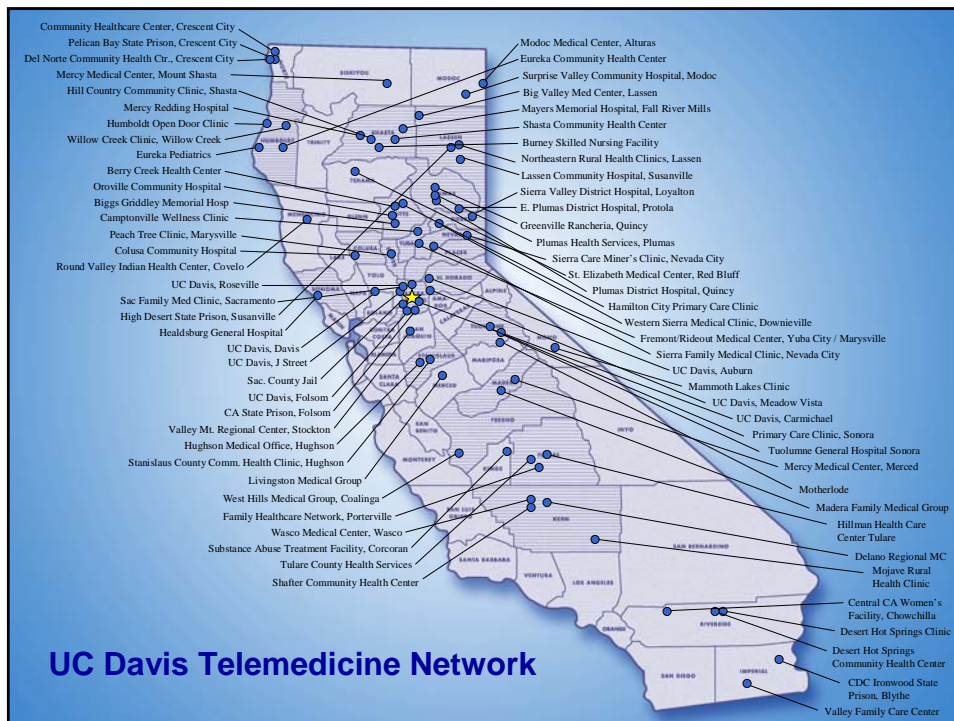
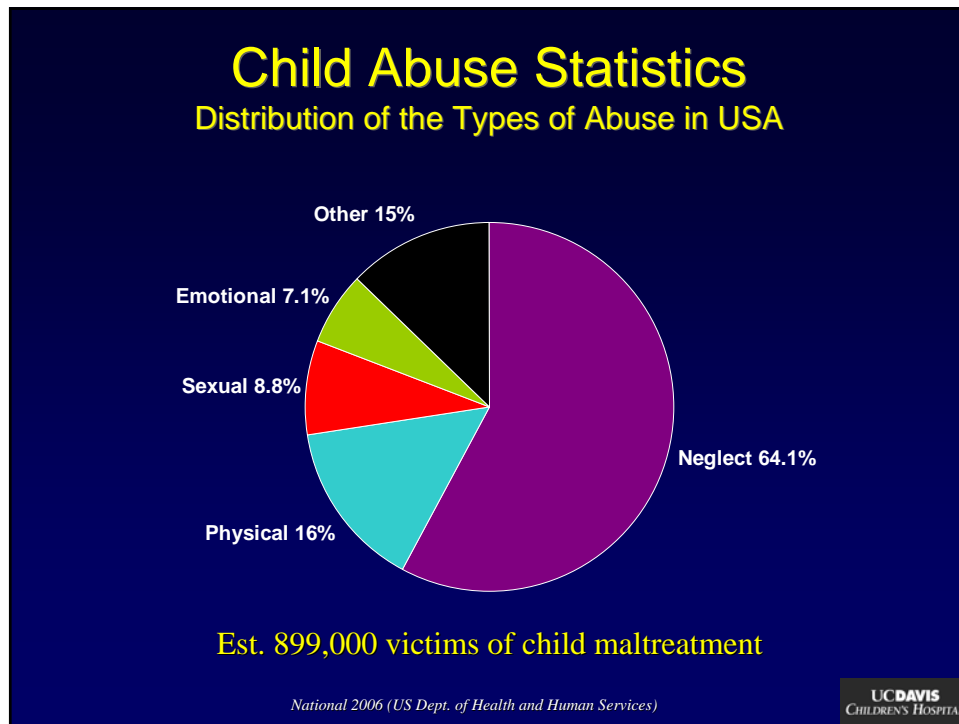


