2022

SCTR Scientific Retreat
Dissemination & Implementation Science

Friday, September 9, 2022

8:30 AM Check-In | 9:00 AM Program Start

Drug Discovery Auditorium (Room 110) & Lobby

Medical University of South Carolina

MUSC
Medical University
of South Carolina

South Carolina
Clinical & Translational
Research Institute

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RETREAT AGENDA

8:30   **Check In & Registration**

9:00   **Welcoming Remarks**
Kevin M. Gray, MD, Professor of Psychiatry and Behavioral Sciences, Assistant Provost for Research Advancement, MUSC

Opening Remarks
David J. Cole, MD, FACS
President, MUSC

Lori L. McMahon, PhD
Vice President for Research, MUSC

Keynote Speaker Introduction
Kathleen T. Brady, MD, PhD, Distinguished University Professor, Department of Psychiatry and Behavioral Sciences, Co-PI, SCTR Institute

9:10   **Keynote Address: Demystifying Dissemination and Implementation Science**
Mark McGovern, PhD, Professor, Co-Chief, Division of Public Mental Health & Population Sciences Department of Psychiatry, Medical Director, Integrated Behavioral Health, Division of Primary Care, Department of Medicine, Stanford University School of Medicine

10:10   **Coffee Break and Networking** (*Drug Discovery & Bioengineering Building Lobbies*)

10:20   **Oral Presentations: Session 1** *(4 10-minute talks followed by 10-minute Q&A session)*
Speaker Introductions & Moderator: Ron Gimbel, PhD, Professor and Director, Clemson Rural Health, Clemson University

10:25   An Implementation Science-informed Intervention to Close the Knowledge-to-Practice Gap in Fluid Prescribing
Michelle Spiegel, MD, Assistant Professor, Department of Medicine, College of Medicine, MUSC

10:35   Consolidated Framework for Implementation Research (CFIR) Factors Predicting Training Engagement in a National Dissemination of a Faith-Based Online Training for Improving Organizational Practices Related to Physical Activity and Healthy Eating
Sara Wilcox, PhD, Professor, Department of Exercise Science, Director, Prevention Research Center, Arnold School of Public Health, University of South Carolina

10:45   Applying Implementation Science to Build a System to Support a Precision Health Initiative in a Learning Health System
Caitlin Allen, PhD, MPH, Assistant Professor, Department of Public Health Sciences, College of Medicine, MUSC

10:55   Developing a Toolkit to Apply Dissemination and Implementation Science to Telehealth Evaluation
Emily Johnson, PhD, Associate Professor, College of Nursing, MUSC

11:05   Oral Presentation Session 1 Q&A

11:15   **Coffee Break and Networking** (*Drug Discovery & Bioengineering Building Lobbies*)

11:25   **Oral Presentations: Session 2** *(4 10-minute talks followed by 10-minute Q&A session)*
Speaker Introductions & Moderator: Kevin M. Gray, MD

11:30   Identified Barriers and Facilitators to Stroke Risk Screening in Children with Sickle Cell Anemia: Results from the DISPLACE Consortium
Shannon Phillips, PhD, RN, Associate Professor, College of Nursing, MUSC

11:40   Public Health Agency Trust, Covid Vaccine Confidence, and Resistance to Misinformation in African American Faith Networks
Bonnie Treado, DNP, FNP-C, Student, College of Behavioral, Social and Health Sciences, Clemson University

11:50   Implementing a Plant-based Nutrition Program through a Restaurant Partnership and Community Health Worker
John Bernhart, PhD, MPH, CHES, Research Assistant Professor, Department of Health Promotion, Education, and Behavior, Arnold School of Public Health, University of South Carolina

12:00   Nine Key Cost Concepts for Facilitating Diffusion and Implementation in Medical Institutions
Kit Simpson, DrPH, Professor, College of Health Professions, MUSC

12:10   Oral Presentation Session 2 Q&A

12:20   **Working Lunch & Poster Presentations**
The full list of poster titles and presenters is included in the pages that follow.

