



California Center for
Connected
Health

Telehealth and Health Information Exchange

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President & CEO
July 10, 2009

What We Know

- Technology-enabled-care is here and will expand
- We know telehealth “works”
- Telehealth applications
 - Distance learning for health professionals
 - Translation/interpretation services
 - Home monitoring of patients with chronic health conditions
 - Specialty consults, remote intensive care
 - Emergency department assistance
- National interest in leveraging the use of technology to improve health outcomes

Operating Assumptions – What We Believe

- Telehealth provides a platform for transformational change of the health care delivery system to increase access, improve health outcomes, and increase efficiency of the system
- These transformational results are not as likely to occur if we simply layer telehealth onto the existing delivery and reimbursement systems.
- Necessary Question: what needs to change in terms of how care is delivered and reimbursed to assure we get maximum health value from technology?

Opportunity = Modernize Health Care to Improve Health Outcomes

- Prop 1D Funds
- California Telehealth Network
- Telehealth Components of Federal Stimulus
 - Incentive Payments – Medicare & Medicaid
 - BTOP – broadband

There is an expectation that advanced information technology will transform our health care system

Worst nightmare:

Applying new technology to a broken model of care may not produce the results we seek.

Telehealth is one means of disrupting existing care models.

A reformed system would contribute to improved health status of the population through increased access, quality and efficiency.



