TELEHEALTH 101: THE FUNDAMENTALS

presented by:

Telehealth Resource Centers

Office for the Advancement of Telehealth

Health Resources and Services Administration

February 22, 2008

Can you imagine what health care would look like if….

…. clinical care was available anytime and anywhere
…. clinicians could obtain consultations with medical centers of excellence anytime and anywhere
…. home bound patients could be monitored remotely anytime and anywhere
…. medical education programs were available anytime and anywhere

This is the potential of telehealth

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Telemedicine

Telehealth

What's the Difference?

What Is Telemedicine?

- Clinical care provided from a distance
- The use of electronic communication and information technologies to provide or support clinical care
  - Primary Care
  - Medical Specialties
  - Intensive Care Services
  - Emergency Departments

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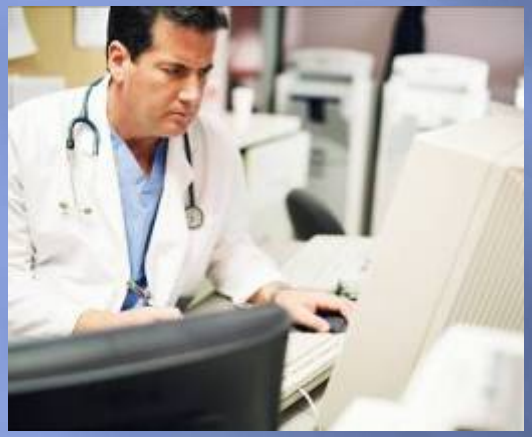
What is Telehealth?

Telehealth encompasses telemedicine & other uses for communications technologies

- Health professions education
- Administration
- Homeland Security
- Public Health
- Consumer Education
- Evaluation Research
- Regional Health Information Sharing

- Dr. Dena Puskin
  Federal Office for the Advancement of Telehealth

The Need for Telehealth



- Clinician shortages
- Misdistribution of providers
- Rural/Urban underserved
- Aging population
- Travel time, cost & hardship
- Delayed treatment
- Language barriers
- Clinical education programs
- Administrative meetings

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Telehealth Benefits

- Reduces barriers to access
- Increases efficiency for providers
- Reduces overall health care costs
- Improves quality of care
  - Consultant and primary provider communication
  - Education to providers
- Reduces delays in care
- Increases patient satisfaction
- Improves health outcomes
- Virtual accessibility

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Three Most Common Applications

- Clinical Services
  - Primary & Specialty Care
  - eICU
  - Emergency Department
- Educational Services
  - Provider Education
  - Patient Education
- Administrative Meetings

What is the "technology"

Tandberg Telemedicine Unit

Principal components

- Camera
- Viewing Screen
- Codec
- Scopes and peripherals
- Transmission method

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Telehealth System Models

- Statewide Systems
- Networks
- University Based Systems
- Regional Systems
- Independent Health Care Organizations

Different Approaches for Various Needs

- Live Interactive
- Store and Forward
- Emergency Response
- Patient Education Kiosks
- Home Health Monitoring
- Educational Services
- Videoconferencing

Polycom Telemedicine Unit

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Live Interactive Telemedicine

- Patient visits using videoconferencing where patient & provider are communicating in real time.
- Allows provider to assess patient using medical scopes adapted for image transmittal
- Specialty services
  - Dermatology
  - Urology
  - Psychiatry
  - Orthopedics
  - Neurology
  - Pain Management
  - Endocrinology
  - ENT
  - Rheumatology

Georgia Rural Healthcare Initiative

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Other Great Uses For Live Interactive

Sacred Health Hospital
Telestroke Program
Pensacola Florida

- Dental Services
- Connecting friends & family
- Family Counseling
- Support Groups
- Patient education
- Administrative Meetings

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Live Interactive Telemedicine

Can be applied in many situations and locations

In Touch Health

- Outpatient Clinics
- Mental Health Centers
- Intensive Care Units
- Correctional Facilities

Minnesota Telehealth Network Wadena

- Emergency Departments
- Emergency Transport Units
- Surgery Suites

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Mobile Live Telemedicine Unit

Oklahoma State University Center for Health Sciences Telemedicine Bus

- The Oklahoma State Mobile Telemedicine Clinic began operation in March 2007
- The mobile telemedicine unit also coordinates with emergency organizations on disaster response

