

Study finds significant cost savings in pediatric telemedicine consults

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Researchers at UC Davis have conducted a comprehensive study to determine whether pediatric telemedicine consultations with rural emergency departments save money compared to telephone consults. The answer is a resounding yes. While telemedicine systems are expensive to install and maintain, they more than pay their way, saving an average \$4,662 per use. The study was published in the journal *Medical Decision Making*.

"Our previous work showed that telemedicine was good for kids, families and providers, but we didn't really address the cost issue," said James Marcin, UC Davis interim head of pediatric [critical care medicine](#). "Now we know, not only does it improve quality, safety and satisfaction, but it also saves money."

Public health researchers worked closely with health economists to determine the actual [costs](#) of a telemedicine consult, as well as the potential savings. On one side of the ledger, hospitals must invest in equipment, software and IT support. In addition, urban hospitals must pay to have subspecialists on call to assist their rural colleagues. These and other costs averaged out to \$3,641 per consultation.

However, the value of these consultations far exceeded these expenses. The study found that, compared to telephone, telemedicine consults produced extensive savings. In many cases, savings accrued from reduced transfers between hospitals. In particular, moving patients by air ambulance can dramatically increase the cost of care. Telemedicine

consults reduced the number of patients being transferred by 31 percent.

To make these findings, the team reviewed the Pediatric Critical Care Telemedicine Program at UC Davis, tracking its interactions with eight rural emergency departments between 2003 and 2009. They collected detailed information on the costs of implementing and maintaining the [telemedicine program](#) and weighed those against the transfer logs at the eight hospitals, as well as the costs of ED visits. The team focused on five conditions: asthma, bronchiolitis, dehydration, fever and pneumonia. These diagnoses stand out because, with appropriate guidance, they can be treated at the rural hospitals.

Marcin and his team will continue to study the relationship between telemedicine and patient costs and are excited to share this information with payers, hospital administrators, physicians groups and other interested parties. Given its ability to both improve quality and reduce costs, Marcin believes telemedicine should play a larger role in health care.

"In California, physicians get paid for [telemedicine](#) consultations, but in many states they don't," says Marcin. "Given its ability to reduce medication errors and increase patient, family and physician satisfaction, as well as lowering costs, I think it makes sense to actually pay physicians a little more for this service to incentivize the model."

Provided by UC Davis

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