Video Interpreting Services

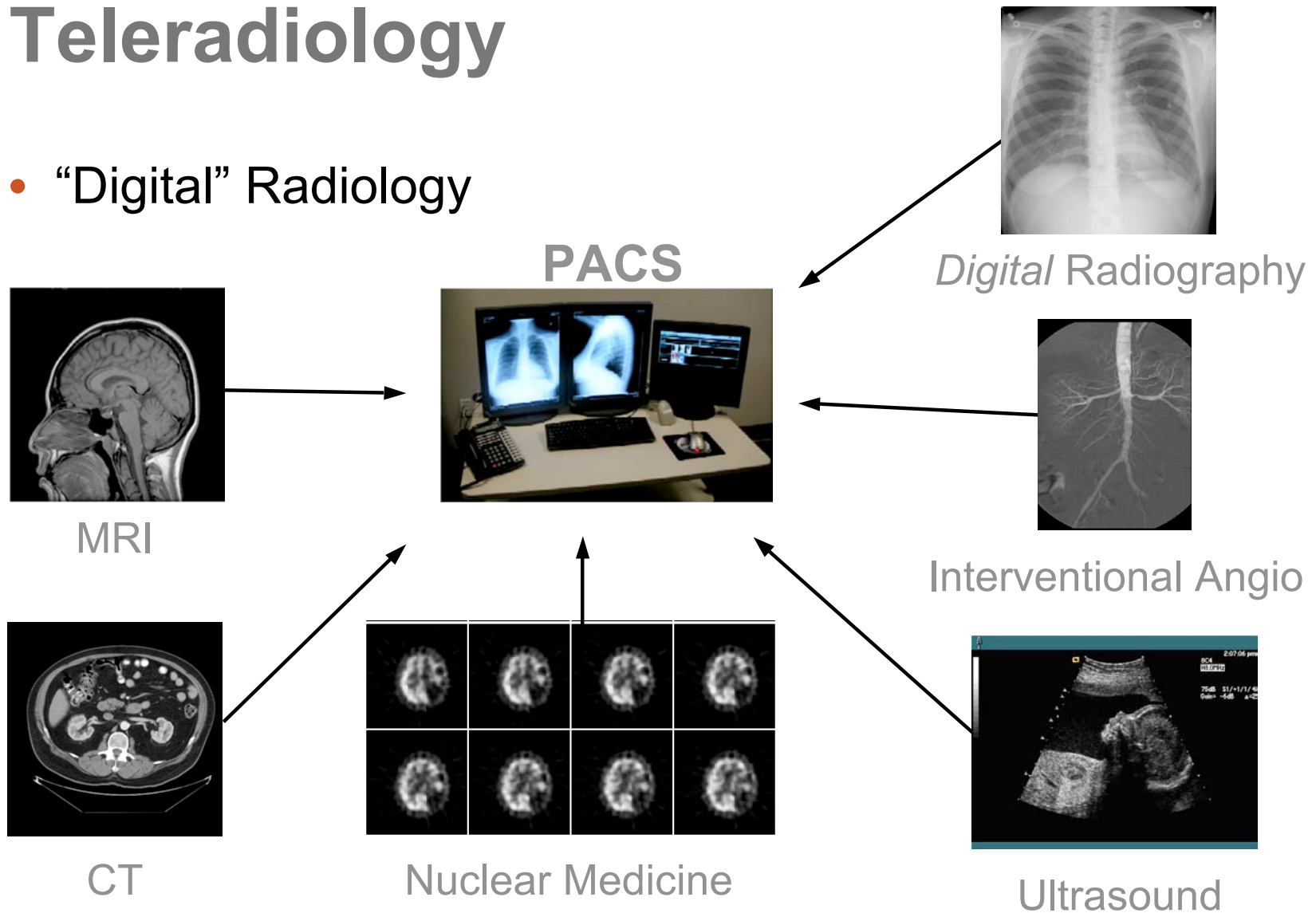


- Can be used in both in and out-patient settings
- Allows for language and cultural interpreting
- Has been found to be better than voice only
- American Sign Language interpreting is also possible