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Emergency Medical Services Using Telemedicine

General Devices EMS System

Polycom Mobile Responder

- The City of Tucson will soon initiate telemedicine in citywide ambulance service

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Live Interactive Teledentistry

Children's Hospital of Los Angeles

- Children
- School Sites

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Disaster & Emergency Preparedness/Response

Telemedicine via Satellite

Loma Linda University
Mobile Telemedicine Vehicle

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Video Interpretation Services

Photo courtesy of
Pine Tree Society, Maine

Learn more www.pinetreesociety.org

- Improve Quality of Care – Avoid Medical Errors
- Multilingual
- Culturally Competent
- Trained in Medical Terminology
- Meet legal/contract requirements

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Telepharmacy

Starts with a physician order

Orders sent using scanning devices

Staff enters orders into system

Pharmacist reviews orders received

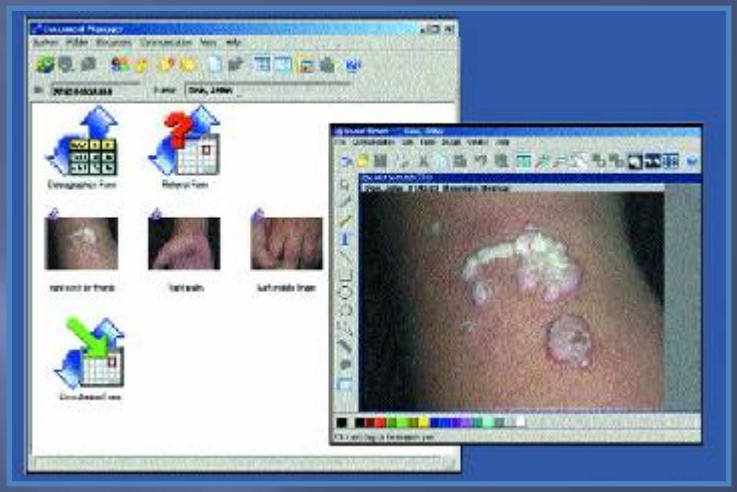
Medications dispensed by automated dispensing devices

Restocking supervised, Medications verified

Store and Forward

When a face to face visit is not necessary

Diabetic Retinopathy Screening
Round Valley Indian Health Service



Second Opinion Dermatology System

Images are obtained at a local care center and transmitted for review by a clinician at a remote site

- Picture and history adequate for diagnosis
- Allows clinician to do work when convenient
- Maximizes use of clinician time

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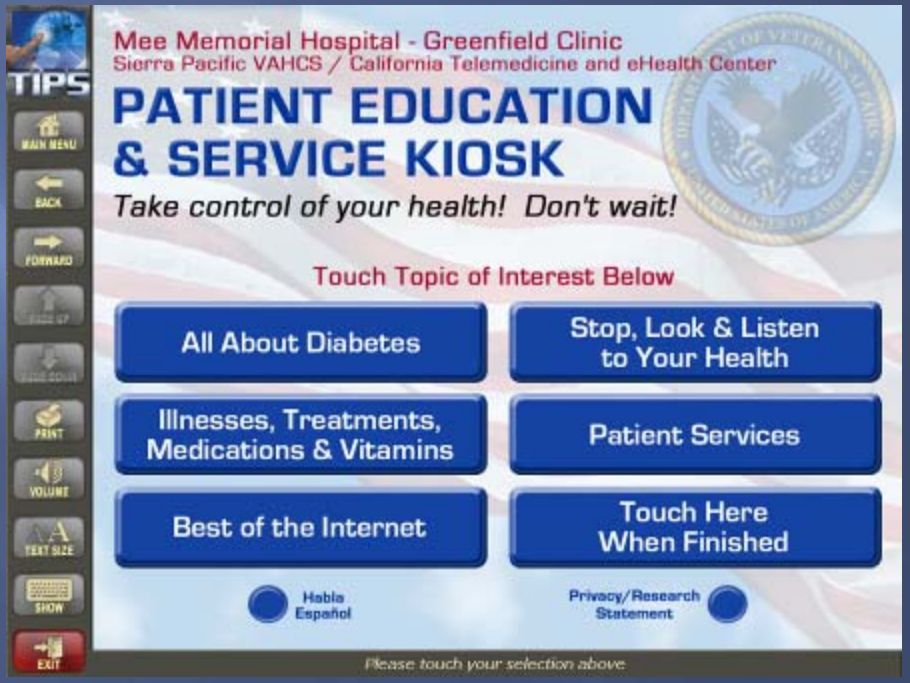
Patient Education Kiosks



