

TITLE: Incorporating Mobile Technology into Primary Care to Improve Adolescent Vaccinations

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RESEARCH PROJECT DESCRIPTION:

Background: Mobile technology can improve health care when optimized for the clinical setting. We have developed a iPad- and web-based application that collects vaccination records in real-time, assesses parent hesitations, educates and primes parents for vaccine discussions, and transfers this information along discussion tips to primary care providers. The aim of this project is to evaluate the usability of the application in a clinical setting in preparation for our randomized trial.

Hypothesis: We will test several hypotheses about the usability of the application. For example, parents will be able to enter the correct information to identify their child's vaccination records, parents will be able to navigate through the educational information to learn more about the vaccines, and providers will be able to access the relevant vaccine information in 1 to 2 minutes.

Methods: We will use a think-aloud method to evaluate several hypotheses of the usability of our application in real-world clinic visits. For nine clinic visits of 11-12 year olds, parent and provider spoken thoughts will using the system will be recorded using an audio and video capturing application installed. We will assess navigation, completion time, and overall ease of use. We expect to identify 80-90% of the problems with system implementation. Following think aloud usability testing, the HIT system and workflow will be adjusted and a user manual will be developed.

Role of medical student: A medical student will be responsible for evaluating usability tests at three clinics from the OneFlorida Cancer Control Network. Duties will involve using the audio and video recordings from the think-aloud test to assess specific hypotheses, navigation, completion time, and overall ease of use for the improved HIT system. The student will write the results into a manuscript for publication. The student will also have the opportunity to visit participating clinics and observe the system use.

Relevant publications:

1. Staras SA, Vadaparampil ST, Livingston MD, Thompson LA, Sanders AH, Shenkman EA. Increasing Human Papillomavirus Vaccine Initiation among Publically-Insured Florida Adolescents. *Journal of Adolescent Health*. 2015. 56(5 Suppl):S40-6. PMID: PMC4394203.
2. Staras SAS, Vadaparampil ST, Patel RP, Shenkman EA. Parent Perceptions Important for HPV Vaccine Initiation among Low Income Adolescent Girls. *Vaccine*. 2014. 32(46):6163-9. PMID: PMC4198149
3. Malo TL, Staras SAS, Bynum SA, Giuliano AR, Shenkman EA, Vadaparampil ST. HPV vaccine administration among Medicaid providers who consistently recommended vaccination. *Sexually Transmitted Diseases*. 2014 Jan;41(1):24-8. PMID: PMC3962075.
4. Vadaparampil ST, Staras SAS, Malo TL, Eddleton KZ, Christie J, Rodriguez M, Giuliano AR, Shenkman EA. Provider factors associated with disparities in HPV vaccination among low-income 9- to 17-year-old girls. *Cancer*. 2013;119(3):621-8. PMID: PMC3800018.