12:50   **Poster Presenters at Posters**

1:20   **Workshop Session 1** (*workshops will take place concurrently*)

Workshop 1 - Getting Started: Defining Your D&I Research Question
Location: BE 201
Led by: Kathleen Cartmell, PhD, MPH, Associate Professor, Department of Public Health Sciences, Clemson University and Rochelle Hanson, PhD, Professor, National Crime Victims Research & Treatment Center, MUSC
The first step to a successful research study is to appropriately define a clear research question. D&I research questions may focus on evaluating the dissemination of an innovation, characterizing barriers and facilitators to implementation or developing testing strategies or adaptations to optimize implementation outcomes. This workshop will focus on the tenets of a good D&I question. Participants are encouraged to bring their potential or existing D&I research questions as examples for discussion.

Workshop 2 - D&I Conceptual Frameworks: Finding a Good Fit for Your Study
Location: DD 110
Led by: Katie Sterba, PhD, MPH, Professor, Department of Health Sciences, Graduate Training Director, Division of Health Behavior and Health Promotion, MUSC, and Sara Wilcox, PhD
A D&I research study is guided by one or more conceptual frameworks that inform the design and execution of the study. Selecting the right framework is essential in defining study activities, outcomes and measures. This workshop will offer some suggestions on what to consider when selecting a framework. Participants are encouraged to bring potential or existing D&I research questions as examples for discussion.

Workshops 3 - D&I in the Telehealth Context: Characterizing Outcomes and Processes
Location: BE 101
Led by: Emily Johnson, PhD, and Dee Ford, MD, MSCR, Professor of Medicine, Director, Pulmonary, Critical Care, Allergy & Sleep Medicine and Telehealth Center of Excellence, MUSC

This workshop will provide an overview of the growing role of D&I research in telehealth. Participants are encouraged to bring their own D&I research interests in the telehealth context for discussion.

1:50   **Return to Drug Discovery Building Auditorium (Room 110)**

2:00   **Workshop Session 2**

Reducing Disparities in Healthcare – The Role of D&I in Research
Led by: Mark McGovern, PhD
The issue of health disparities is expansive and multi-faceted. The intention for this 30-minute interactive session will seek to address the role implementation scientists can play in characterizing and addressing this critical issue in South Carolina.

2:30   **SCTR Institute Pilot Project Program Funding Opportunities**
Dayan Ranwala, PhD, Associate Professor and Associate Director, SCTR Institute Pilot Project Program and Team Science Program, MUSC

2:35   **Closing Remarks**
Dee Ford, MD, MSCR

POSTER PRESENTATIONS

Location: Bioengineering Building Lobby (next to Drug Discovery Building)

Poster ID   Title & Presenter

1   **Improving Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) Outcomes of Diverse Translational Research Studies through Innovative Technology-Based**
Caitlin Allen, PhD, MPH, Assistant Professor, Department of Public Health Sciences, College of Medicine, MUSC

2   **Using Implementation Mapping to Prepare for the Implementation of a Hereditary Cancer Clinic for the Clinical Management of Patients at High Risk of Inherited Cancer**
Caitlin Allen, PhD, MPH, Assistant Professor, Department of Public Health Sciences, College of Medicine, MUSC

3   **Using the Consolidated Framework for Implementation Research to Guide Midpoint Evaluation of a Comprehensive Care Model for Neonatal Abstinence Syndrome in South Carolina**
Leah Holcomb, MPH, MS, Student, College of Behavioral, Social and Health Sciences, Clemson University

4   **Real-time Machine Learning Models for Predicting Hospitalization Admissions for Individuals with Exposure to COVID-19: Model Design, Validation, and Clinical Implementation Framework**
Chen Liang, PhD, Assistant Professor, Department of Health Services Policy & Management, Arnold School of Public Health, University of South Carolina

5   **Implementation of a Trauma Center-Based Mental Health Program for Traumatic Injury Survivors**
Tatiana Davidson, PhD, Associate Professor, College of Nursing, MUSC

6   **Use of an Evaluative Logic Model to Describe the Impact of a Community Child Health and Advocacy Institute**
Caitlin Koob, MS, Student, Clemson University, Prisma Health's Bradshaw Institute for Community Child Health and Advocacy

7   **Use of an Evaluative Logic Model to Describe the Impact of a Community Child Health and Advocacy Institute**
Caitlin Koob, MS, Student, Clemson University, Prisma Health's Bradshaw Institute for Community Child Health and Advocacy

8   **Implementation of a Clinical Pathway to Screen and Treat Medical Inpatients for Opioid Withdrawal**
Kimberly Williams, MPH, Research Investigator, Institute for Research on Equity and Community Health, ChristianaCare