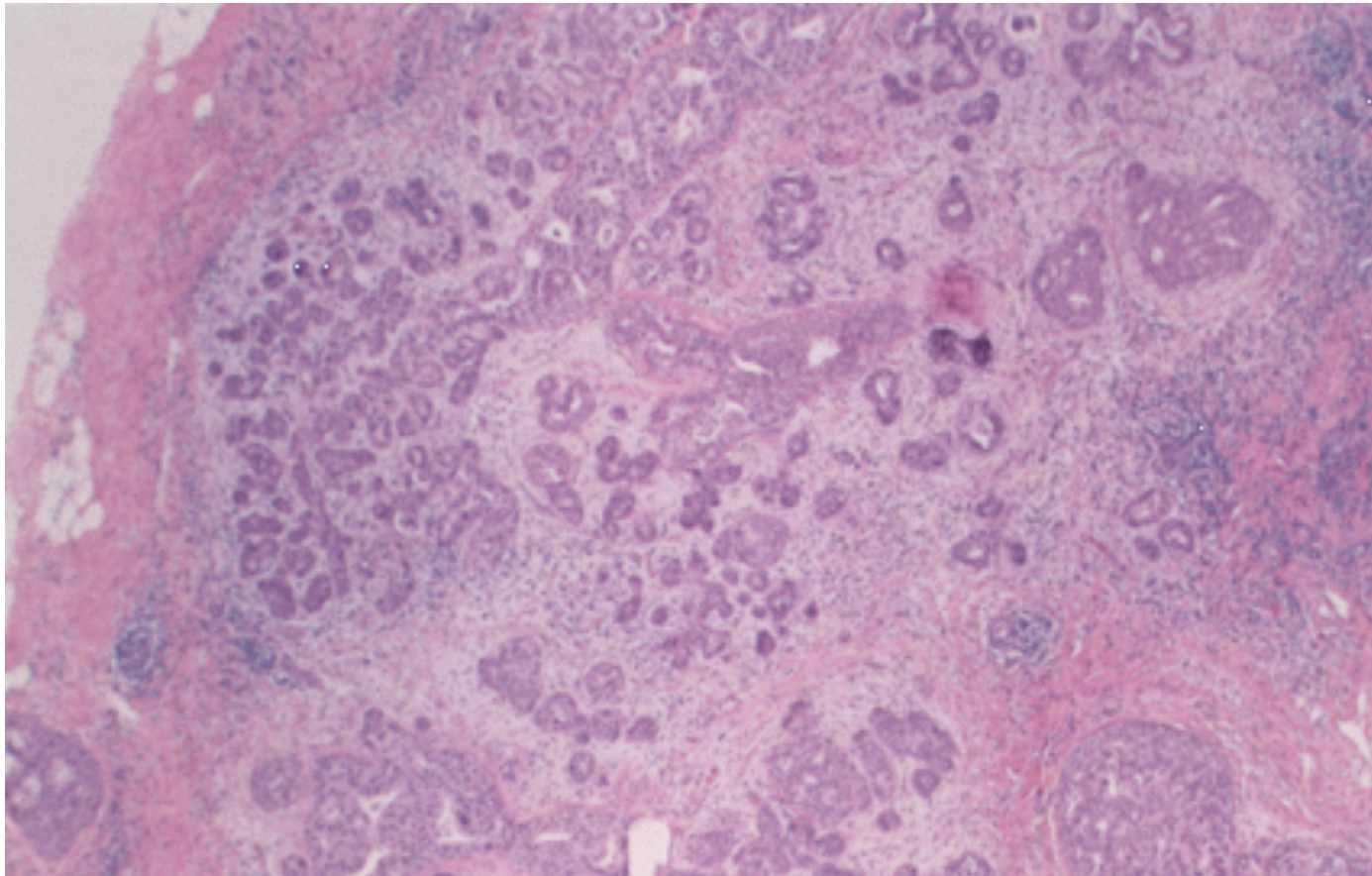


Teleradiology

- “Digital” Radiology



Expert second opinion on anatomic pathology specimens



Teleophthalmology



Telepharmacy

- On-line pharmacy informatics
- Decision support tools
- Video tele-pharmacist review of medications and medication orders
- Video pharmacist consultations



Emergency Room Telemedicine



VA Outcomes 2002: Telehealth Reduces Inpatient Utilization*



- 40% reduction in ER visits
- 63% reduction in hospital admissions
- 63% reduction in hospital bed days of care
- 64% reduction in nursing home admissions
- 88% reduction in nursing home bed days
- Significantly improved Quality of Life SF36V

*Disease Management Volume 5, Number 2, 2002.

