

Telemedicine can dramatically improve child sexual assault examinations in rural areas

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The use of telemedicine can dramatically improve the quality of child sexual assault examinations in rural communities where rates of abuse and neglect are highest — sometimes more than double the statewide rate — a study published in the January issue of the medical journal *Pediatrics* has found.

The finding is important because the highest rates of child sexual assault in California occur in its rural counties — most of which are in Northern California — where there are fewer practitioners trained to conduct the examinations that are crucial to child health and to obtain evidence to prosecute perpetrators and protect children in the future.

Telemedicine also can minimize additional trauma to children who might otherwise have to travel for hours to undergo the long and detailed examinations, said senior study author Kristen Rogers, an assistant professor in the Department of Pediatrics working in the UC Davis Children's Hospital Child and Adolescent Abuse Resource and Evaluation (CAARE) Center.

"It's very disruptive for a child to be placed in a police car or in a social worker's car and be driven sometimes three hours to go through a whole exam at a university medical center," Rogers said. "It's a lot less traumatic if we can keep these kids in their communities with people who they are more comfortable with."

The study looked at the effectiveness of consults performed at two rural

Northern California clinics linked by videoconference to experts with the CAARE Center through the UC Davis Center for Health and Technology (CHT) and its telemedicine program. One site was in Eureka in Humboldt County; the other was in Clearlake in Lake County.

UC Davis provided each study site with videoconferencing equipment including a camera, a flat-screen television monitor and a video camera connected to the site's colposcope. A colposcope is a lighted magnifying instrument that is used to examine the vagina and cervix. The CAARE Center expert in Sacramento videoconferenced with the community physician and the patient in the exam room at the study site. The expert provided guidance on all aspects of the examination by alternating between viewing the community physician and the patient in the exam room and the images captured by the colposcope.

The study, titled "Using Telemedicine to Improve the Care Delivered to Sexually Abused Children in Rural, Underserved Hospitals," found that a significant number of the physicians in the rural communities involved in the study changed their examination- and evidence-collection techniques at the suggestion of the consulting expert, according to James Marcin, a professor of critical care medicine in the Department of Pediatrics and the director of the pediatric telemedicine program.

In all, 42 child sexual assault cases were included in the study, which involved one male and 41 female patients ranging in age from 7 months to 17 years. In 47 percent of the consults the presence of the CAARE Center expert resulted in changes to the interview methods used. There were nine acute sexual assault telemedicine consults that resulted in improved collection of forensic evidence.

The presence of the expert also resulted in changes in the manner in which 35 — or 89 percent — of the consults used what is called the "multimethod technique," which involves using multiple, complimentary

avenues for obtaining information about instances of sexual assault.

"We started offering this service to remote locations because the multimethod technique didn't seem well known" among practitioners in rural communities, Marcin said. "So our examiners are serving as real-time quality control in these communities."

Kristen Rogers agreed.

"One of the reasons why this has gone so well is that the district attorneys are very excited about it, because they are getting expert help with the collection of forensic evidence. They are welcoming UC Davis into their communities with open arms," she said.

According to data compiled by the state Department of Social Services in 2007, the most recent date for which data are available, the highest rates of incidence of child maltreatment including sexual assault occurred in Del Norte, Siskiyou, Modoc, Humboldt, Trinity, Lassen, Tehama, Mendocino, Lake, Glenn, Butte, Tuolumne, Yuba and Inyo counties. With the exception of Inyo County, all of the counties are in Northern California.

In 2007, the statewide rate of incidence of child maltreatment including sexual abuse was approximately 49 per 1,000 children. It was nearly 79 per 1,000 children in Yuba County and, in Del Norte County, the county with the highest incidence rate, it was nearly 126 per 1,000 children.

Six rural Northern California sites now have access to CAARE Center experts, 24 hours a day, seven days a week, through the telemedicine program. In addition to the Humboldt and Lake County sites, new sites have been established in Mammoth Lakes in Mono County, Marysville in Yuba County, Ukiah in Mendocino County and San Andreas in Calaveras County. Another site is in the works for Modesto in Stanislaus

County. The new sites were made possible through a research grant from the federal government for which Marcin and Rogers are the co-principal investigators.

Marcin said that the program has also raised awareness among rural doctors about the signs of sexual abuse.

"Anecdotally, we have noticed that these rural doctors are conducting more sexual abuse exams. But it isn't because there is more abuse. We think that through working with us they have become more aware of the signs of abuse and are better able to identify potential cases when they occur," he said.

Marcin said that the children involved in the examinations have generally responded well to the UC Davis experts and the videoconferencing arrangement. For example, the expert examiners encourage children to hold the remote that lets them press a button to take a picture.

"The children are probably more comfortable with our experts participating than they might be with an inexperienced examiner," Marcin added.

This is a unique application of telemedicine, which is more commonly employed to give rural or underserved communities access to specialists like cardiologists, he said, and he hopes that the current study will encourage more use of telemedicine for cases of sexual assault in rural communities.

"We view telemedicine as a tool, not just as a new way to deliver health care, but as a tool to deliver better health care to more people," Marcin said.

He noted that previous research studies have shown that the use of

telemedicine reduces the number of transports of sexually assaulted children to distant academic medical centers.

"But no one before had looked at whether these efforts actually improved the quality of the exams that were being conducted remotely," he said. "Now we know that they do."

Source: University of California - Davis

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