9   **RE-AIM Guided Evaluation of a Pediatric Navigation Service**
Mackenzie Stuenkel, PhD, MS, Post-doctoral Fellow, Clemson University, Prisma Health

10   **PRISM Guided Development of Statewide SBHC Implementation Science Study**
Mackenzie Stuenkel, PhD, MS, Post-doctoral Fellow, Clemson University, Prisma Health

11   **Dissemination and Implementation of Remote Patient Monitoring: an Academic-community Primary Care Partnership in South Carolina**
Caroline Wallinger, RN, BSN, Research Nurse Coordinator, MUSC Center for Health Disparities Research, Division of General Internal Medicine & Geriatrics, Department of Medicine, College of Medicine, MUSC

Retreat Planning Committee Members
(according to the alphabetical order of the last name)

Sydney Bollinger, MS
Dee Ford, MD, MSCR
Ron Gimbel, PhD
Kevin Gray, MD
Perry Halushka, PhD, MD
Tessa Hastings, PhD
Tammy Loucks, DrPH, MPH
Cathy L. Melvin, PhD, MPH
Stephanie Oppenheimer, MS
Diandra Randle, PhD
Dayan Ranwala, PhD
Kit Simpson, DrPH, MPH
Katherine R. Sterba, PhD
Hongjun Wang, PHD
Sara Wilcox, PhD

KEYNOTE SPEAKER

Keynote Presentation: Demystifying Dissemination and Implementation Science

Keynote Speaker: Mark McGovern, PhD

Dr. Mark McGovern is a Professor in the Department of Psychiatry & Behavioral Sciences and, by courtesy, the Department of Medicine at Stanford University School of Medicine. He is the Co-Chief of the Division of Public Mental Health and Population Sciences in the Department of Psychiatry, and Medical Director of Integrated Behavioral Health in the Division of Primary Care and Population Health in the Department of Medicine.

Dr. McGovern's overarching goal is to improve access to the most effective care possible for anyone who needs it.

His primary research focus is implementation science, with a specific emphasis on integrated behavioral health services for persons with co-occurring substance use and psychiatric disorders, as they present in both primary care and specialty settings.

[Full Profile](#)

PRESENTATION ABSTRACTS

ORAL PRESENTATION SESSION 1

*Denotes presenting author

Abstracts listed in presentation order.

An implementation science-informed intervention to close the knowledge-to-practice gap in fluid prescribing

Michelle C. Spiegel*, Annie N. Simpson, Amanda Davis, Achsah Philip, Carolyn M. Bell, Andrew J. Goodwin

Introduction/Objectives: Hospitalized patients frequently receive intravenous (IV) fluids, with emerging evidence suggesting improved patient outcomes with balanced fluids (lactated ringers, plasma-lyte) as compared with normal saline (NS). Our previous work demonstrated our institution's delayed implementation of this evidence. We sought to close this knowledge-to-practice gap by identifying and addressing potential contributors to NS prescribing.

Methods: Our barriers and needs assessment included a clinician survey, review of prescribing practices, and review of our computerized provider order entry (CPOE) system's IV fluid ordering panel. We identified variable knowledge, location/specialty-specific prescribing preferences partially driven by stocking, and that our fluid ordering panel encouraged NS ordering. Our intervention included 1) clinician education (10/2019-1/2020), 2) fluid stocking modification to augment availability of balanced fluids (11/2019-2/2020), and 3) re-design of a clinical decision support (CDS)-integrated fluid ordering panel (implemented 3/2020). We quantified the monthly number of orders placed for NS and balanced fluids between 3/1/2019 and 12/31/2020 using electronic health record data. We evaluated pre- and post-intervention data using interrupted time series analysis.

Results: 141,486 fluid orders were placed during the study period. Pre-intervention, balanced fluids comprised 34.9% of orders with a gradual increase (1.5%/month). Clinician education yielded a modest (4.4%/month, p=0.01) proportional increase in balanced fluid ordering. The re-designed fluid ordering panel listed balanced fluid options above NS and included two forms of CDS: default balanced fluid selection unless presence of exclusion criteria (hyperkalemia, cerebral edema, medication incompatibilities, end-stage renal disease) and a reminder message. The CPOE intervention yielded an immediate (21.3% p<0.0001) and sustained increase (74.1% of fluid orders in 12/2020) in balanced fluid ordering.