VA Outcomes 2005: Telehealth Improves Clinical Outcomes*



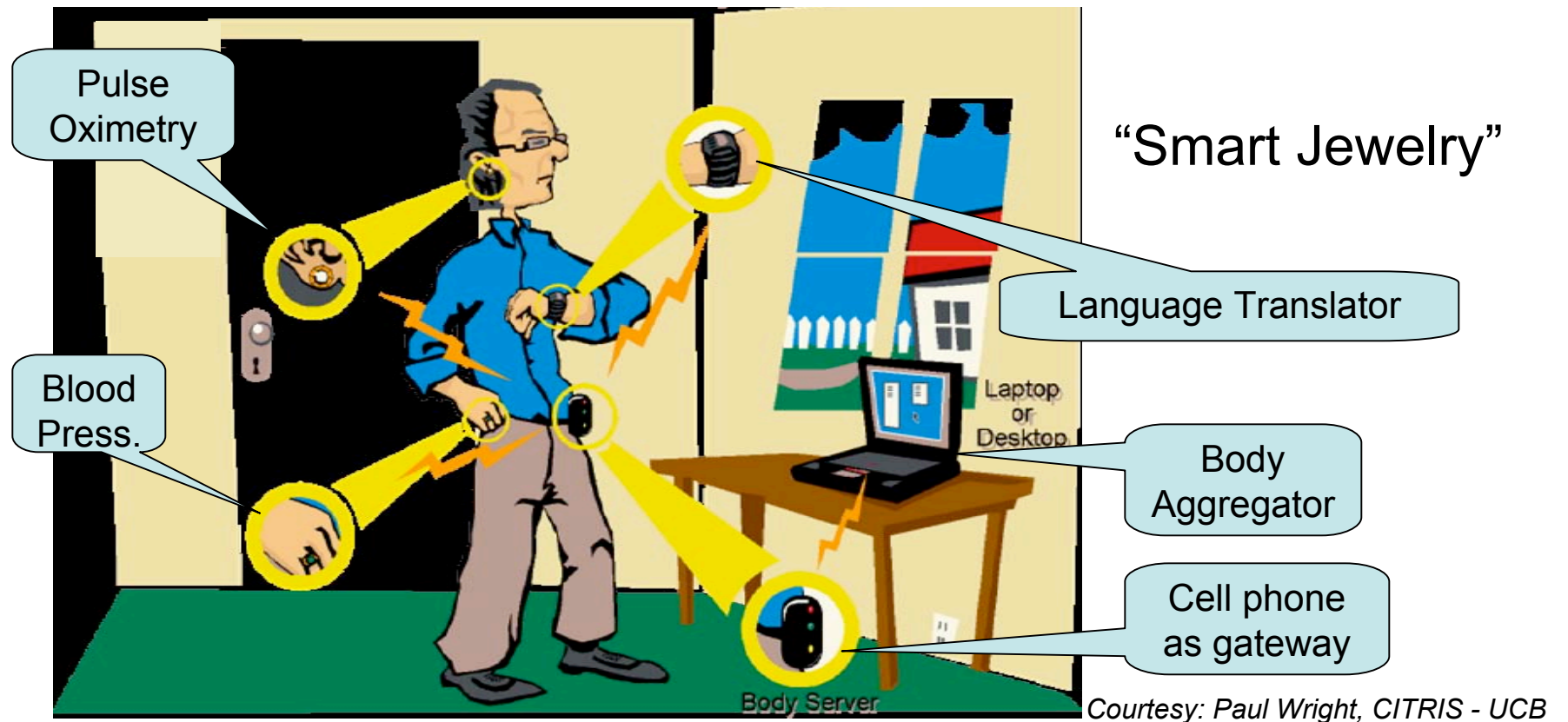
- Hospitalizations declined from 630 inpatient days pre to 122 during intervention period
- Bed Days Of Care fell from 8.63 to 1.65 ($p < 0.001$)
- Blood Pressure: 129/73 to 119/69 ($p < 0.05$)
- Weight: 196 to 192 ($p < 0.01$)
- Shortness of Breath 0-10 Scale: 4.0 to 2.7 ($p = 0.02$)
- ACE Inhibitor Avg Daily Dose: 24mg/d to 35 ($p < 0.01$)
- β -Blocker Avg Daily Dose: 84 mg/d to 94 ($p = 0.05$)

*Telemedicine and e-Health Volume 11, Number 1, 2005

Disease	No. Affected	Wireless Solutions
Alzheimer's	5 M	Vital signs, location, activity, balance
Asthma	20 M	RR, FEV1, Air quality, oximetry, pollen count
Breast cancer	3 M	Ultrasound self-exam > Web
COPD	10 M	RR, FEV1, Air quality, oximetry
Depression	19 M	Med Compliance, Activity, Communication
Diabetes	21 M	Glucose, Hemoglobin A1C
Heart Failure	5 M	Cardiac pressures, weight, BP, fluid status
Hypertension	74 M	Continuous BP, Med compliance
Obesity	80 M	Smart scales, Caloric in/out, Activity
Sleep Disorders	15 M	Sleep phases, quality, apnea, vital signs

Eric Topol MD, West Institute

Remote Care: Convergence of Sensors and Jewelry



- Fashion addresses the stigmata of care
- Patients: bearing greater costs of care
- Self care is a **real** possibility
- Approaches that address quality, productivity, efficiency and timeliness are needed.

