



Telemedicine in Pediatrics: Increasing Access & Quality

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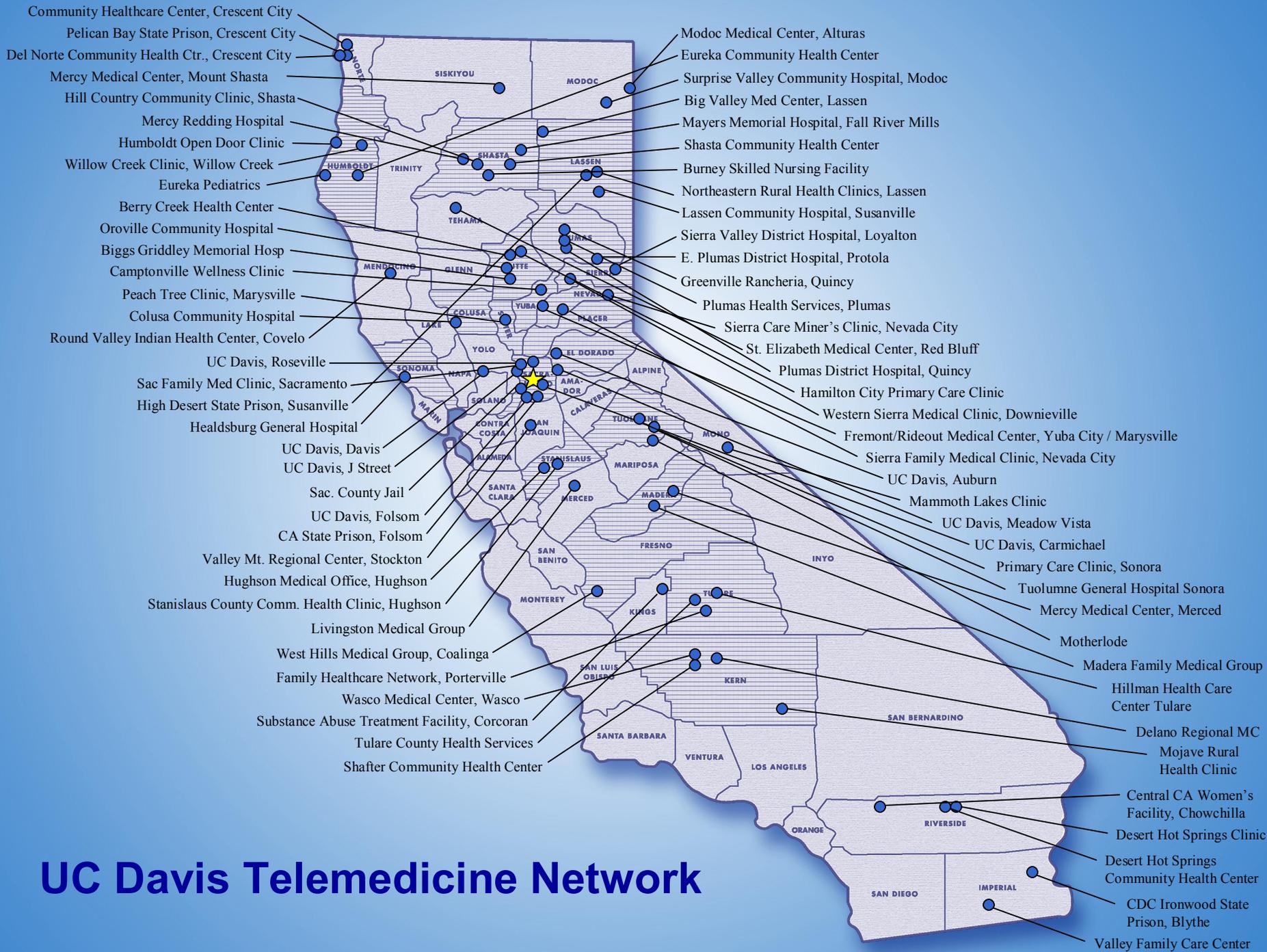
- | I have NO financial interest or arrangement or affiliation with any organizations related to commercial products or services to be discussed
- | My presentation does NOT include discussion of "off-label" uses of FDA approved pharmaceutical products or medical devices