Discussion/Conclusions: Our implementation science-informed, multifaceted intervention correlated with a substantial and sustained increase in balanced fluid prescribing. The CPOE intervention proved significantly more effective than education, suggesting an important role for thoughtful CPOE/CDS design in closing the implementation gap.

Consolidated Framework for Implementation Research (CFIR) Factors Predicting Training Engagement in a National Dissemination of a Faith-Based Online Training for Improving

Organizational Practices Related to Physical Activity and Healthy Eating

Sara Wilcox*, Ruth P. Saunders, Andrew T. Kaczynski, Jessica Stucker, Kelsey R. Day, Jasmin Parker-Brown

Introduction/Objectives: Faith-based organizations have significant potential for promoting population health, but few evidence-based programs are ready for dissemination. Faith, Activity, and Nutrition (FAN) is an evidence-based program to improve organizational practices related to physical activity (PA) and healthy eating (HE). This study reports CFIR factors predicting engagement with online training, a primary implementation strategy, in the first five cohorts of a national dissemination study.

Methods: US churches are recruited with assistance from faith-based and public health partners. FAN implementation strategies include 8 lessons delivered 1/week, a discussion board, and 12 months of resources. The coordinator from each church completes a pre-training survey that assesses baseline church practices for PA/HE along with items that map onto the CFIR. Committee members from each church register for the training and complete an online evaluation of each lesson and full training. Evaluation items, informed by two comprehensive models, have response options from 1 (strongly disagree) to 5 (strongly agree). Adoption is defined as the coordinator completing at least one lesson.

Results: We have enrolled 57 churches (236 committee members) representing 14 states and 13 denominations; 72% with predominantly African American congregations. Of the 57 coordinators, 89% completed ≥1 lesson, and 79% completed all 8 lessons (69% and 52% across other committee members). Average lesson satisfaction, confidence to implement lesson strategies, and ease in navigating lessons were 4.4±0.6, 4.2±0.6, and 4.0±0.7, respectively. The full training was rated positively, with all items above 4.0 (e.g., interactive elements effective, would recommend the training, material can be taught virtually). Several CFIR items predicted greater lesson completion: belief that providing PA opportunities would benefit their churches (r=0.32, p=.02), greater age (r=0.30, p=.02), and report of ≥10 mins/week of PA (r=0.35, p<.01). Coordinators from the 51 adopting (vs 6 nonadopting) churches reported greater belief that providing PA opportunities would benefit their churches (p=.01) and that their pastors were more open to changes in church practices (p=.06).

Discussion/Conclusions: We found high training engagement, favorable ratings, and several CFIR factors predicting engagement in this national dissemination study. The CFIR will be used to predict adoption, training engagement, and implementation in future analyses with the full sample.

Applying Implementation Science to Build a System to Support a Precision Health Initiative in a Learning Health System

Caitlin G. Allen*, Kelly J. Hunt, Amy Jackson, Leslie Lenert, Wenjun He, John T. Clark, Sam Gallegos, Karen Wager, Katherine Sterba,

Paula Ramos, Cathy Melvin, Marvella Ford, Kenneth Catchpole, Lori McMahon, Daniel P. Judge

Introduction/Objectives: Genetic information is increasingly relevant for disease prevention and risk management at the individual and population levels. Application of implementation science theories and frameworks are critical to support continuous assessment and refinement of precision health initiatives and integration of evidence-based strategies.

Methods: We used the Implementation Research Logic Model to guide the evaluation of MUSC's population-based screening program, In Our DNA SC, which includes multi-level CFIR determinants and RE-AIM outcomes. We use a convergent parallel mixed-methods study design to evaluate the implementation of planned strategies and associated outcomes, with a focus on monitoring participation to ensure engagement of diverse populations, assessing contextual factors, and tracking adaptations. We examined frequencies and response rates across demographic categories using chi-square tests. Qualitative data were audio-recorded and transcribed, with codes developed by the study team based on a semi-structured interview guide.