Heart Disease Example

- Traditional process
 - Episodic visits
 - Recall by patient for episodes
 - Physiologic data taken in the MD office
- Body Sensors
 - HR, BP, oximetry, temperature, blood sugar done in real time
 - Aggregates to mobile phone program
 - Program has critical values, rings phone, sends to office personnel
 - Interaction trends between parameters may also trigger earlier alarm (e.g. Slightly falling BP, with increase HR, with decrease in blood O₂)
 - May support autonomous treatment

Redistributional Power of Telehealth

- If we discover a treatment for a disease, but only half the people have access to it when they need it, we have only discovered half the treatment
- Medical Science, no matter how good it is, is worthless if not applied appropriately to patients where and when they need it

California Center for Connected Health

Strategy and planning body to promote **integration of telehealth** within California's health care system

- Promote a **shared vision** for telehealth adoption and integration in the health care delivery system
- Work to assure that California is a **national model** of telehealth integration
- Identify and promote **practice pattern, policy, regulatory, and statutory change** that will maximize the ability of telehealth to improve health outcomes and care delivery
- Use demonstration projects as a “laboratory” for analyzing needed system changes
 - Manage a specialty care initiative in partnership with UC campuses and community health centers to **develop a sustainable model** for telehealth services

Achieving CCCH's Goals – “How”

- Develop a policy agenda
 - Policy
 - Regulations
 - Statutes
- Build a cross sector coalition to advocate for change
 - Champion a vision for telehealth integration that advances societal goals of health improvement
 - Assure underserved and low income persons are not left out of state and national planning efforts for telehealth integration and health care technology adoption

What CCCH Is

- Funded by California Health Care Foundation
- “Incubated” at the Public Health Institute
- Will become stand alone non-profit corporation
- Small staff
- Located in Sacramento

What CCCH Is Not

- Health care provider
- Grant making organization
- Technical advisor to health care providers on “how to do” telehealth

Areas for initial policy exploration:

- Telecommunications industry rules
- Facility licensure rules
- Professional licensure rules
- Reimbursement policy and rules
- Security and privacy

FCC Rural Health Care Pilot Program

- Dedicated over \$417 million for 69 pilot program networks
- Encourages regional broadband health care networks with connections to national backbones


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445 12th Street, S.W.
Washington, D. C. 20554
News Media Information 202 / 418-0500
Internet: <http://www.fcc.gov>
TTY: 1-888-835-5322

This is an unofficial announcement of Commission action. Release of the full text of a Commission order constitutes official action.
See MCI v. FCC, 515 F.2d 585 (D.C. Cir. 1975).

FOR IMMEDIATE RELEASE: September 26, 2006

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 **UPDATE!**
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FOR IMMEDIATE RELEASE: November 19, 2007