Why Telemedicine

Regionalization
improves
efficiency and
quality



Telemedicine
allows our
expertise to
be everywhere

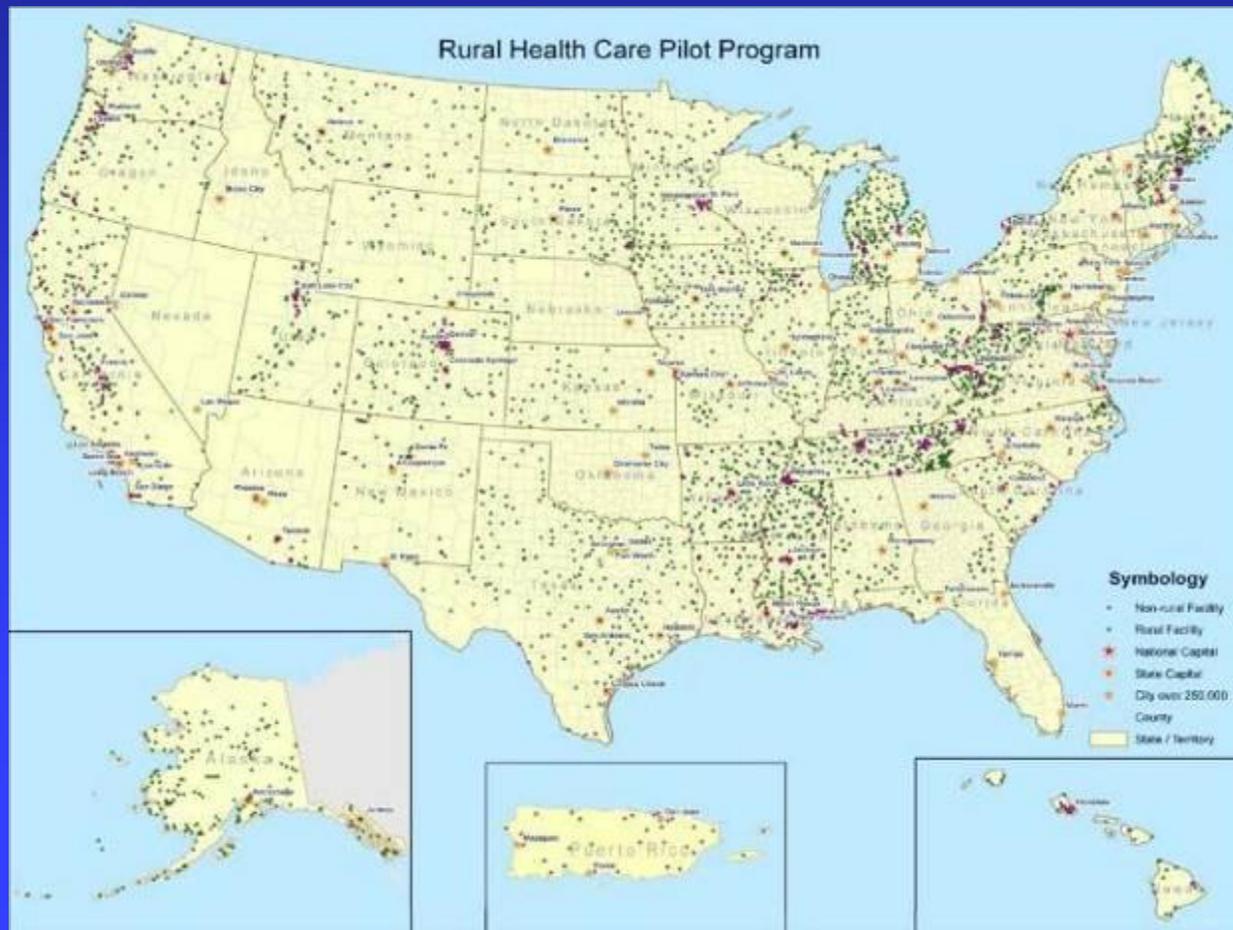


UC Davis Telemedicine Network

The FCC Telehealth Grant

600 Healthcare Centers for Health Broadband

\$417 Million in 42 States



Telemedicine: Applications in Pediatrics

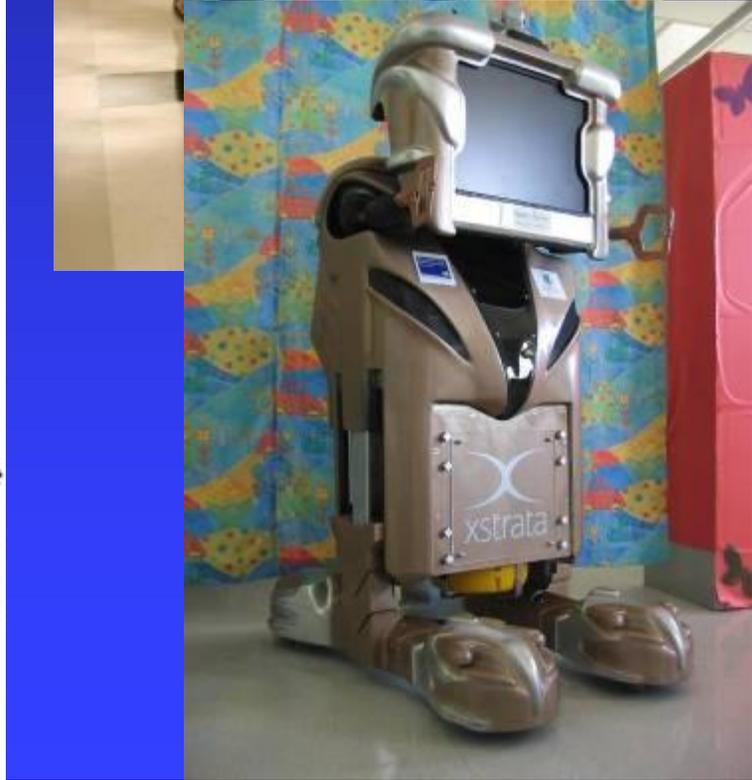
- | Outpatient specialty consultations
- | EMS: Scene, Transport, ED consultations
- | Inpatient specialty consultations
- | Procedure-Study interpretation (EEG, Echo)
- | Intensive Care Unit consultations
- | Surgical and Trauma consultations
- | Other uses:
 - Home Health
 - Video-interpreting
 - Child care centers
 - Hospice
 - Interpreting services
 - Physician - nurse education
 - Chronic care facilities
 - Connecting families
 - International

Telemedicine in the ED

- | Non-Children's Hospitals EDs are:
 - Less prepared with regards to equipment, training
- | Rural EDs are less likely to have access to:
 - Pediatricians, pediatric subspecialists, ancillary services
 - CDC Report (Feb 2006): 40% of EDs lack 24/7 access to pediatricians
- | IOM: Future of Emergency Care - Key Findings:
 - "Children make up 27% of all ED visits, but only 6% of EDs in the US have all of the necessary supplies for pediatric emergencies."
- | 50% of all EDs see less than 10 children per day







