

# Telehealth in Pediatric Primary Care: Right Care, Right Place, Right Time



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## Background/Objective/Goals

### BACKGROUND:

Cincinnati Children's Hospital Medical Center (CCHMC) is a tertiary pediatric institution focused on improving child health and transforming delivery of care through fully integrated, globally recognized research, education and innovation.

CCHMC has 3 primary urban health care clinics and 3 school-based health centers serving a population of 37,000 of which 85% have Medicaid coverage. The primary urban care clinics have a strong commitment to their patients and families through utilizing a multidisciplinary approach including nursing, physicians, social workers, legal aid representatives, care management and dieticians supporting 684 visits a week. In addition to clinics visits approximately 800 phone calls are triaged weekly by clinical nursing staff to provide patient education and support.

### OBJECTIVE:

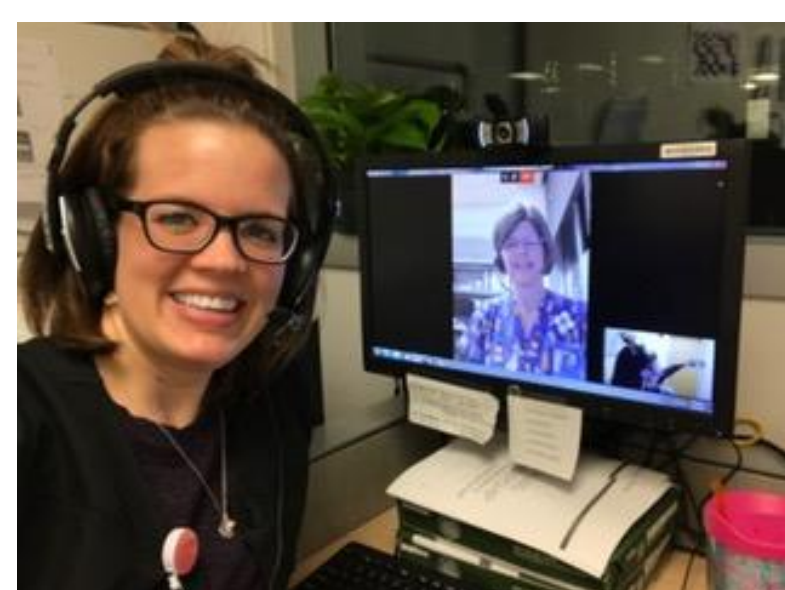
In an effort to improve patient care, patient/family experiences and reduce costs, the clinic staff has begun a feasibility study to strengthen triage disposition recommendations, appropriately utilize resources and improve family satisfaction. This will be achieved through the development and integration of a video based triage model to improve clinical practice algorithms, detect barriers and identify outcomes important to key stakeholders.

### GOALS:

- Improving accuracy of the triage dispositions
- Eliminate potential transportation logistics
- Decreasing the amount of non-urgent Emergency Room and Urgent Care visits
- Improving the quality of basic education
  - Increase the opportunity for health focused education
- Increase the trust and value within our relationships with our families.

## Methods

Families call in through the call center with their child's health complaint which is routed to the clinic triage nurses. The nurse identifies conditions where the disposition can be enhanced through a video display. Encounters begin via a telephone call while referencing evidence based Pediatric Telephone Protocols (Barton Schmitt). If indicated and technology is available in the patient's home, a clientless video conferencing application text link is sent in order to interact with patients and families to enhance the nursing triage process. Health education and dispositions for home care, clinic appointment (urgent or within 72 hours) or emergency care are then determined. A caregiver satisfaction survey is requested after the completion of each encounter.



## Case Examples

A 2 year old boy's single mom called in on December 21, 2016 to report that her son has had a cough for 2-3 weeks and that he was having trouble breathing. Mom wanted to come to the clinic for an ill visit. We informed mom that we would like to "take a look" at him and this might eliminate the need for a clinic visit by utilizing a video conferencing system. Mom was receptive and a text link was sent to her smart phone by the triage nurse. When mom called back via the video link the 2 year old was present and cheerfully said " Merry Christmas" and proceeded to tell the triage nurse about the train cartoon he was watching. With visualization in place the child was assessed for retractions and nasal flaring and found to not be in distress. The nurse took this opportunity for a face to face discussion regarding the care that mom had already provided which aligned with the nursing protocols. Additional education and support was given, and the child safely remained at home to finish his cartoon.