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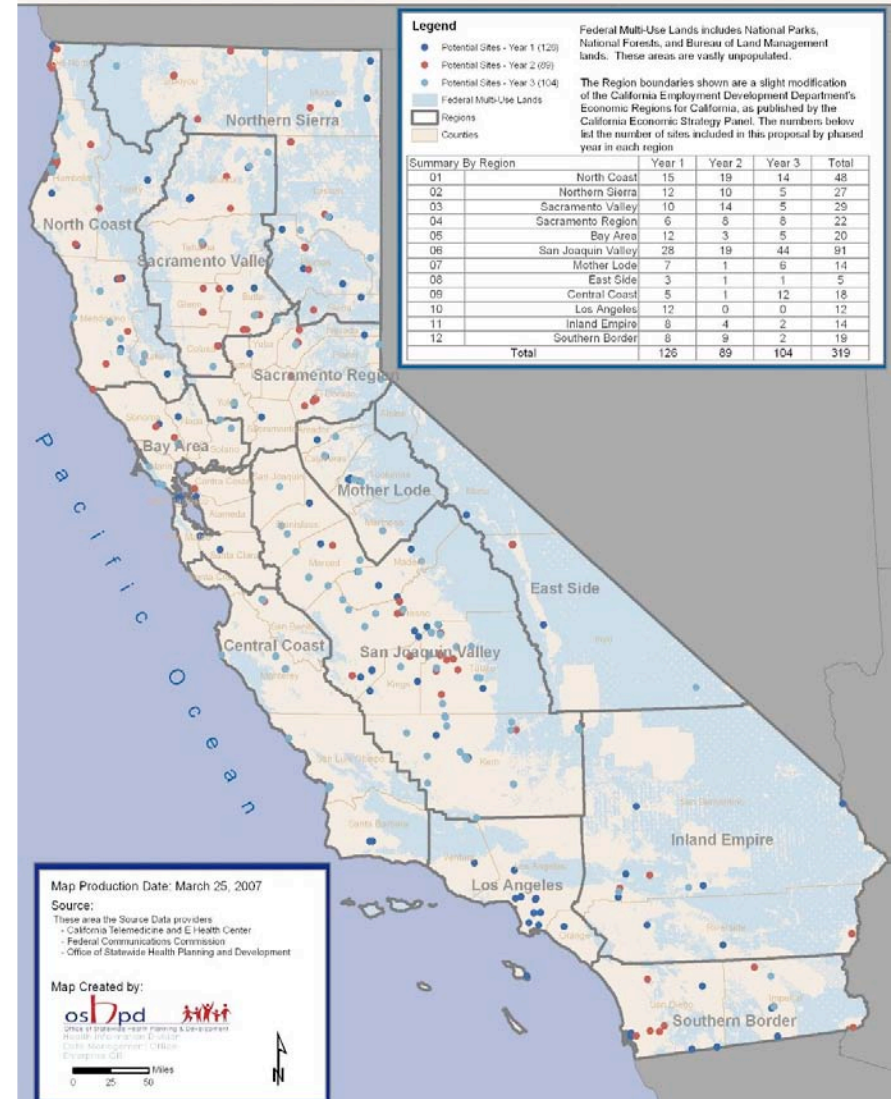
FCC LAUNCHES INITIATIVE TO INCREASE ACCESS TO HEALTH CARE IN RURAL AMERICA THROUGH BROADBAND TELEHEALTH SERVICES

Washington, D.C. – To significantly increase access to acute, primary and preventive health care in rural America, the Federal Communications Commission today dedicated over **\$417 million** for the construction of 69 statewide or regional broadband telehealth networks in 42 states and three U.S. territories under the Rural Health Care Pilot Program (RHCPP).

Technical Goals

- Extend broadband connections to 300+ rural health care providers in 3 years
- Facilitate use of state-of-the-art telehealth services
 - Telemedicine
 - Continuing Medical Education

