AAP Journals BLOG

The Doctor is In ..... the Cloud

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I'm a great fan of electronic innovations in medicine, but one needs to exercise caution not to be seduced by cool technology that doesn't really add anything to population health. That's why it's nice to see a randomized controlled trial of such an innovation.

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Article type: AAP Grand Rounds Blog

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Source: Robinson C, Gund A, Sjöqvist B et al. Using telemedicine in the care of newborn infants after discharge from a neonatal intensive care unit reduced the need of hospital visits. Acta Paediatrica. 2016; 105(8):902-9. doi:10.1111/apa.13407. See AAP Grand Rounds commentary by Dr. James Marcin and Ms. Jaimie Kissee (subscription required).

PICO Question: Among families with infants discharged from a NICU, does telemedicine, in addition to standard care, reduce the number of emergency hospital visits compared to standard health care alone following discharge?

Question type: Intervention

Study design: Randomized control

Researchers in Sweden conducted a randomized controlled trial to study whether the addition of electronic follow-up (web application plus telemedicine), in addition to standard health care (2-3 times per week visits to the regional hospital), for infants discharged from a neonatal intensive care unit would reduce unscheduled use of healthcare resources. The telemedicine group had fewer emergency visits, but no difference in hospital readmission rate, compared to the control group. The telemedicine group also had slightly fewer visits scheduled for hospital followup, adjusted based on how many days of home health care they were receiving. Parents in the telemedicine group were mostly favorable in their comments about the program in an online survey.

It should be note that the numbers here were pretty small, 31 in the control group and 30 in the telemedicine group, so the actual event rates were very low, even those achieving statistical significance.

Although this was a randomized controlled trial, there were actually 2 interventions in the telemedicine group (web application and telemedicine) compared to the controls. As Dr. Marcin and Ms. Kissee pointed out in

their critique, it's tough to figure out what might have helped when so many things are different between the experimental and control groups. Also, note that this study was carried out in a country with a national health system, a very different arrangement than in the US currently.

As I said, I'm biased in favor of some electronic innovations in medicine. I oversee a telemedicine consultation clinic for my specialty of infectious diseases, providing service to a population about 2 1/2 hours from our hospital center. However, it's a bit different than just "Skyping" with patients. We have a nurse practitioner on the other end in an exam room with the patient and family, to assist with a high definition camera and electronic stethoscope and otoscope manipulation that allows me to perform most of a physical exam from a distance. The equipment isn't enormously expensive but does need to be factored into the overall cost of healthcare.

As US healthcare payments move away from a fee-for-service model, interventions that streamline that care likely will become more desirable for health systems to implement.

Further Reading

- Telemedicine Consultations and Quality of Care
- Telemedicine for Children with Special Healthcare Needs
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