

Title: Web-based tool to select pediatric subspecialists

A. Study Purpose and Rationale:

Over 20 percent of children in New York State live at or below the poverty level and nearly 5% are uninsured. In NY State, Medicaid is the single largest health insurer covering nearly 1.36 million children. Establishing and sustaining a medical home (MH) for these patients is a challenging task that relies on efficient care coordination. Since there is variable acceptance of Medicaid (due to low compensation¹), patient care is susceptible to fragmentation. Following a decision to refer, matching the patient to a Medicaid accepting provider can become a time-consuming exercise. Patients get referred to the Children's Hospital (variable wait times) or get sent to sub-specialists outside the hospital system. Residents make a choice in consultation with their preceptor. Additionally, optimizing variables such as language, location etc can further complicate this selection process. Under these constraints, clinic practices may be tempted to refer repeatedly to a limited set of providers imposing a strain on scheduling, delaying appointments and impeding cycles of care. Our project aims to evaluate the referral process and develop an easy-to-use web-based tool to automatically offer an array of providers on the basis of insurance plans (i.e medicaid) and other variables such as location, language etc. We plan to pilot this tool in our ambulatory practice that caters to a predominantly Hispanic community in Northern Manhattan. We believe that reducing the undue strain (or reliance) on a single sub-specialist would be beneficial in sustaining long-term partnerships.

Aims

- I. Identify barriers in sub-specialist referral process.
2. Study feasibility and pilot a web-based tool to select pediatric subspecialists (for Northern Manhattan).

Primary Null Hypothesis:

There is no difference between time taken by residents when they use their preceptor or the web-based tool for subspecialist selection.

B. Study Design and Statistical Analysis

For understanding the barriers with the subspecialist referral process the following study instruments will be used.

1. Task 1: Focus Groups
 - Providers
 - Explore barriers and challenges while referring to subspecialists.
 - Feedback on website prior to and after pilot implementation.
 - Patients/Parents
 - Identify provider characteristics that appeal to end users (eg language, location etc)
 - Identify barriers encountered during the current referral process.
2. Task 2: Feasibility of web-based tool
 - a. Data for the web-based tool will be obtained from existing resources, interviewing providers and by using non-proprietary databases (<http://www.health.ny.gov/>)²
 - b. A filterable map will be generated by carefully evaluating the information obtained during the focus groups.

3. Task 3:

- Compare the time taken for a resident to use the tool to obtain subspecialist information and compare it with those who use their preceptors help
- Analysis will be PGY-level specific to account for differences in levels of familiarity with system.
- In one embodiment, each resident could serve as their own control. This can be achieved by randomly turning the map on and off each time there is an attempt to access it.
- Pre and post-implementation survey (for satisfaction, suggestions etc)

Data Analysis

Focus group/ Interview data: Subjective feedback (barriers, challenges) from focus groups will be summarized. Patient (parent) satisfaction surveys will be analyzed for satisfaction regarding existing practices.

Feasibility: Using information from publicly available databases, the map for subspecialists in northern Manhattan will be generated. Resident participants will be provided access to this map. Time taken by residents between plugging in the name of the patient's insurance and honing in on a sub-specialist will be calculated programmatically. Time taken by residents if they are not using this tool will be self-reported. The pilot will focus on a single clinic location although lead users (pediatric residents) from other clinics can participate in testing/implementation. The map and survey(s) may reside on a HIPAA-compliant server. In one embodiment, the resident may serve has his/her own control by randomly providing/denying access to the web-based tool.

Primary Outcome measure: Time duration between decision to refer and obtaining name/contact information of sub-specialist and its difference between the 2 groups (manual vs web-based tool)

Statistics:

We will use an unpaired t-test to compare the mean difference in time taken in the manual sub-specialist selection group versus web-based selection tool. Assuming each interaction takes about 30-40 minutes and SD of about 10 minutes, power of 80% and α of 0.05, the sample necessary to show statistically significant effect size is about 17 per group.

C. Study Procedure

Subject Selection

Inclusion Criteria:

- 1) Focus groups:
 - a. Parents or patients who qualify to give consent and are willing to share information about any problems they faced with sub-specialist referrals.
 - b. Residents who are willing to participate and provide feedback
- 2) Feasibility testing of web-based tool
 - a. Willing pediatric residents across ACN practices.

Exclusion Criteria: Patients who do not need subspecialist referrals or who are illiterate and residents unwilling to participate.

Informed Consent Process:

Informed consent will be obtained from patients or parents of patients. Informed assent will be obtained from patients who qualify to give assent. Informed consent/assent will be obtained by the investigators at the time of recruitment in the form of a written consent requiring either the parent or patient's signature. In-person or phone interpreters will be provided for non-English speaking parents and patients to translate the written consent.

D. **Study Drugs:** Not applicable

E. **Medical Devices:** Not applicable

F. **Study Questionnaire:** Questions pertaining to level of training (PGY1/2/3), time for each patient interaction, referring practices, and current challenges in the referral process (vis-à-vis subspecialty), key reasons to refer outside NYP system, level of training and role of preceptor would be obtained. Satisfaction will be score before and after exposure to the web-based tool will be evaluated on the basis of a Likert Scale.

G. **Study Subjects**

We propose to include about 17 residents per group to test feasibility and about 25 patient families for the focus group sessions.

H. **Recruitment of Subjects**

- a. Parents from Broadway ACN (Pediatrics) will be contacted either during their visit or via phone for obtaining information and permission to participate in focus groups.
- b. Residents will be recruited by sending an email requesting participation and a link to the survey(s). Paper surveys will be made available if needed.

I. **Confidentiality of Study Data:**

The data will reside in a password-protected spreadsheet that will be located within a locked office at Broadway Clinic. No one other than the investigators will have access to this data. If the need for transporting data arises, it will be done using encrypted flash drives. We will not use any identifier for individual patients except for the name of the insurance company that they utilize (e.g Health First). A report and the final product will be shared with the American Academy of Pediatrics.

J. **Potential Conflict of Interest**

There is no conflict of interest in this study

K. **Location of the Study**

Broadway ACN primarily with involvement of residents across other NYP-associated pediatric clinics

L. **Potential Risk**

There is no more than minimal risk since this study involves discussion with focus groups and attempting feasibility of a web-based tool to select a physician.

M. **Potential Benefit**

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There is no clinical benefit to the patient. There is a possibility of shorter duration of appointment in the clinic.

N. **Alternative therapies:** Not Applicable

O. **Compensation to subjects:**

- a. Patients/families: \$10 Gift cards for participating in focus groups
- b. Physician/providers: No cash compensation will be provided. Meals/Light refreshments may be provided during the focus groups.

P. **Cost to Subjects:** None

Q. **Minors as research subjects:** Minors who can provide assent will be used if they meet the inclusion criteria. However we expect that the majority of our subjects will be parents of patients.

R. **Radiation or Radioactive substances:** NA

Appendix:

Investigators: Heidi Beutler MD, Anoop Rao MD

Funding: American Academy of Pediatrics.

References:

1. Berman, Steve, et al. "Factors that influence the willingness of private primary care pediatricians to accept more Medicaid patients." *Pediatrics* 110.2 (2002): 239-248.
2. Health Data NY: <http://www.health.ny.gov/> (accessed, Sept 2014)