Tucson, AZ
January 28 & 29, 2019
- New York, NY
March 22, 2019
- Springfield, Massachusetts
March 25 – 28, 2019

Capacity = 15 students

Certified Genetic Counsellors, Students, Geneticist



Monday October 16, 2017





Telehealth Networking

How to Find a Certified Genetic Counselor

<https://www.nsgc.org/findageneticcounselor>

ABOUT US EVENTS PUBLICATIONS NEWSROOM EDUCATION CAREERS BECOME A MEMBER

Find a Genetic Counselor

This directory has been developed to assist physicians, patients and genetic counselors in accessing genetic counseling services.

DISCLAIMER
SEARCH TIPS
MEET BY PHONE
MEET IN PERSON
ABOUT GENETIC COUNSELORS
PATIENT RESOURCE SITE
MEMBER DIRECTORY

In Person - Find a Genetic Counselor

Search Tips:

- The "First Name" and "Last Name" fields should only be used if you know the name of the genetic counselor you are looking to contact.
- If you do not return any results within your zip code, try searching just by state.
- Students interested in contacting a genetic counselor about the profession should check the "Student Contact Welcome" box.

[Disclaimer of Warranties and Liabilities](#)

Clear Search Filters

Search For: ☒ Any criteria ☐ Exact criteria

State/Province:

Postal Code: Within:

Institution/Organization:

Genetic Counselor First Name (optional):

Genetic Counselor Last Name (optional):

Types of Specialization:

<Any>
None
Adult (Including Complex Disease)
ART/Preimplantation Genetic Disorder

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How to Find a Telegenetics Counselor



Welcome to the Telemedicine & Telehealth Service Provider Directory, a service of the Arizona Telemedicine Program. The directory is a resource for hospital and healthcare administrators and other decision-makers who want to expand or improve their healthcare services to their patients, employees, clients, etc. The directory lists companies providing medical specialty services (such as radiology, rheumatology, neurology, psychiatry) and ancillary services (such as patient education and language interpretation) through telemedicine to healthcare providers such as hospitals, clinics, nursing homes, private practices and urgent care centers.

Service Providers: [List your company here.](#)

Search the Directory

Company Name (or part of)

Services In

Alabama
Alaska
Arizona
Arkansas
California
Colorado
Connecticut
Delaware

Tele-services

Endocrinology
Epilepsy
Emergency medicine
Gastroenterology
Genetics/genetic counseling
Geriatrics
Gynecology
Hematology

Customers

Accountable Care Organizations
Assisted living facilities
Community mental health clinics
Correctional facilities
Educational institutions
Employers
FQHCs
Government agencies

Ancillary Services

Continuing education
Continuing medical education
Distance education
Health call center
Language interpretation services
Patient education
Patient engagement
Support groups

Items per page

20

Search listings

Clear search

134 record(s) found, scroll down to see results. Page 1 of 7 page(s); up to 20 displayed per page.

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

Search the Directory

Company Name (or part of)

Services In
Alabama
Alaska
Arizona
Arkansas
California
Colorado
Connecticut
Delaware

Tele-services
Addiction
Allergy
Audiology
Autism
Bariatric medicine
Burn
Cardiology
Chronic disease management

Customers
Accountable Care Organizations
Assisted living facilities
Community mental health clinics
Correctional facilities
Educational institutions
Employers
FQHCs
Government agencies

Ancillary Services
Continuing education
Continuing medical education
Distance education
Health call center
Language interpretation services
Patient education
Patient engagement
Support groups

Items per page
20

5 record(s) found, scroll down to see results. Page 1 of 1 page(s); up to 20 displayed per page.



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