

BIBLIOGRAPHY

Publications

Foundation Paper

1. Co-Creation With TickiT: Designing and Evaluating a Clinical eHealth Platform for Youth.

Whitehouse SR, Lam PY, Balka E, McLellan S, Deevska M, Penn D, Issenman R, Paone M JMIR Res Protoc. 2013 Oct 18;2(2):e42. doi: 10.2196/resprot.2865. 362 Clinical/Translational – Inflammatory Bowel Disease North American Society of Pediatric Gastroenterology, Hepatology and Nutrition, Atlanta, 2014

Description: A review of the initial design and co-creation methodology used to create the platform, and the first pilot study in a children’s hospital.

<https://www.ncbi.nlm.nih.gov/pubmed/24140595>

Publication on platform design/ validation

1. Adolescent Reactions to Icon-Driven Response Modes in a Tablet-Based Health Screening Tool.

E Blander, EM Saewyc. CIN: Computers, Informatics, Nursing & Vol. 33, No. 5, 181–188. Jan 2015

Description: Validation study of the icon format of the Tickit platform across age (12-18 years), gender and ethnicity.

<http://dx.doi.org/10.1097/CIN.0000000000000145>

2. An In-depth Case Study of Adapting Patient Experience Data Collection for Lower Literacy Patient Populations Using Tablets in Clinic.

C Lyles, L Tieu, A Hobbs, E Curtis, U Sarkar. Panel discussion: Leveraging Technology to Support Vulnerable and Disadvantaged People with Chronic Illness: A Review, Examples, and Recommendations Society for Behavioral Medicine conference in San Diego, March 31st, 2017. Funded by the CCI Centre for Care Innovation, UCSF

(CTSI-Strategic Opportunities Support (SOS) Program, San Francisco “Design and Validation of Tablet-Based Data Collection for Vulnerable Patients” July 1, 2015 – June 30, 2016. PI- C Lyles. \$50,000.00) Poster attached, article currently in press)

3. Adolescents' Perspectives on Personalized E-Feedback in the Context of Health Risk Behavior Screening for Primary Care: Qualitative Study

GG Zieve ; LP Richardson; K Katzman; H Spielvogel; S Whitehouse; CA McCarty. Journal Adolescent Health and Medicine: J Med Internet Res 2017; 19(7): e261|doi:10.2196/jmir.7474

Description: Qualitative study with human factor designers to evaluate and make recommendations on usability, accessibility and features of Tickit Platform
<https://www.ncbi.nlm.nih.gov/pubmed/28729236>

Quality Improvement

1. Implementation evaluation of a tablet-based waiting room survey of patient reported outcomes in an integrated youth health clinic.

CG Richardson, S Barbic, Steve Mathias poster presentation Canadian Mental Health Conference, Calgary Nov 2015.

Description: Usability and acceptance of using Tickit for intake and PREM in downtown youth mental health clinic.

https://www.researchgate.net/publication/296095454_Implementation_evaluation_of_a_tabletbased_waiting_room_survey_of_patient_reported_outcomes_in_an_integrated_youth_health_clinic_Quality_improvement

2. Transition, It's More Than Just a Phase: A New Model of Care in Australia.

M Bridgett, J Ho, L Brodie, S Towns, Kate Steinbeck. Journal Adolescent Health and Medicine: February 2015. Volume 56, Issue 2, Supplement 1, Page S113

Description: Presents the utility of the TickiT data for overall patient management, monitoring care.

[http://www.jahonline.org/article/S1054-139X\(14\)00653-3/abstract](http://www.jahonline.org/article/S1054-139X(14)00653-3/abstract)

3. A Tickit® to empower patients and improve care.

M Chow, J Pumarino, G Chartier, S Mathias, CG Richardson. Canadian Association of Paediatric Health Centres Annual Conference: Harnessing Our Strengths: A Shared Vision for Child and Youth Healthcare. October 23 – 25, 2016 Halifax, Nova Scotia.

4. Implementation evaluation of a tablet-based waiting room survey of patient reported outcomes in an integrated youth health clinic.

Richardson CG, Barbic S, Mathias S. The International Society for Quality of Life Research 22nd Annual Conference in Vancouver, BC, Canada. October 21 – 24, 201

Clinical Trials

1. Prompting Discussions of Youth Violence Using Electronic Previsit Questionnaires in Primary Care: A Cluster Randomized Trial.