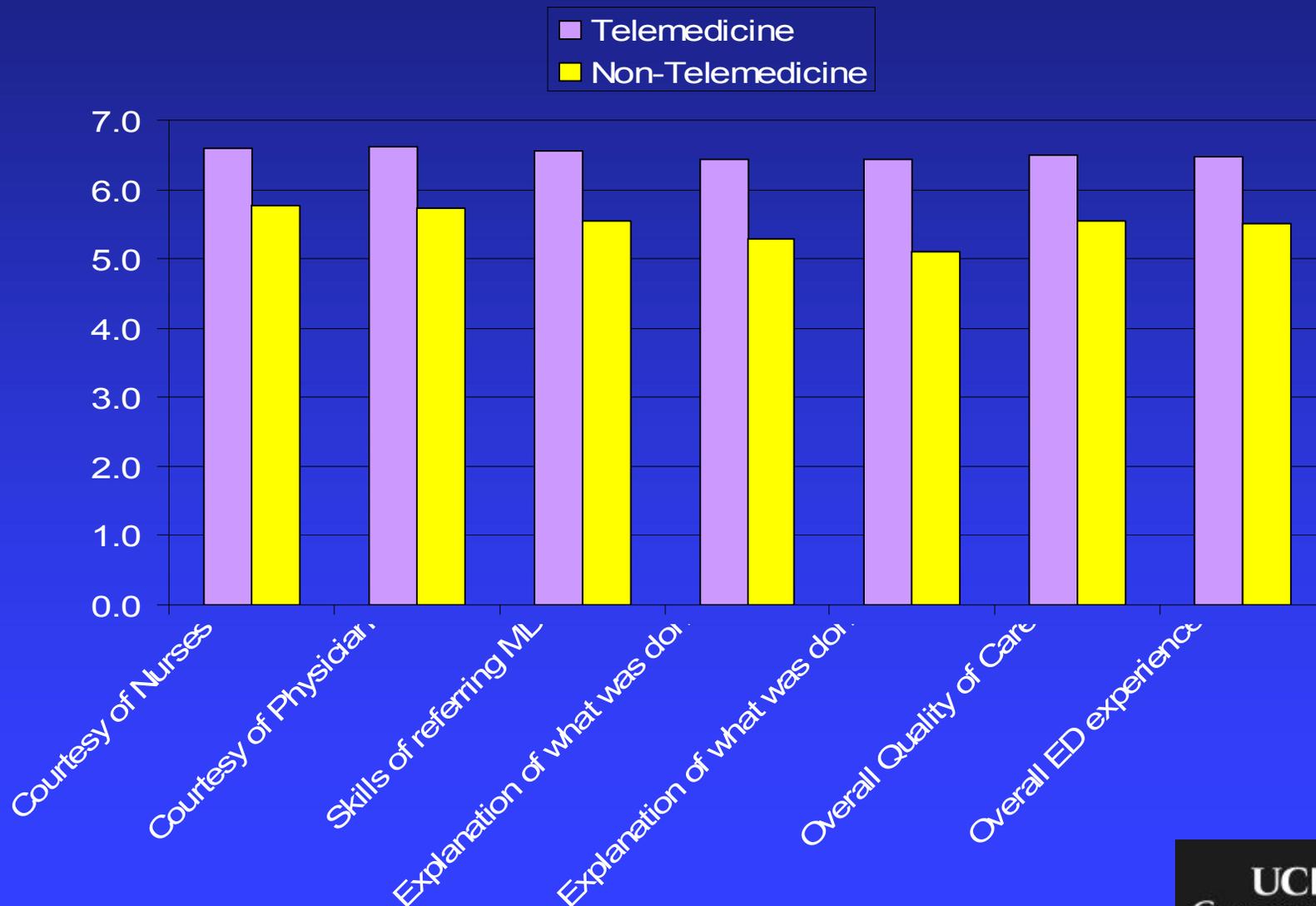




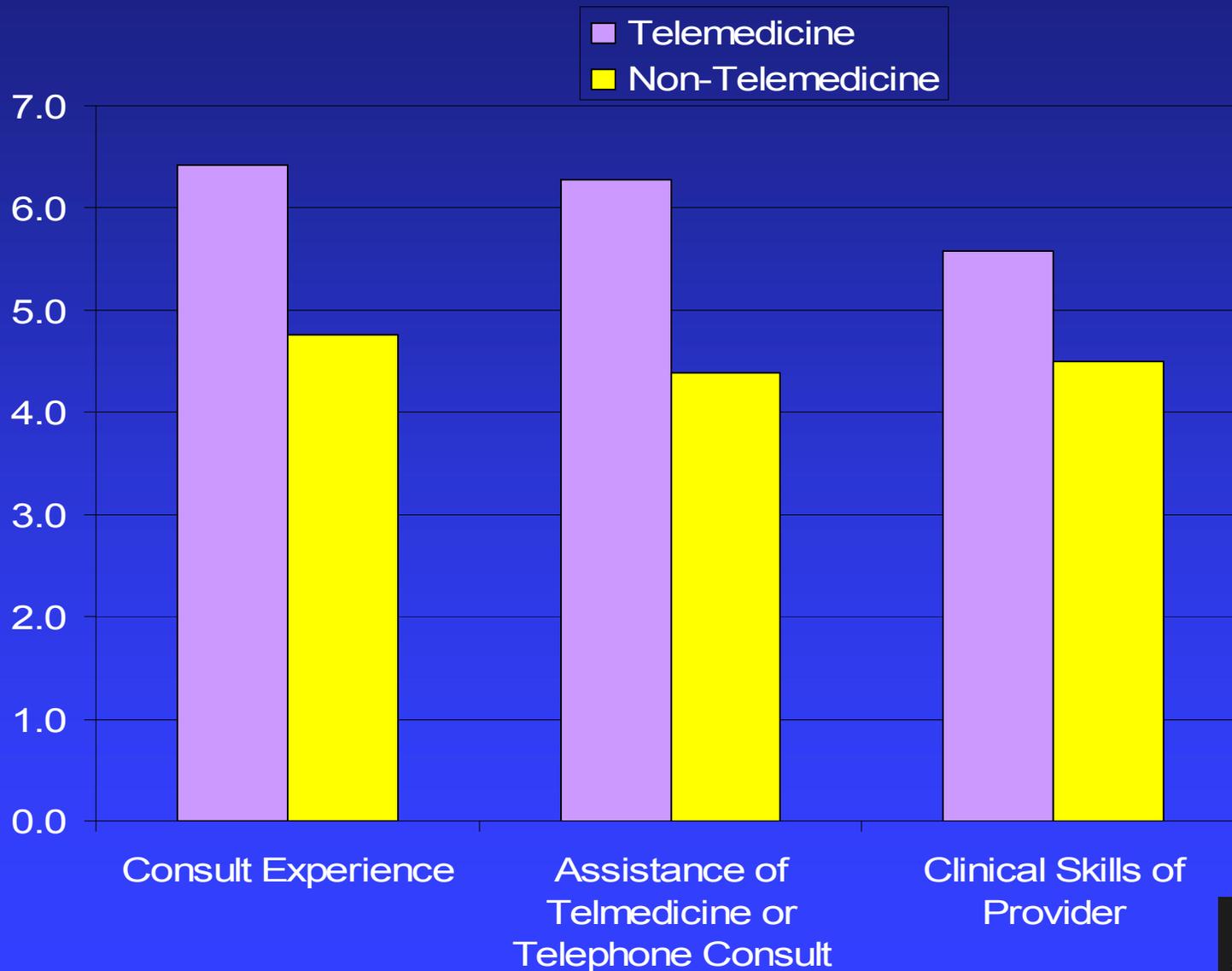
Telemedicine vs Telephone

Aspects of Quality of Care	Quality of Care Scores			
	Telemed Consult (n=53)	Telephone Consult (n=105)	No Consult (n=233)	Non-Telemed (n=338)
Initial data gathering	5.7	5.8	5.5	5.6
Integration of data and diagnosis	5.7	5.8	5.5	5.6
Telemedicine Consultations Typically Occurs Here				
Initial treatment plan	5.5	5.3	5.0 *	5.1 *
Plan for disposition and follow-up	6.1	6.1	5.6*	5.7
Overall Quality of Care	5.7	5.4*	5.2*	5.3 *