Mee Memorial Hospital

Green field California

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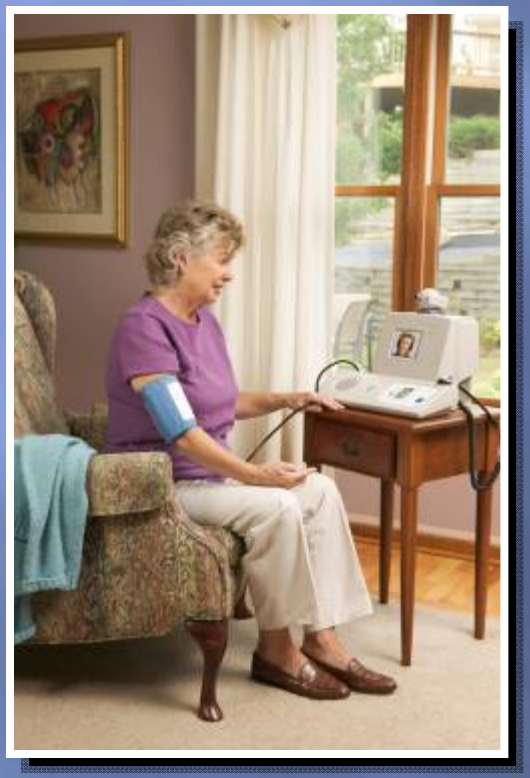
Home Health & Monitoring



Visiting Nurse & Health Services of Connecticut

Technology that supports monitoring of chronic conditions

- COPD – peak flow
- Diabetes

Health Hero

Permission pending

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Provider & Patient Education

- Allows clinical staff to participate in educational programs without leaving their communities

University of California Davis

- Allows patients to receive health education and health counseling services.

Permission pending

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Administrative Meetings

- Administrators, providers and others in many locations can more efficiently hold administrative meetings.

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Reimbursement

- Medicare
- Medicaid
- Private Payors
  - Blue Cross / Blue Shield
- State Initiatives

Legal Aspects

* Intellectual Property Rights
* Risk Management
* Credentialing and Privileging
* Interstate Licensure
* Telecommunications Law
* Privacy
* Fraud and Abuse

Technology Alone Does Not Produce Success

Some success factors

- Champion
- Coordinator
- Education and training
- Engagement of primary care providers
- Availability of services
- Technical and program support
- Stable technology
- Funding & reimbursement mechanisms

Barriers

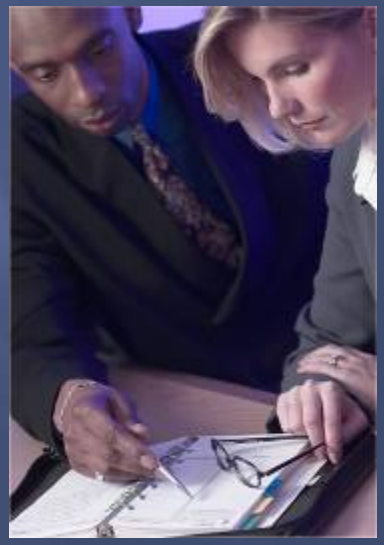
- Reimbursement
- Physician Champions
- Institutional Buy-in
- Convenience
- Telecommunications Costs
- Program Sustainability
- Interstate Licensing

Assistance Is Available!

