Telemedicine Aids Pediatric Care in Rural EDs

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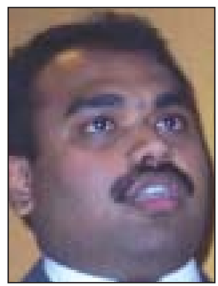
SAN FRANCISCO — About 40% of emergency departments lack 24/7 access to pediatricians, according to the Centers for Disease Control and Prevention.

Telemedicine provides one possible means of closing this gap, and now a study comparing telemedicine consultations to telephone consultations has shown improvements in diagnostics and parent satisfaction, Madan Dharmar reported at a meeting sponsored by the National Initiative for Children's Healthcare Quality.

The prospective cohort study involved eight rural emergency departments that were designated telemedicine sites and five rural emergency departments as control sites. The sites were matched with regard to hospital volume and physician training.



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MR. DHARMAR

Children older than 1 day and younger than 17 years were included in the study if they were triaged in the highest category at presentation to the emergency department, said Mr. Dharmar, a doctoral student in epidemiology at the University of California, Davis.

Investigators provided the telemedicine sites with either a wall-mounted or a pole-mounted telemedicine system.

Physicians requesting telemedicine or telephone consultation called a toll-free number that connected them with a UC Davis specialist in pediatric emergency care or pediatric intensive care, typically within 2-5 minutes.

The investigators looked at three outcomes: whether there were changes in medical diagnostics and therapeutic advice; whether there were improvements in the quality of care; and whether there were improvements in parent/guardian satisfaction. Of the 37 telemedicine consultations, 19 resulted in added or changed diagnostic studies, compared with 1 of 14 telephone consultations, a significant difference. There was also a nonsignificant difference in the consulting physician changing therapeutic advice (41% for telemedicine vs. 14% for telephone consultation).

"Telephone consultations have limitations with the fact that the specialist is unable to see the kid," Mr. Dharmar said. "The specialist usually treats based on a [summary] from the referring physician at the remote site. Another important aspect is that the specialist is unable to involve parents in the care of the kid."

Parents were significantly more satisfied with telemedicine than with telephone consultations on four different measures. They had higher levels of satisfaction with the courtesy of the emergency department nurses, the courtesy of the physicians, the knowledge and skill of the referring emergency physician, and with the explanation of what was done for their child.

Two pediatric emergency physicians' ratings of initial data gathering, integration of data and diagnosis, initial treatment plan, and plan for disposition or follow-up had no significant differences between the telemedicine and telephone consultations.

Mr. Dharmar stated that he had no financial interest with any organizations or commercial products involved in the study. ■

IMPORTANT SAFETY INFORMATION

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Please see full prescribing information on adjacent page.

*RSV = respiratory syncytial virus.
†ICU = intensive care unit.

References: 1. Yeung CY, Hobbs JR. Serum-γG-globulin levels in normal, premature, post-mature, and "small-for-dates" newborn babies. *Lancet.* 1968;1(7553):1167–1170. **2.** Horn SD, Smout RJ. Effect of prematurity on respiratory syncytial virus hospital resource use and outcomes. *J Pediatr.* 2003;143:S133–S141.

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