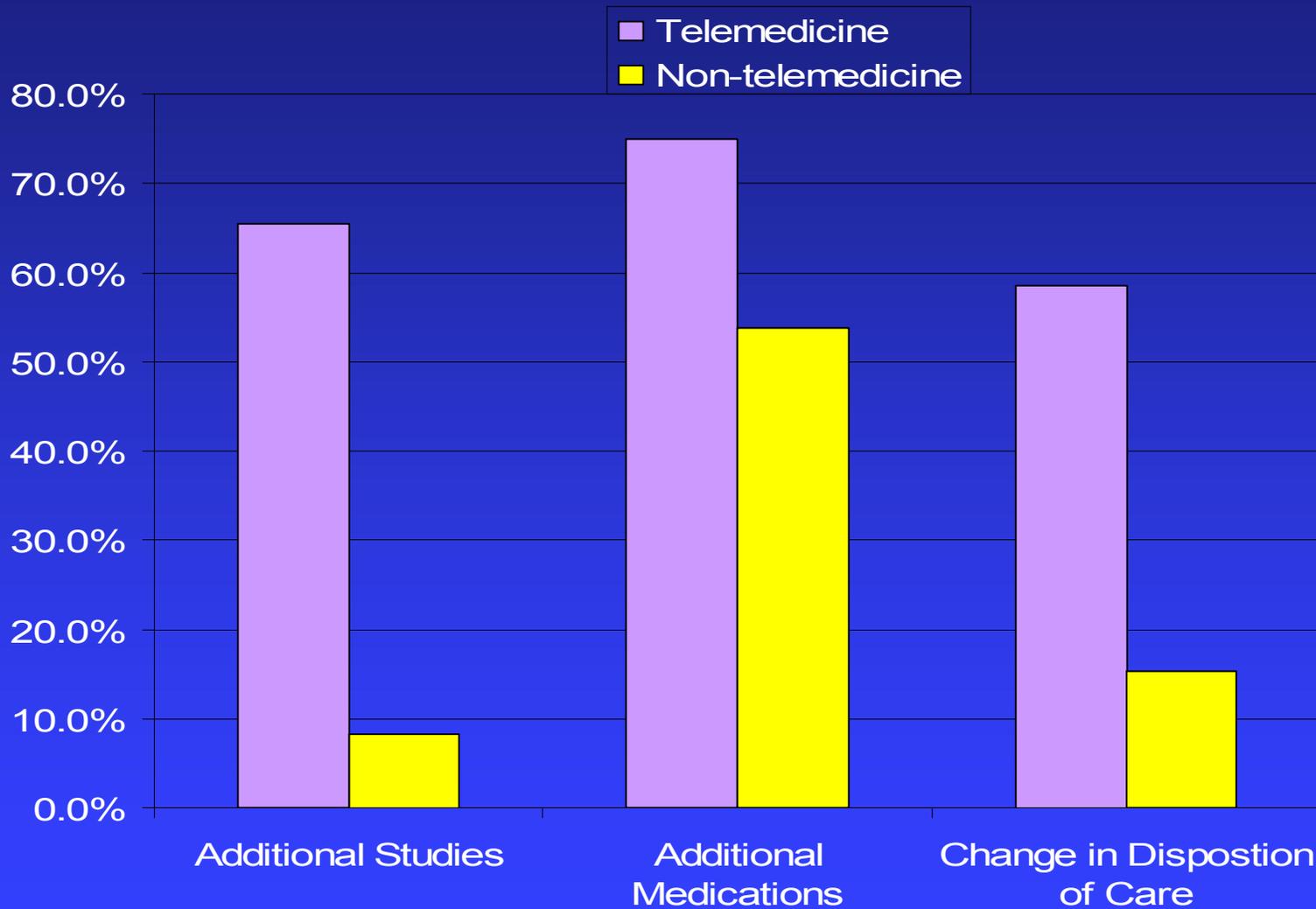
Parent Satisfaction



Referring Provider Satisfaction



Recommended Additions to Care

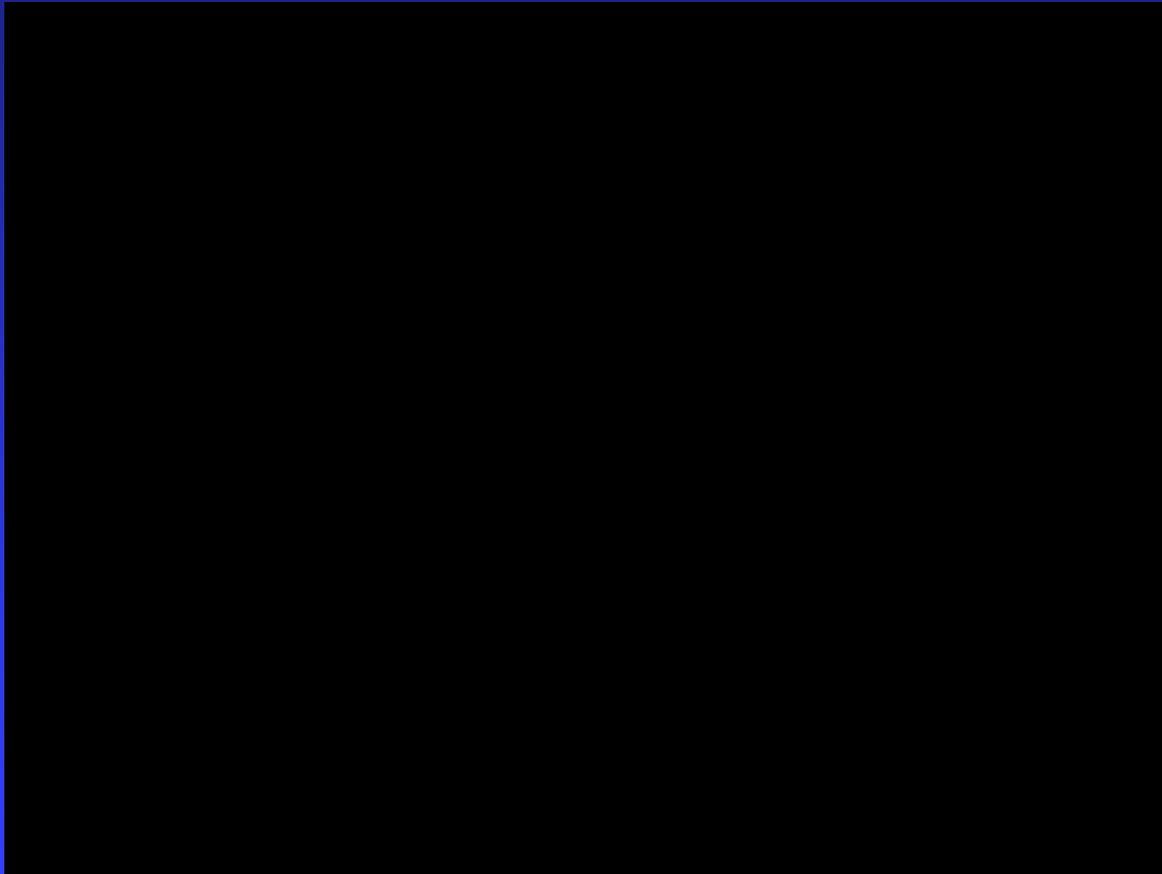


Telemedicine for Inpatients

- | CDC Report (Feb 2006): 50% of hospitals admit children without a specialized pediatric ward
 - In NY: Non-pediatric hospitals admitted 33% of all hospitalized children
- | Pediatric subspecialists are regionalized
 - Children may not receive specialist consultations and left for follow-up
 - Children may be transported only for the consultation
- | Hypothesis: Providing inpatient consultations may increase the quality of care and obviate a transport

Pediatric Inpatient Telemedicine Services

- | Cardiology (+ echo reads)
 - | Hematology - Oncology
 - | Pulmonology
 - | Infectious disease
 - | Neurology
 - | Gastroenterology
 - | Endocrinology (known DM)
 - | Others...
- | Points to make
 - Must fill clinical need
 - Need privileges
 - Great model if there is regional bed shortage and/or competition



"Robo-doctor"



Telemedicine in the PICU-NICU

- | Some select "less critically ill" children can be cared for in hospitals without PICUs and NICUs
- | In several states, minimal standards for Pediatric ICUs have been established (volume, intensivists, etc.)
- | Spectrum of models:
 - Continuous oversight (eICU)
 - Consultative model