A Riese, M J. Mello, J Baird, DW. Steele, ML. Ranney. Academic Pediatrics 2015. Vol; 15:345–352

Description: Using a modified HEADDSS screen to focus on violence exposure and prevention in a primary care clinic.

<http://journals.sagepub.com/doi/pdf/10.1177/0009922816652228>

2. TICKIT® - An I-Pad Enabled HEADSS Adolescent Risk and Resilience Assessment – Use in a Pediatric IBD Clinic.

Rlssenman, S Odeh, PY Lam, M Deevska, SWhitehouse,

3. TICKIT®: I-Pad enabled questionnaire helping clinicians understand the interplay between lifestyle and inflammatory bowel disease.

Rlssenman, S Odeh , S Rosinski , S Whitehouse, 361 Clinical/Translational – Inflammatory Bowel Disease North American Society of Pediatric Gastroenterology, Hepatology and Nutrition, Atlanta, 2014

Description: Evaluated the TickiT platform for acceptability, usability and results from a HEADSS assessment in an IBD clinic. With 54 patients, there was 100%uptake and completion of up to 90 questions, and excellent feedback on usage. The results demonstrated risk and protective factors. The latter were very helpful in gaining rapport with patients and encouraging adherence. Significant risk factors were identified.

<http://journals.lww.com/jpgn/Documents/NASPGHAN%202014%20abstracts.pdf> (Pg. 143)

4. Incorporating the GAIN-SS into a tablet-based self-reported assessment for use in an integrated youth health centre.

GC Chartier, J Pumarino, S Mathias, CG Richardson. 22nd International Association for Child and Adolescent Psychiatry and Allied Professions World Congress (IACAPAP). September 18-22, 2016 Calgary, Alberta, Canada.

Description: Acceptance by staff and youth of Tickit platform

Past Grants

Ontario Centre of Excellence Grant (2014-2017) \$550,000.00

- Hospital for Sick Kids and Shift Health Seattle Children's Hospital innovation grant.

Principal Investigators S Whitehouse, M Kaufman

- Implementation of Tickit in Emergency Dept, Rehabilitation, Plastic Surgery, ICU, Cardiology, Staff Daily Continuous Improvement
- Winner of innovation prize 2016

- Promoting Adolescent Health through Personalized Feedback (R40MC26817)

L. Richardson & C. McCarty 4/1/14-3/31/17

Health risk screenings for adolescents are infrequently performed and results are rarely followed by targeted risk reduction interventions. To address this gap in preventive care, this study proposes to test personalized feedback as a strategy to impact adolescent risk and improve clinical care.

https://mchb.hrsa.gov/research/project_info.asp?ID=230

Current Studies

1. Improving Teen Care with HIT

Agency for Healthcare Research and Quality R01HS23383

PI: C. McCarty 9/30/14-9/29/19

This study aims to further develop and test a web-based interactive Health Assessment (Check Yourself) for use in primary care.

Year 1 — Usability testing with adolescents and primary care providers to optimize design/ content.

Years 2-5 — Randomized, controlled trial to examine the efficacy of Check on increasing the provision of prevention and risk reduction counseling during the healthcare visit, and on reducing a variety of adolescent health risk behaviors at 1 and 6 month follow ups, relative to usual care.

2. Delivering Patient-Centered Adolescent Preventive Care with Training and Technology \$1.5 Million Patient-Centered Outcomes Research Institute (PCORI) SC14-1402-10592

PIs: C. McCarty & L. Richardson 1/1/15-12/31/18

Together with patients, caregivers, and PCPs, we will develop a PCP training module to help providers learn to reinforce healthy behavior choices and to address risk behaviors in a meaningful way with their adolescent patients. We will test this training in combination with our Check Yourself screening app in improving primary care for teens and health outcomes over 1 year using a stepped-wedge design.

<http://www.pcori.org/research-results/2014/delivering-patient-centered-adolescent-preventive-care-training-and-technology>

3. Web-Supported Adolescent Motivational Enhancement to Reduce Alcohol Use \$182,949.00

National Institute on Alcohol Abuse and Alcoholism R21AA023050

PI: C. McCarty 3/10/15-2/29/16

This study tests the effectiveness of an eHealth app (Check Yourself) designed to promote systematic screening and indicated intervention strategies to reduce adolescent alcohol use among moderate to high risk drinkers recruited from school-based health clinics.