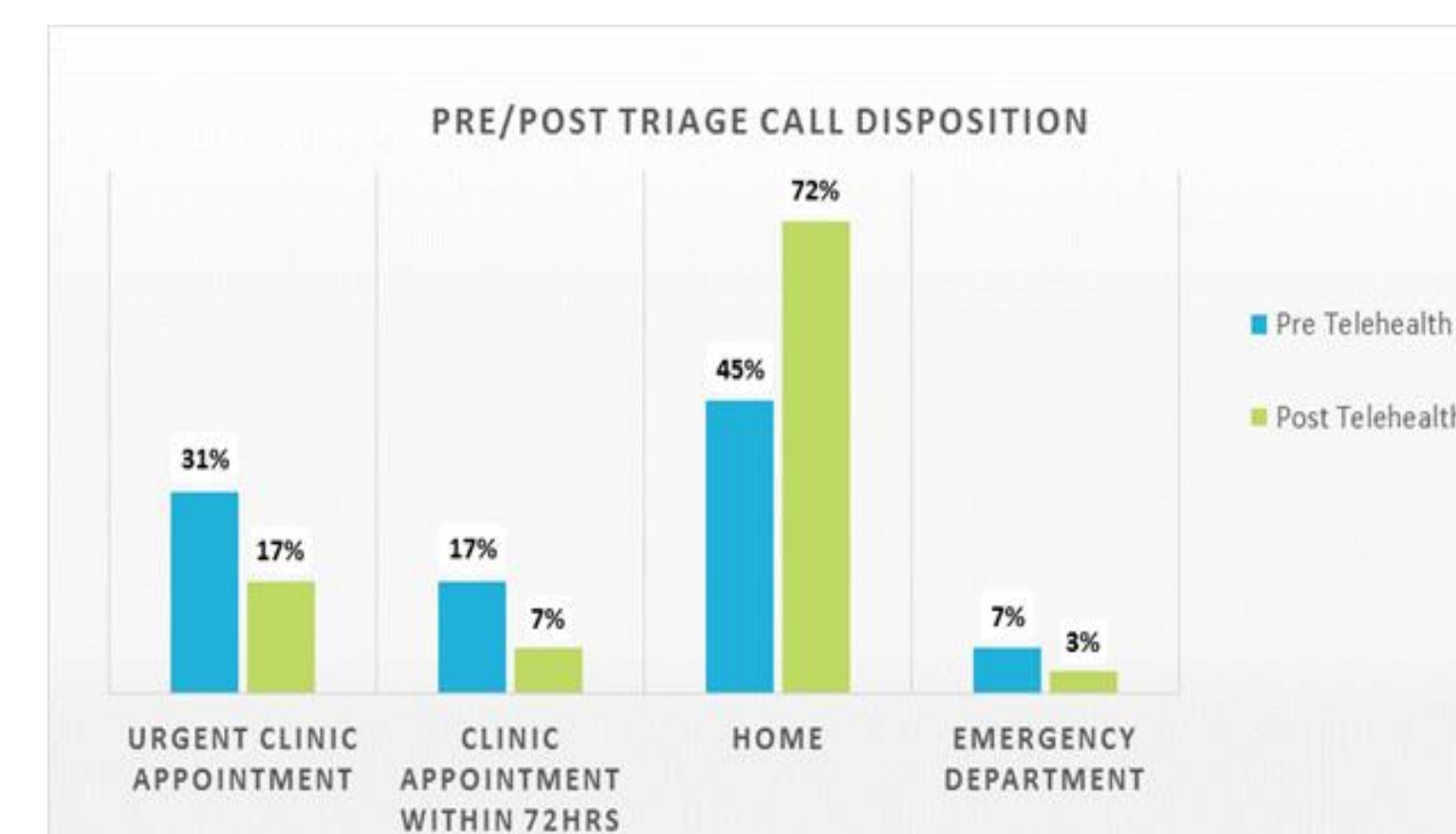
On November 18, 2016 a 6 year olds' mother called to report that her daughter had to be picked up from daycare because of bumps on her arms. After being home for several hours the bumps had spread to her back and chest and the child was reporting they itched. When questioned mom denied any allergies or the use of new bathing products, but had recently changed laundry detergents. The child and mom are not reporting any other symptoms. Without utilizing telehealth this rash would have been presumed to be contact dermatitis. By visualizing the red, raised, pin-point rash on the child's back and chest it was evident the rash was not contact dermatitis. An attending was asked to visualize the rash and felt that it might be strep, so the child was provided an immediate clinic appointment. The patients appointment was expedited, strep was confirmed and appropriate care was utilized and provided.



## Results

### TRIAGE DISPOSITIONS

To date, this feasibility study has included 29 families. The graph below compare the dispositions of CCHMC's General Pediatrics study population dispositions (pre and post telehealth) during the study period (October 2016 – January 2017).