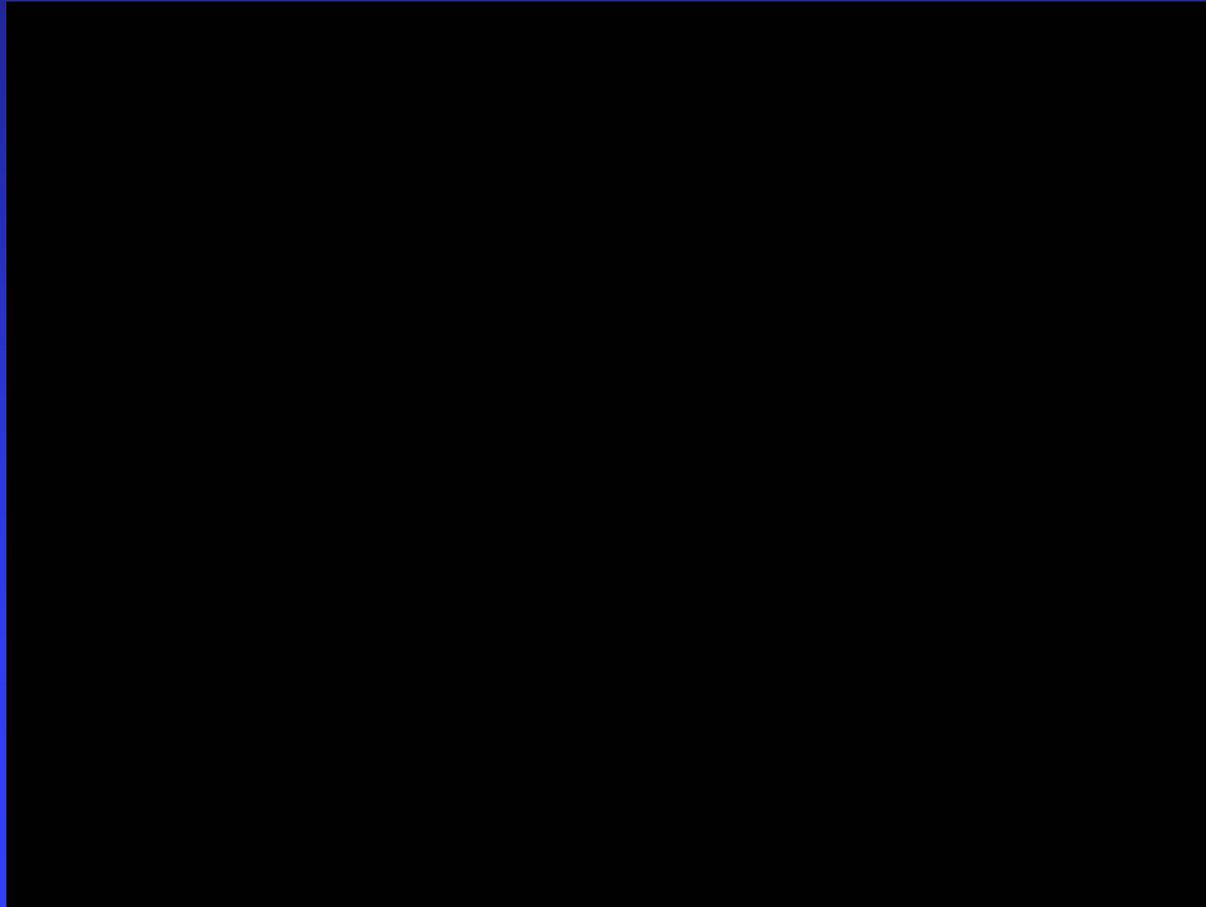
PICU Telemedicine Results

- | UC Davis PICU-ICU model:
 - Assist in the care of "less sick" children at remote site
- | Compared to non-telemedicine patients, telemedicine patients are:
 - Younger
 - More ill (higher PRISM III)
 - Higher rates of mechanical ventilation
 - Excellent severity adjusted outcomes
- | Have higher parent satisfaction
 - 55% parents ranked local care "extremely important" versus 20% for local physicians

Financial Impact of Telemedicine

- | Saved costs using telemedicine
 - \$117,000 (23 pts, 71 days)
 - \$200,000 ($\frac{1}{2}$ Children in ICU, 43 pts, 105 days)
- | Actual revenue kept in Redding
 - \$186,000 (23 pts, 71 days)
 - \$279,000 ($\frac{1}{2}$ Children in ICU, 43 pts, 105 days)

Family Link



Video-Interpreting Services



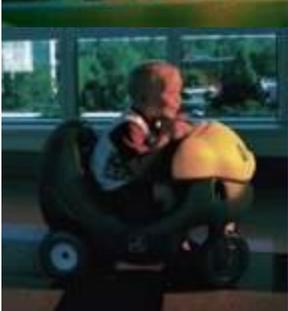
- | Links hospitals and clinics to bank of interpreters
- | Increase efficiency
- | Improve patient satisfaction

Pediatric Telehealth Colloquium



September 15-16, 2008 • Tampa, FL

2008 ATA Mid-Year Meeting



Thank You!!

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