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Background

Telemedicine is the use of electronic information and communications technologies to provide and support healthcare when distance separates the participants (NAM, formerly IOM). Primary care providers encounter patients with complex conditions. The majority of Medical/Surgical specialists are concentrated in large metropolitan areas and not easily accessible. 1 in 3 children must travel greater than 40 miles to receive pediatric specialty care. At three regional centers, Children's Mercy Kansas City offers Telemedicine for 27 specialty and sub-specialty services including Neurology, Developmental & Behavioral, Gastroenterology, Asthma and Allergy & Rheumatology.



Purpose

Children's Mercy utilizes BSN, RN telefacilitators at the patient site to ensure the patient receives the same level of care as they would an in-person visit. Facilitated encounters allow for a complete physical exam and ensure excellent communication between patients/families and providers. They replicate the assessments necessary for some specialty healthcare. RN telefacilitators advocate for the patient/family and providers.

Case Study

11 year old female with complex medical needs including Spinal Muscular Atrophy and Down Syndrome. The patient has a tracheostomy and ventilator support since 2 months old. The patient's care was managed by the PCP in the home and the patient had not been seen by a pulmonologist in 4 years due to geographical and transportation barriers. In order for the patient to receive pulmonology services, a travel time of 6+ hours roundtrip would be required via ambulance. In order to avoid these expenses and potential technical issues, arrangements were made for the patient to be seen locally by a pulmonologist via telemedicine. The patient was able to reach the local clinic and received appropriate care with the help of a trained RN facilitator.



Intervention

Routine visits can be done via Telemedicine with an RN telefacilitator to keep kids healthy, out of the hospital, and keeps families from having to travel long distances for appointments. The telemedicine technology allows providers to see their patients on a more frequent basis, to troubleshoot issues, and make necessary changes. Telemedicine offers a huge savings to families who would otherwise make the long journey to and from Kansas City. This can save families up to 5-6 hours of travel time, not to mention gas, meals, and missed work and school. As an added bonus, children of all ages find the robots fascinating, making visits more pleasant for everyone.

Estimated Savings to Families in 2015 based on 400 patient visits:

- 124,000 miles (based off 150 miles one way)+\$69,000 mileage
- \$76,800 in wages lost (based off one 9 hours day of work missed, KS average wage about \$24/hr <https://quickfacts.census.gov/qfd/states/2000.html>. Possible other repercussions related to non-exempt employees.

Discussion

Getting to stay in your community, not miss work and school, receive the same quality of care as you would traveling to the major academic institution with specialty resources equals value. Throughout our region, and indeed, the world, there is a shortage of pediatric specialists. Telemedicine bridges this divide, connecting patients and providers over distances using child-friendly robots with highly secure internet connections.