<https://clinicaltrials.gov/ct2/show/NCT02584621>

4. Mind and Life Foundation and University of Toronto

A Randomized-Control Trial of an in-Person vs e-Health Mindfulness-Based Intervention for Adolescents with Chronic Illness

Dr N Chadi, SickKids Toronto Jan – June 2017

Description: Using Tickit to collect PRMs to monitor progress during intervention

5. Developing a Patient-Reported Outcome Measure for Bariatric and Body Contouring Surgery Patients

The BODY-Q (2016) REB# 12-588

Mc Master University Dr Anne Klassen, Andrea Pusic, Manraj Kaur

Description: Evaluating the Body and Breast Q validated question scales for usability and uptake on Tickit platform

6. MOUNT SINAI HOSPITAL'S MARVELLE KOFFLER BREAST CENTRE PROPOSAL TO UNDER ARMOUR FOR PROGRAM DEVELOPMENT LIFESTYLE INTERVENTION PROGRAM FOR WOMEN CONCERNED ABOUT BREAST CANCER RISK 2017-2018

Description: 6 module interactive website for women to learn about breast health, breast cancer prevention, with personalized pathways and links to resources based upon their situation and location. The goal of this project will be the development and roll out of a lifestyle intervention targeting women (tailored to women living in Canada) concerned about their breast cancer risk; the program will target physical activity, diet and weight management and will be based on the best available evidence regarding the potential role of these lifestyle attributes in the development of breast cancer. The goal of the intervention will be to help women understand their breast cancer risk, and to make lifestyle changes that may be associated with lower breast cancer risk.

7. Hilton Grant in partnership with Seattle Children's Hospital

Ultimate Desired Impact: To reduce substance use and related health risk behaviors in adolescents and to increase motivation for healthy behavior choices

Project Objective 1: To support health systems in developing processes and procedures to provide high-quality SBIRT in the context of comprehensive adolescent health screening

Abstract:

An In-depth Case Study of Adapting Patient Experience Data Collection for Lower Literacy Patient Populations Using Tablets in Clinic

Courtney Lyles, Lina Tieu, Alicia Hobbs, Erin Curtis, and Urmimala Sarkar

Background: Healthcare policy supports the inclusion of patient experience in healthcare quality measurement and reporting. However, response rates to the gold-standard, paper-based Consumer Assessment of Healthcare Providers and Systems (CAHPS) surveys are low and differ significantly by racial/ethnic and language subgroups. There is little discussion about whether CAHPS captures the true domains of patient healthcare experience, how to improve reporting for underserved patient populations, or whether data collection via mobile technology might result in higher response rates from more representative populations.

Methods: Our study sought to 1) design and evaluate tablet-based CAHPS administration, and 2) conduct formative qualitative work to create shorter, lower literacy patient experience items (informed by CAHPS) and explore broader concepts of patient experience among vulnerable patients. We partnered with a start-up company Tickit Health to create a tablet interface that was visually attractive and simple to use and created multi-lingual, low-literacy questionnaires. Next, we used 25 think-aloud interviews with patients to validate a new literacy-appropriate tablet questionnaire compared to the standard paper version, eliciting their perspectives about using a tablet-based survey to report their care experiences.

Results: Of the 25 participants, 52% were male, 80% were non-White, and 68% had limited health literacy; the mean age was 53. Almost a quarter (24%) and over a third (36%) had never used a smartphone or tablet, respectively. Patients answered the majority of questions similarly on the paper vs. tablet versions, but strongly preferred the tablet, even among those without significant previous experience using mobile technology: “This [the tablet] is quite easy to do, because everything is easy to read. You just literally have to point your finger at your answer.” Patients emphasized the importance of reporting feedback to their clinics, particularly concerning wait times, quality of provider communication, and ability to access care, and valued the option to complete the survey at the point of care: “It’s better in the clinic because you’re in the same environment.” The final literacy-appropriate questionnaire made concrete improvements to the CAHPS items, including 1) reducing the total number of items from 31 to 17 while preserving core domains, 2) reducing the reading level required to understand survey questions from 7th to 5th grade (Flesch-Kincaid test), and 3) adding open-ended questions to capture patient-directed perspectives of care.

Conclusions: As we move forward with federal policy supporting patient experience data collection, this study provides clear next steps to ensure underrepresented and vulnerable patient perspectives are engaged and represented in this process. If designed with patient input, tablet-based surveys may be a feasible and effective method for collecting patient experience data at the point of care.

<https://postimg.org/image/3gqzvqb1y3/>