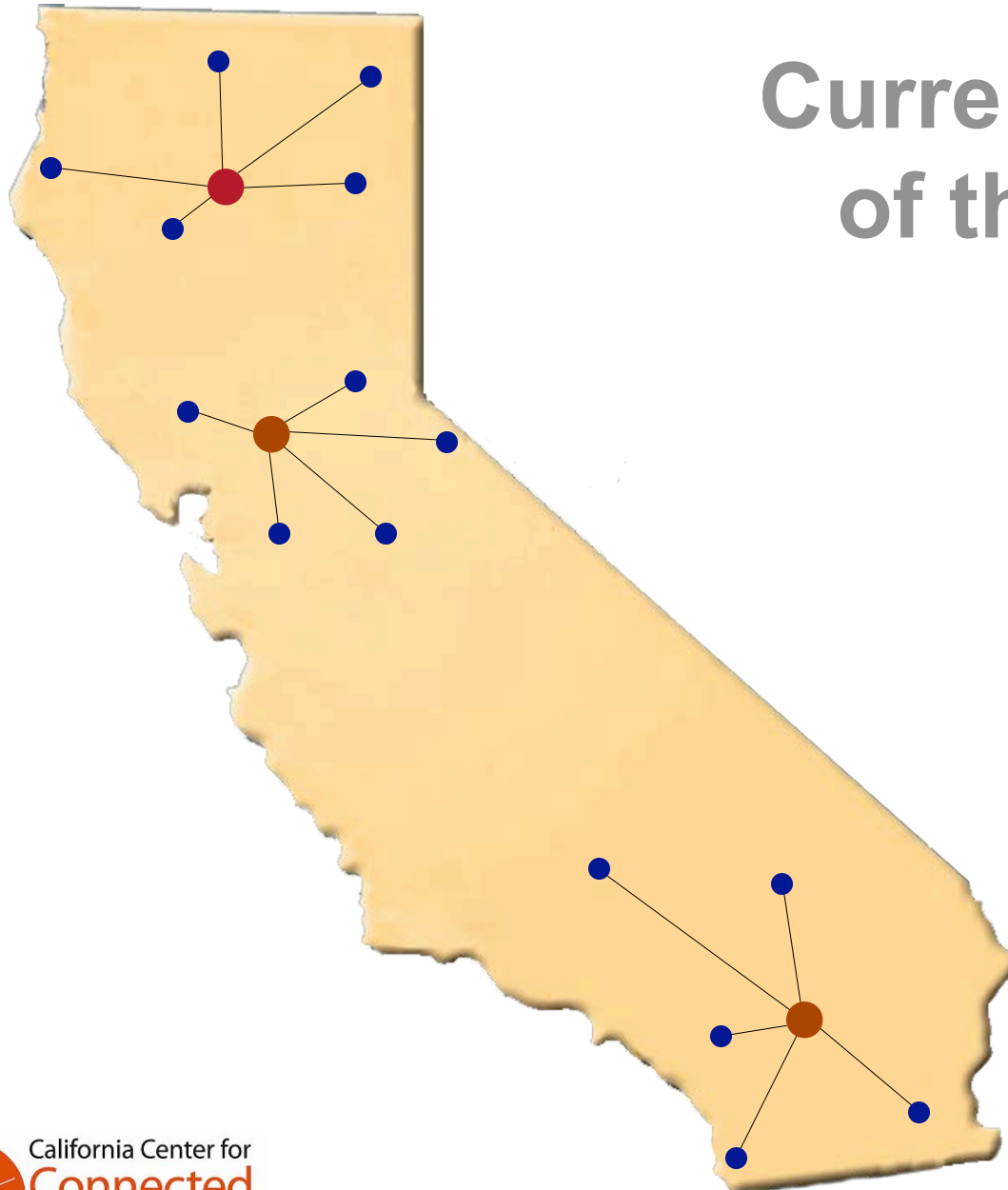
California FCC Pilot Project Total Potential Healthcare Sites to be Connected - Over 3 Years