Federally Designated Telehealth Resource Centers

Program Support & Assistance

- Assist health care organizations, networks and providers to implement cost-effective telehealth programs.
- Serve as a focal point for advancing the effective use of telehealth technologies.
  - Equipment Options
  - Practice Guides
  - Program Design
  - Reimbursement
  - Business Models



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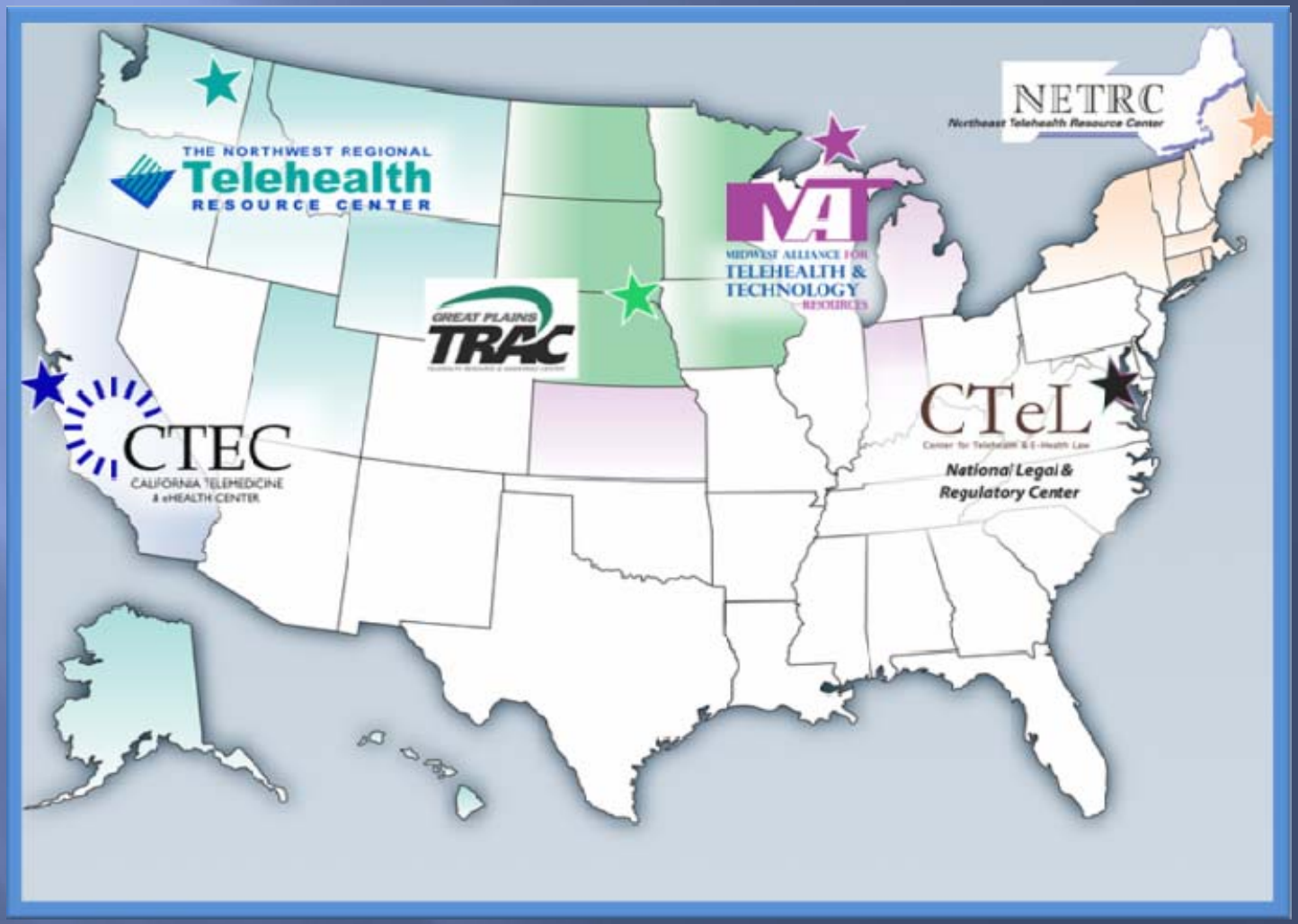
Telehealth Resource Centers



Telehealth Resource Centers Web Sites

National Telehealth Resource Center
www.telehealthlawcenter.org

California Telemedicine & eHealth Center
www.cteconline.org

Great Plains Telehealth Resource & Assistance Center
www.gptrac.org

Midwest Alliance for Telehealth and Technology Resources
www.midwesttrc.org

Northeast Telehealth Resource Center
www.northeasttrc.org

Northwest Regional Telehealth Resource Center
www.nrtrc.org

Discussion and Questions