



Children's National™

Removing Barriers to Care for the Underserved: Provider and Patient Perception of Direct-to-Consumer Medicine

Grell, Robert M.^{2,3}; Hatcliffe, Rachel E.¹; Gillen, Sean M. ²; Sable, Craig²; Grant, Vanessa²; Ledda, Matthew²; Fuska, Mary²; Atabaki, Shireen M.^{2,1}
1. Pediatric Residency, Children's National Medical Center, Washington, DC, United States.
2. Children's National Health System, Washington, DC, United States.
3. The George Washington University, School of Medicine & Health Sciences

Background

- Telemedicine has greatly expanded the access to and delivery of quality healthcare services. Particular interest has been placed on coordinating telemedicine services for medically underserved populations, including children and patients in rural areas¹. A current gap in providing subspecialty care for marginalized pediatric patients is attributed to a number of healthcare access barriers: distance, lack of transportation, wait times for appointments and insurance coverage limitations. Telemedicine is a practical alternative to an in-person pediatric specialty visit.
- Direct-to-Consumer (DTC) telemedicine is the optimal approach in ensuring high-quality encounters between provider and patient with minimal restrictions to access. Implementation and feasibility complications need to be addressed before integration into complex healthcare networks, such as Children's National. Feasibility pertains to the technicalities of service delivery and the adaptiveness of pediatric specialists to practice telemedicine. Funding endowed by the CareFirst Foundation will support our initiative to provide telemedicine services to low-income pediatric subspecialty patients.

Objectives

- To explore the perspectives of telemedicine use among pediatric subspecialty providers within the Children's National Health System. Stakeholders will be surveyed on their interest in direct-to-consumer services, the benefits of DTC implementation, and the perceived barriers of technology utilization.

Methods

- This project implemented the use of qualitative data collection methods via provider surveys in RedCap.
- Pediatric subspecialties that were approached included diabetes clinics, developmental clinics, neurology, concussion/TBI specialists, and gastroenterology. Respondents were recruited by a hospital-wide campaign. Five content areas were covered:
 1. Description of the telemedicine program
 2. The needs of our pediatric patients regarding specialty care
 3. Process for referral to the telemedicine program
 4. Patient access to services
 5. Barriers and facilitators to program implementation

4. I believe there is currently adequate access to sub-specialty care for children in Washington DC, Maryland (Montgomery, Prince George County, Eastern Shore and Southern Maryland counties) and Virginia (Arlington and Fairfax Counties)

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

Provider Belief of Access to Care		
MEAN	MEDIAN	MODE
3.857142857	4	4

5. Please rate the following factors on their contribution to provider dissatisfaction within the current model of sub-specialty care delivery.

	Major Contributor	Moderate Contributor	Minor Contributor	Does Not Contribute
High rates of patient "no-shows"	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Difficulty scheduling patients due to lack of available time slots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Long wait times for patients on clinic days	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inability to effectively reach medically underserved populations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Non-compliance leading to emergency room visits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problems with insurance reimbursement for visit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Factors Contributing to Provider Dissatisfaction with Current Model of Subspecialty Delivery			
	MEAN	MEDIAN	MODE
No Shows	2.363636364	2	2
Scheduling Difficulty due to Lack of Available Time Slots	2	2	1
Long Wait Times	2.545454545	2	2
Inability to Reach Underserved	2	2	2
Non-Compliance Leading to ER Visits	2.636363636	3	2
Problems with Insurance Reimbursement	2.303030303	2	2

1 = Major Contributor
2 = Moderate Contributor
3 = Minor Contributor
4 = Does Not Contribute

6. Please rate the following factors on their perceived contribution to patient/family dissatisfaction and failure of sub-specialty follow-up.