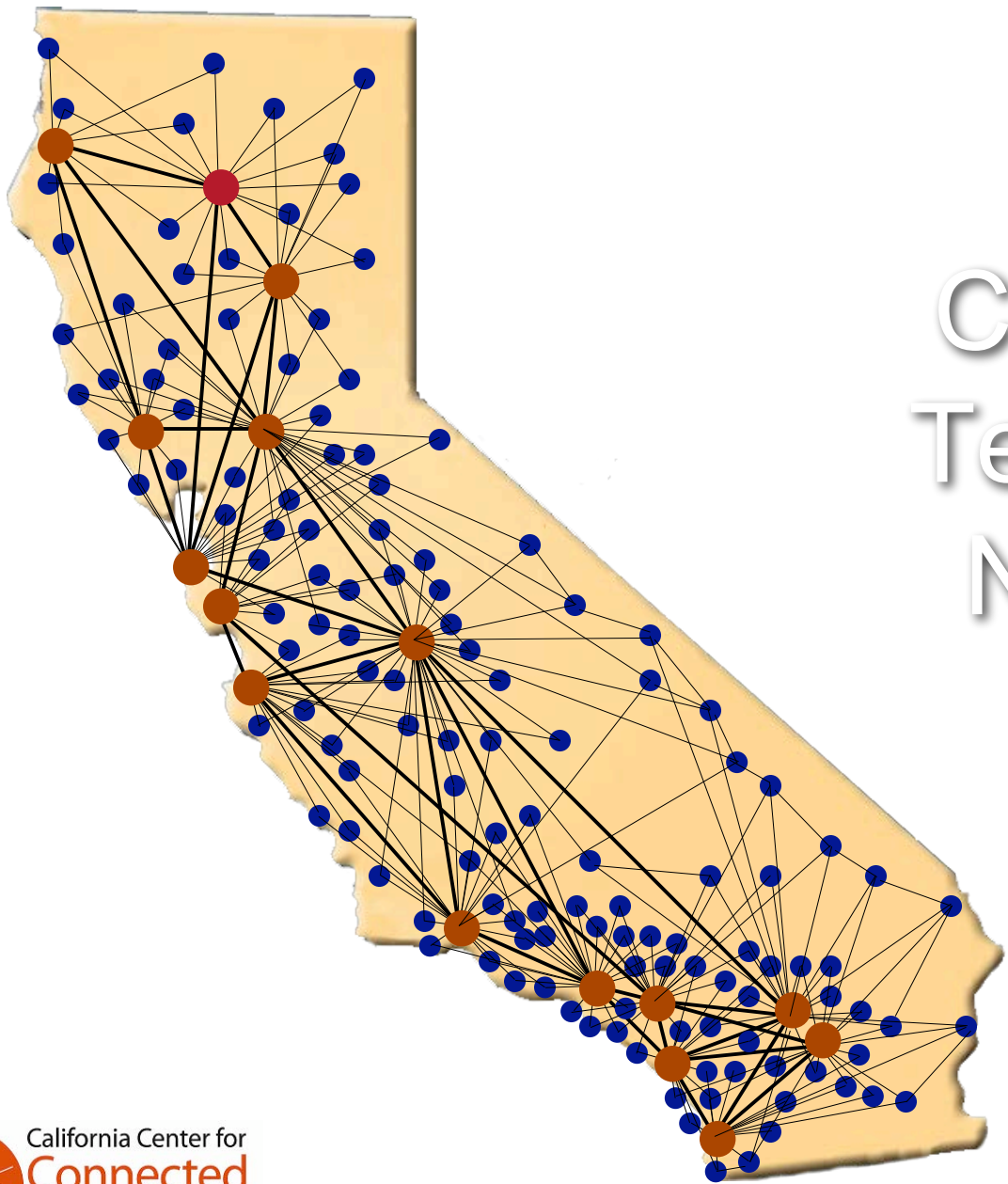
Technical Highlights

- 1. Persistent, IP-Based connection, no dial-up**
- 2. Dedicated End-to-End Connection, no Internet**
- 3. Explicit Quality of Service (QOS)**
- 4. Bandwidth exceed current needs**
 - Expandable
- 5. “Interoperable,” peer-to-peer, Any-to-Any**
- 6. 24 x 7 x 365 Monitoring**
- 7. Secure, Private Network**
- 8. Access to UC’s, CSU’s, other academic centers**
- 9. Access to Internet 2**

Current Model of the CTN



California Telehealth Network



Current Status of the CTN

- Award of \$22.1M from FCC
- California Emerging Technology Fund (CETF) providing \$3.6M for 15% match and start-up funds
- United Health Care has committed \$5M of support
- Letter of Agency process (completed)
 - Original goal was 319
 - Nearly 1000 locations represented in the received letters of agency
- USAC has qualified over 860 sites as “ligible”
- RFP was posted on the USAC RHCPP web-site
- Proposal have been received and are being evaluated
- An award should be made in the next 60 days

Two types of information needed to provide quality health care

- Information about the patient
 - History, family history, meds, allergies, etc.
 - Physical findings
 - Imaging, lab, etc.
- Information (medical science) out in the world that relates to the patient
 - Risk factors for disease
 - Signs and symptoms
 - Diagnostics
 - Treatments

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