The Use of Telemedicine in Pediatric Sexual Abuse Examinations in Rural, Underserved Hospitals

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Sexual Abuse in Rural Regions Telemedicine Addresses Barriers

Problem	Solution
<ul style="list-style-type: none">• High rural abuse rates• Few trained examiners• Examiners travel great distance for training• Peer Review is "gold standard" for diagnosis• Little confidence in evidence, testimony for court	<ul style="list-style-type: none">• Examiners receive remote training• Examiners receive live assistance during exams• Reduced time for travel for both victim, staff• Electronic Case Review• Forensically defensible exams with expert advice

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Telemedicine to Assist in Remote Sexual Abuse Examinations

- Link to UC Davis Child and Adolescent Abuse Resource Evaluation (CAARE) Diagnostic and Treatment Center
 - Connect to UC Davis for training sessions
 - Connection for immediate exam support
 - Connection for ongoing Quality Assurance
 - Store and forward for review of exams
- Recorded exam used by law enforcement and for evidence in trials
- Reduction in “expert witness” calls-travel

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Previous Data

- 42 live telemedicine consultations were analyzed
- The mean duration of consultation was 71 minutes (range: 25–210 minutes).
- The consultations resulted in changes in:
 - Interview methods (47%)
 - The use of the multimethod examination technique (86%)
 - The use of adjunct techniques (40%)
- 9 acute sexual assault consultations that resulted in changes to the collection of forensic evidence (89%)
- MacLeod KJ, et. al: Using Telemedicine to Improve the Care Delivered to Sexually Abused Children in Rural, Underserved Hospitals. Pediatrics 123;223-228

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Sexual Abuse Examinations

- ACUTE EXAMS (LIVE)
 - Event within 72 hours
 - Medical and event history
 - Complete head to toe physical exam
 - Evidence collection for DNA evidence
 - Documentation and evaluation of findings
 - Photo review and QA
- NON-ACUTE EXAMS (LIVE or RECORDED)
 - > 1 week since event, ongoing molestation, limited disclosure
 - Medical history (history typically done by law enforcement or CPS)
 - Complete head to toe physical exam
 - Documentation and evaluation of findings
 - Photo review and QA

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But How Does It Really Work?



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Telemedicine Equipment

- In-home telemedicine units for consultants
- 24-hour pager
- Video conferencing camera
- Colposcope
- High resolution general exam camera
- DVD recorder



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Common Elements

- Distance Education
- Ongoing Training
- Assistance with exams
- Peer Review
- Collaboration with district attorney & law enforcement



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The Medical Examination

Colposcopic Examination



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Hypothesis

Live telemedicine consultation is better than
“store and forward” review or a standard
expert review

- Live telemedicine consultation will result in
 - Higher “effectiveness”
 - Interview methods
 - Use of multimethod techniques
 - Use of adjunct techniques
 - Higher overall “quality of care”
 - Complete history and examination
 - Appropriate completion of evidentiary exam

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Methods

- Two rural hospitals were provided both live and “store-and-forward” telemedicine capabilities for pediatric sexual assault assistance
- Review of paper medical records (blinded)
- Consultations scored on 7-point Likert scale
 - “Effectiveness” (3 domains)
 - “Quality of care” (1 domain)

RESULTS

- Number of Consultations
 - Live Telemedicine = 42
 - Store and Forward = 43

RESULTS: Effectiveness

- “Effectiveness” mean:
 - Mean score for live telemedicine = 5.9
 - Mean score for store-and-forward = 4.0
 - $p < 0.01$
- “Effectiveness” dichotomized:
 - 82% of live consults scored a ≥ 5 (> very effective)
 - 27% of the “store-and-forward” consultations ≥ 5
 - $p < 0.01$

RESULTS: Quality of Care

- Quality of Care mean
 - Mean score for live telemedicine = 5.4
 - Mean score for store-and-forward = 4.3
 - $p < 0.05$
- Quality of Care dichotomized:
 - 74% of live consultations scored ≥ 5 for quality of care
 - 36% of store-and-forward consultations scored ≥ 5 for quality of care
 - $p < 0.01$