Results: During the three-month pilot, individuals were recruited from ten clinics throughout South Carolina. A total of 23,269 potential participants were contacted via Epic's MyChart patient portal with 1,845 (7.93%) enrolled (Reach). Black individuals were the least likely to view the program invitation (27%) and take study-related action. Assessment of Implementation (i.e., adherence to protocols) included DNA sample collection rate (n=982, 53.2%) among those consented and proportion of samples needing recollection (n=38, 2.3%). There were no significant sociodemographic differences in likelihood of sample collection once consented. We found high Effectiveness, with minimal dropout rates (n=16, 1.63%), identification of ten individuals with Tier 1 conditions (1.02% positive), and high rates of follow-up genetic counseling (80% completion).

Discussion/Conclusions: The use of implementation science can help better understand how to support precision health and enhance ability integrate genomic information at the point-of-care. The model-based components of our evaluation can support generalization of lessons learned and identification of best practices to streamline implementation of large-scale initiatives.

Developing a Toolkit to Apply Dissemination and Implementation Science to Telehealth Evaluation
Johnson, Emily*, Sterba, K., Kruis, R., Wells, E., Ford, D.

Introduction/Objectives: Telehealth modalities for healthcare delivery have increased at a rapid pace across various settings, resulting in challenges for how to best disseminate these practices, define barriers to implementation outcomes, and characterize strategies for optimal delivery. Principles of implementation science can guide this systematic evaluation.   Guided by our team's experience evaluating a variety of dissemination and implementation (D&I) programs, the goal of this project was to present lessons learned in a telehealth D&I toolkit with the goal to guide interprofessional telehealth teams to design and conduct D&I evaluations.

Methods: Using three telehealth evaluation projects in the areas of maternal mental health, school-based asthma care and diabetes remote patient monitoring we compiled lessons learned to guide evaluation of D&I processes and outcomes in telehealth programs. These evaluations were dynamic adaptable processes to meet changing health care and organizational needs. Team experiences in refining research questions, determining study design, defining implementation outcomes, selecting implementation science frameworks, and developing data collection tools and measures were summarized through case studies.

Results: The toolkit sections included key questions for the D&I team, telehealth specific examples, and case study exemplars to demonstrate toolkit application. Principles of using previous telehealth observations to frame the research question, engaging multiple stakeholders involved in the delivery of a telehealth service, mapping an appropriate conceptual model to guide research, and using mixed methods were emphasized. A perinatal anxiety and substance abuse disorder telehealth project outlined steps taken to identify a study question. A diabetes remote patient monitoring project demonstrated steps for determining appropriate D&I study design and selecting data collection measures. Lastly, a description of a school- based telehealth asthma evaluation highlighted strategies for defining implementation outcomes and selecting a study framework.

Discussion/Conclusions: The Telehealth D&I toolkit can be a key tool for interprofessional telehealth teams to improve implementation and sustainability of telehealth programs.

ORAL PRESENTATION SESSION 2

*Denotes presenting author

Abstracts listed in presentation order.

Identified Barriers and Facilitators to Stroke Risk Screening in Children with Sickle Cell Anemia: Results from the DISPLACE Consortium
Shannon Phillips*, PhD, RN; Alyssa M. Schlenz, PhD; Martina Mueller, PhD; Cathy L. Melvin, PhD; Robert J. Adams, MD; and Julie Kanter, MD

Introduction/Objectives: Children with sickle cell anemia (SCA) are at risk for stroke. Transcranial Doppler screening for children ages 2 - 16 with SCA has been proven to identify those at risk, and chronic red cell transfusion therapy (CRCT) protects those at risk against stroke. However, TCD has been poorly implemented for children with SCA. The purpose of this study was to identify barriers and

facilitators to TCD screening in children with SCA in a large, national consortium to determine implementation interventions for improving rates of stroke prevention practices.

Methods: We used a qualitative, descriptive approach to determine barriers and facilitators to stroke risk screening. Key informant interviews were conducted with providers and patients/caregivers with SCA. Directed content analysis was conducted with an adapted version of the Multilevel Ecological Model of Health as an initial coding framework. Frequency analysis was conducted to identify predominant barrier and facilitator themes.

Results: 14 barrier themes and 12 facilitator themes were identified representing multilevel barriers and facilitators to stroke risk screening for children with SCA. Predominant themes included: Logistical Difficulties and Competing Life Demands and Gaps in Scheduling and Coordination (barriers) and Coordination, Scheduling, and Reminders; Education and Information; Provider and Staff Investment and Assistance; Positive Patient Experience; and Convenient Location (facilitators).