	Major Contributor	Moderate Contributor	Minor Contributor	Does Not Contribute
Long wait times to schedule appointments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Long wait times to be seen at time of appointment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Long distance from home to location of available or convenient transportation to appointment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of insurance coverage for the visit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Difficulty taking time away from work/school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inability to afford travel expenses, parking, food etc. associated with visit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patient anxiety surrounding appointment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Factors Affecting the Perceived Contribution to Patient/ Family Dissatisfaction			
	MEAN	MEDIAN	MODE
Long Wait Times to Schedule Appointments	1.617647059	1	1
Long Wait Times to Be Seen at Appointments	2.40625	2	2
Long Distance From Home	1.575757576	2	1
Lack of Available/ Convenient Transportation	1.75	1.5	1
Lack of Insurance Coverage	2.303030303	2	2
Difficulty Taking Time Away from Work/School	1.818181818	2	2
Inability to Afford Travel Expenses, Parking, Good, etc. Associated with Visit	2.090909091	2	3
Patient Anxiety Surrounding Appointment	2.757575758	3	3

1 = Major Contributor
2 = Moderate Contributor
3 = Minor Contributor
4 = Does Not Contribute

7. Please rate how strongly you agree with the following statements:

The implementation of direct to consumer telemedicine will:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Decrease rates of no-shows at sub-specialty clinic appointments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decrease incidence of preventable complications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decrease number of avoidable, Emergency Room visits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improve re-admission rates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide a safe medium for managing certain sub-specialty conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increase number of medically under-served patients served by sub-specialty clinics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide a cost-effective alternative to in-person appointments for certain conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increase patient/parent satisfaction with visits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Please rate on a scale how much you feel the following would be barriers to implementing direct to consumer telemedicine?

	1 (Not a barrier)	2	3	4	5 (Major barrier)
Parent and patient access to computers, tablets or smartphones	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Parent/Patient preference for in-person appointment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provider time availability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insurance Reimbursement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Provider Beliefs of DTC Implementation

	MEAN	MEDIAN	MODE
Decrease Rates of No-Shows	2.393939394	2	2
Decrease Incidence of Preventable Conditions	2.625	2.5	2
Decrease Number of Avoidable ER Visits	2.419354839	3	3
Improve Re-Admission Rates	2.612903226	3	3
Provide Safe Medium for Managing Certain Sub-Specialty Conditions	1.75	2	2
Increase Number of Medically Under-Served Patients Served by Sub-Specialty Clinics	2	2	1
Provide Cost-Effective Alternative for Certain Conditions	1.75	2	2
Increase Patient/Parent Satisfaction with Visits	2	2	1

1 = Strongly Agree
2 = Agree
3 = Neutral
4 = Disagree
5 = Strongly Disagree

Provider Perceived Barriers to DTC Telemedicine Implementation

	MEAN	MEDIAN	MODE
Parent/Patient Access to Computers/Tablets/Smartphones	2.875	3	2
Parent/Patient Preference for In-Person Appointments	3.34375	3	4
Provider Time Availability	2.96875	3	3
Insurance Reimbursement	4	4	5

1 = Not a Barrier
5 = Major Barrier

Current Data

- Enrollment for the study is still underway with a total of n=40 completed surveys.
- Provider Experience: 62.5% (n = 25) ≥ 5 years in their field.
- Current Telemedicine Use: 65% (n = 26) providers currently use some form of telemedicine.

Future Goals

- Providing clinical telemedicine services for the following pediatric specialties: Diabetes, Neuropsychology (Autism & Concussion), Neurology (ADHD, seizures, headache) and Gastroenterology (feeding, constipation).
- Analyzing cost-effectiveness and financial reimbursement of DTC telemedicine.
- Advocacy at the local and national levels to create sustainable funding for DTC programs in the District of Columbia, Maryland and Northern Virginia.
- Continued exploration of the perspectives of telemedicine use among pediatric stakeholders (patients, parents, providers, and health IT professionals) within the Children's National Health System. Stakeholders will be surveyed on their interest in direct-to-consumer services, as well as the perceived barriers of technology utilization.

References

1. Rimsza, M.E., Hotaling, A.J., Keown, M.E., Marcin, J.P., Moskowitz, W.B., Sigrest, T.D., Simon, H.K. The use of telemedicine to address access and physician workforce shortages. *Pediatrics*. 2015 Jul;136(1):202-9
2. Sable, C., Roca, T., Gold, J., Gutierrez, A., Gulotta, E., Culpepper, W. Live transmission of neonatal echocardiograms from underserved areas: Accuracy, patient care, and cost. *Telemed J. 1999 Winter*;5(4):339-47