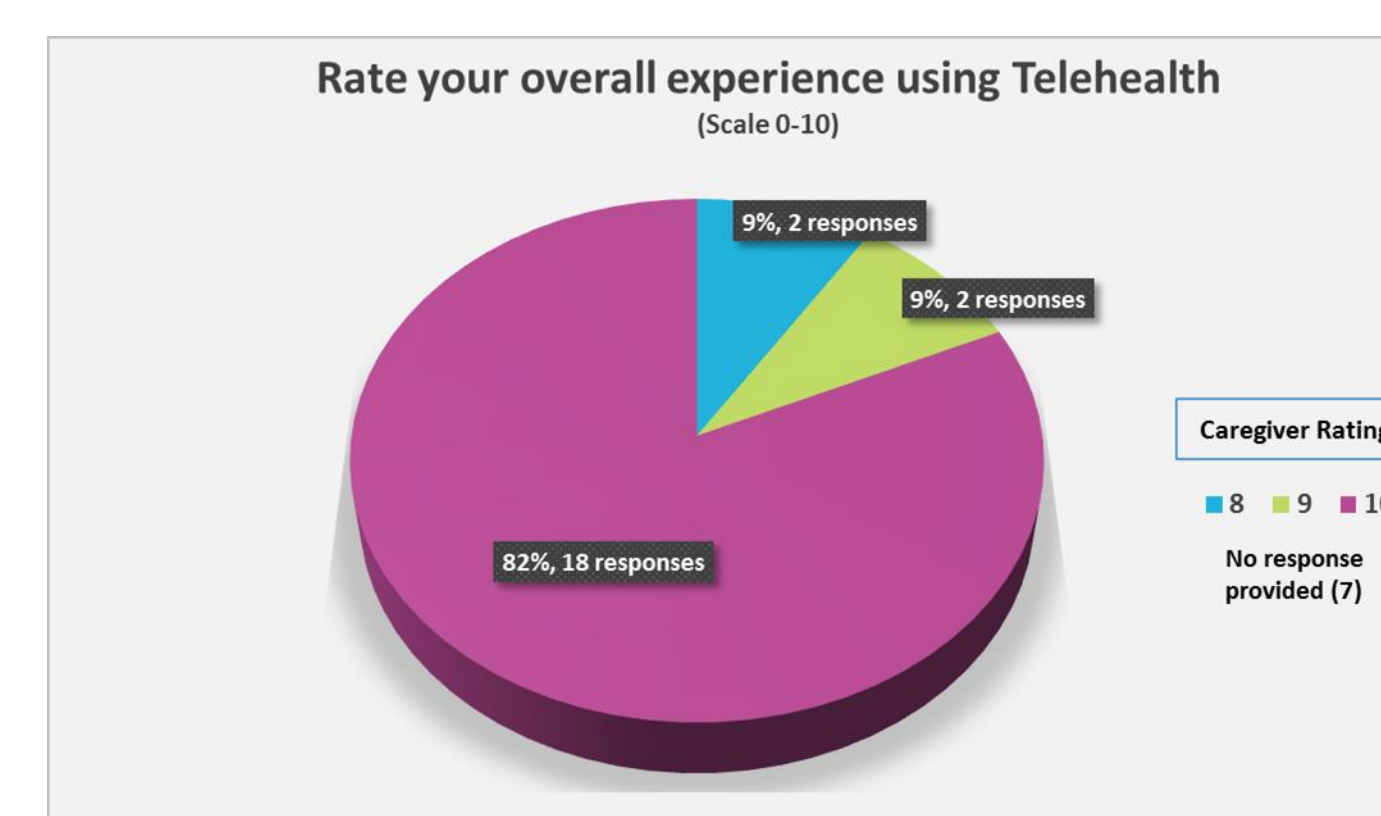
The shift in pre and post telehealth disposition is indicating the potential to increase home care, decreased clinic visit and emergency care visits.

\*pre disposition determined by completion of the Barton Schmitt Pediatric Telephone Protocols

### CAREGIVER SATISFACTION

Caregivers were surveyed on their overall satisfaction with the Telehealth experience. 93% reported that they would use Telehealth in the future. 7% did not complete the survey. Reasons caregivers stated they would use this form of technology again were:

- Saved time
- Helped alleviate transportation issues
- They liked "seeing" the person they were talking to
- Clarified medication
- Felt confident correct care recommendations were given because the patient was "seen"
- Didn't have to leave home
- "Hands on" experience
- Saved a trip for an unnecessary visit
- "Helps with worries"
- No wait times



Scale: 0 = "worst" experience and 10 = "best" experience.

## Lessons Learned/Next Steps

### LESSONS LEARNED

- Introduction to technology clarified
  - Adoption curve for technology for RNs and MDs
  - traditional vs innovative practice
- Minimal Tech failures
  - caregiver did not receive text
  - caregiver did not understand the trouble shooting
  - directions/poor connection
  - caregiver did not have enough storage space on her phone to download the application ( she called several days later)
- Positioning and logistics
- Infants should have another care giver present, be placed in a secure position (swing seat or on a blanket on the floor) so that the care giver can manipulate the device (smart phone/tablet)
- Families should be asked to go to a well lit area of their home
- Reduction in clinic visit time after video triage

### NEXT STEPS

- Expansion of triage telehealth hours
- Training of more nurses on the telehealth technology to enable a more rigorous study
- Using telehealth for "follow up" after in-patient discharge or ED patient visits

## Conclusions

The feasibility study results indicate telehealth has an impact on disposition. Ten out of 29 patients were recommended for lower level of interventions and 18/29 dispositions remained the same. For downgraded dispositions, 9/10 were deferred for home management and 1/10 to a clinic visit. 1/29 dispositions were upgraded from Home to ED. Patient satisfaction has been high with four low level technology failures due to bandwidth and understanding the technology. Based on findings, telehealth has the ability to improve access to care, use of resources, and consumer satisfaction. As telehealth continues to disrupt the healthcare delivery system we anticipate this model of care to be widely adopted.

## Acknowledgements

1. Program Manager, Center for Telehealth, Cincinnati Children's Hospital Medical Center
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