Discussion/Conclusions: One of the barrier themes and 3 of the facilitator themes were found to be ideal to address in subsequent implementation interventions. Barriers and facilitators were complex and occurred across multiple ecological levels.

Public Health Agency Trust, Covid Vaccine Confidence, and Resistance to Misinformation in African American Faith Networks
Bonnie Treado*, DNP, FNP-C (PhD Student with Clemson Applied Health Research and Evaluation), Dela Sirizi, DVM, MPH (PhD Student with Clemson Applied Health Research and Evaluation), Nathan Dumessa, MS (PhD-c with Clemson Human Factors Psychology), Leo Gug

Introduction/Objectives: COVID HOPE in SC is designed to build on the strengths of African American faith networks. Clemson Rural Health partnered with three faith networks to address physical and psychological barriers to vaccination. The objectives of the initiative were to develop, implement, and evaluate a community-based program that promotes vaccination, evaluates trust, builds resistance to misinformation, and increases vaccine confidence. Investigators hoped this would lead to increased vaccination rates, decreased disparities, reduced disease burden, and capacity for academic-community partnerships.

Methods: Using a train-the-trainer model, investigators and network leaders co-developed content related to vaccine science, development/monitoring, medical mistrust, patient education, procedural training, and a motivational interviewing workshop. For evaluation, investigators used a mixed-methods approach with focus group interviews, a knowledge test, and original surveys/scales adapted from the CDC Vaccine Confidence Survey bank.

Results: Analysis suggests the construct of trust as a predictor of both vaccine confidence and of resistance to misinformation.

Discussion/Conclusions: When the pandemic began, vaccine confidence researchers sought to understand factors that affect vaccine decision-making, especially given the implications for individuals and communities with a highly communicable virus. Among the various factors associated with vaccine confidence are perceptions of safety, risk, and benefit. High level factors such as trust likely play a role in how people perceive these risks and benefits. Therefore, it is important to help build trust within communities; however, racial disparities in healthcare related trust exist. Marginalized communities often face systemic barriers to healthcare access and access to resources such as insurance, transportation, and primary care providers. Many still experience varying levels of discrimination within the healthcare system, which creates a negative experience that leads to further eroding trust in a system that does not make them feel safe. When working within our communities, it is important to acknowledge and address the historic and contemporary inequalities in our healthcare system.

Implementing a Plant-based Nutrition Program through a Restaurant Partnership and Community Health Worker
John Bernhart*, Gabrielle Turner-McGrievy, Claudia Sentman, Mary Wilson, Bonita Clemons

Introduction/Objectives: Dissemination and implementation studies delivered through restaurants are needed. Guided by RE-AIM, this study detailed the implementation and maintenance of a nutrition intervention delivered via a restaurant and Community Health Worker. This study reports participants' feedback of implementation and weight loss 6 months after the last intervention session.

Methods: The Nutritious Eating with Soul @ Rare Variety Café (NEW Soul @ RV) recruited African American adults (N=60) with overweight/obesity not currently following a plant-based diet or taking medications for diabetes. The program was delivered across two 3-month cohorts via virtual synchronous and asynchronous groups. All participants received meal vouchers to redeem at the restaurant. A mixed methods design consisted of in-person weight assessments (0, 3-months, and 9-months), anonymous surveys of intervention sessions, and semistructured interviews with participants. Quantitative data were summarized through a linear mixed model. Interviews were coded independently by two coders through an emergent and constant comparative method using NVivo.

Results: In total, 43 participants enrolled in the virtual synchronous group and 17 enrolled in the virtual asynchronous group. Average attendance of virtual synchronous participants was 10.0±2.5 classes, and 8.8±4.0 for virtual asynchronous. Participants rated the implementation of classes favorably. In interviews, themes emerged related to content (e.g., more cooking demonstrations) and engagement (e.g., in-person over online). Combined, participants

experienced significant weight loss (-2.6±0.5 kg, p<.0001) from baseline to post-intervention (3-months). Participants maintained weight loss 6-months after the last intervention session (0.1±0.8 kg, p=0.90).

Discussion/Conclusions: The NEW Soul @ RV study delivered a healthy eating program through a restaurant partnership and Community Health Worker. Participants maintained weight loss and provided positive perspectives and suggestions for future dissemination. NEW Soul @ RV is ready for implementation in other community restaurants.

Nine Key Cost Concepts for Facilitating Diffusion and Implementation in Medical Institutions
Kit N Simpson*, DrPH; Mary Dooley, PhD

Introduction/Objectives: The lifeblood of medical organizations in the US is money. Without money our medical care system stops functioning. The consolidated framework for advancing implementation science (CFIR) reports that cost is one of eight key attributes of interventions that influence the success of implementation. Money/cost are increasingly recognized as an overarching issue in D&I models (see PRISM). However, detail and training on why, when and how to measure cost in D&I studies, and practical examples are not plentiful. This is because costs are only now being incorporated into models, such as RE-AIM, on which many practitioners rely for guidance. There are key economic/financial concepts that can help define the "costs" we should consider including to bolster our D&I models. The objectives of the presentation is to: 1) Describe nine key "money-related" concepts, 2) provide an example of where in a D&I study the concept should be considered; and 3) give a brief summary (and references) for how it might be identified and/or measured.

Methods: Extraction of role of money/cost from graphical representation of key D&I models (Aarons diffusion and implementation, CFIR, PRISM and RE-Aim) and summary of cost as a barrier, incentive or outcome reported in D&I cost/economics papers as well as how cost were identified/measured.

Results: Nine Economic and/or Financial Concepts to Bolster Implementation Science Models. The essential concepts are: Opportunity Cost; Sub-optimization; Human Capital; Value of Money; Discounting Sunk Cost; Cost Horizon; ICER (incremental cost effectiveness ratio); ROI (return on investment).

Discussion/Conclusions: Health care cost is a construct that must be defined from a specific perspective to be useful for informing implementation science. Nine cost concepts can help researchers focus on costs that are important for their study.

POSTER PRESENTATIONS
*Denotes presenting author

Improving Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) Outcomes of Diverse Translational Research Studies through Innovative Technology-Based Solutions
Caitlin G. Allen*, Jennifer Dahne, John T. Clark

Introduction/Objectives: Innovative technology-based approaches and systems are needed to be responsive to researcher's needs and facilitate large-scale change in clinical and translational research. The purpose of this presentation is to provide examples of technical infrastructure designed to support community and clinical research across the translational research continuum.

Methods: We will describe a suite of technical services and impact on: Reach (ability to reach populations that need the intervention), Effectiveness (assessment of how well the intervention worked), Adoption (ability to collaborate with community organizations), Implementation (appropriate delivery of intervention), and Maintenance (delivery of intervention long-term).

Results: To facilitate Reach, we developed automatic text message reminders with a silent best practice alert for those who express initial interest in a study through the electronic patient portal but fail to consent (500 reminders initiated). To track Effectiveness, we built a REDCap form based on the Framework for Modification and Adaptations that systematically logs adaptations (46 adaptions logged). We developed an enrollment application to enhance Adoption, which allows for enrollment without the use of a tethered electronic health record (399 enrolled at 60 community events). We developed two REDCap modules to promote Implementation. "CheatBlocker" detects participants who repeatedly complete study screening to prevent their fraudulent entrance into a trial (used at 47 institutions). "QuotaConfig" allows an investigator to establish demographic enrollment quotas to ensure sample representativeness (used at 18 institutions). To support Maintenance, we developed a custom web interface that leverages REDCap to manage consent form versions, verifies that the individual has not already consented, and stores the signed versions (7,320 consents completed).

Discussion/Conclusions: The technology-driven enhancements and strategies we have developed to support RE-AIM outcomes across the translational research continuum can serve as a roadmap for institutions seeking to build capacity to re-imagine infrastructures to facilitate translational research.

Using Implementation Mapping to Prepare for the Implementation of a Hereditary Cancer Clinic for the Clinical Management of Patients at High Risk of Inherited Cancer
Caitlin G. Allen*, Kevin Hughes, Colleen Donahue, Sam Gallegos, Cathy Melvin, Kristin Wallace, Brian Neelon

Introduction/Objectives: Individuals with pathogenic variants in cancer genes are at high-risk of developing advanced cancer or dying from cancer unless they undergo intensive screening and prevention based on guidelines. We are using the five-step implementation mapping (IM) process to support a newly created Hereditary Cancer Clinic (HCC), a patient-centered integrated care model for the management of individuals and families with cancer genetic mutations.

Methods: As the first step in the IM process, we used CFIR to conduct a needs assessment with the implementation team, specialist stakeholders and patients. Interviews were audio-recorded and transcribed, with codes developed by the study team based on a semi-structured interview guide.

Results: Forth-two individuals completed interviews. The implementation team (n=7) and specialists (n=23) described the HCC as a necessary service for properly managing patients. The implementation climate for the HCC was high (receptivity), with facilitators including leadership engagement. The greatest motivators for specialists to participate in the clinical offering was to support patient needs and resources and high tension for change. Specialists stated that centralizing management of individuals through the HCC would enhance responsiveness to patients needs and streamline clinical workflows, as well as increase confidence among providers who are less familiar with genetics. High-risk patients (n=12) described the HCC as a "one stop shop" and opportunity for centralizing services and management compared to current standard (relative advantage).

Discussion/Conclusions: With the completion of Step 1 in the IM process, we identified barriers and facilitators to clinical expansion. Steps 2-5 of IM are underway to match implementation strategies to address Step 1 findings, produce implementation protocols, and develop an evaluation plan. By leveraging this unique clinical program, we demonstrated the utility of applying implementation science frameworks in clinical care settings and enhance evidence for the use of IM to support precision medicine initiatives.

Using the Consolidated Framework for Implementation Research to Guide Midpoint Evaluation of a Comprehensive Care Model for Neonatal Abstinence Syndrome in South Carolina
Leah Holcomb*, MPH, Rachel Mayo, PhD, Lori Dickes, PhD, Windsor Sherrill, PhD, Katie Howle, BS, Jennifer Hudson, MD

Introduction/Objectives: The Managing Abstinence in Newborns (MAiN) model provides multidisciplinary, coordinated care for opioid-dependent mothers and newborns through prenatal consults, extended rooming-in, and structured pharmacotherapy protocols to reduce Neonatal Abstinence Syndrome (NAS) severity and complications. MAiN has partnered with the SC Department of Health and Human Services to expand MAiN statewide.

Methods: To date, two hospitals have reached the midpoint evaluation, conducted via phone and through medical records when a hospital has treated six infants. While the initial evaluation identified barriers and facilitators to successful implementation, the midpoint evaluation examined medical outcomes of infants and adaptations to MAiN within each hospital. Both evaluations were guided by the Consolidated Framework for Implementation Research (CFIR). Qualitative data were collected through provider interviews, and quantitative outcomes were collected through chart reviews. Descriptive statistics examined medical outcomes, and interviews were transcribed and thematically coded to identify key themes matching CFIR constructs.

Results: Between baseline and midpoint, participating healthcare providers' attitudes towards MAiN remained positive and reported improved patient outcomes and engagement with parents, a reduced workload for staff, and appreciation of providing evidence-based and consistent care to infants with NAS. Medically, the twelve infants treated using MAiN had reduced length of stay, reduced NAS symptomology, and increased prenatal care. Primary barriers included social issues related to family participation, difficulty with some pharmacies providing outpatient weaning medications, lack of specific parental educational content, and a need for destigmatizing language training among providers.

Discussion/Conclusions: The MAiN program provided evidence-based care to infants with NAS. Early identification of barriers and facilitators allowed for successful implementation and consistent partnership(s) with hospitals adopting the program. Continued evaluation will identify lessons around the implementation of this new model of care.

Real-time Machine learning models for predicting hospitalization admissions for individuals with exposure to COVID-19: model design, validation, and clinical implementation framework
Chen Liang*, Tianchu Lyu, Bankole Olatosi, Sharon Weissman, Jiajia Zhang, Xueying Yang, Neset Hikmet, Xiaoming Li

Introduction/Objectives: Proactively identifying individuals who will have COVID-19 related hospitalization admission among those who had exposure to COVID-19 cases is critically important for advanced care planning (e.g., healthcare resources optimization, early intervention, timely therapeutics) because monoclonal antibody and other agents are most effective at the early stage of the viral infection. Implementing a predictive model as such is clinically valuable. However, this research question is challenging because it requires data from both the CDC contact tracing and individuals' medical history prior to the hospitalization admission. The objective of this study is to design and validate the predictive model, and construct a framework of decision support system that is tailored for South Carolina Department of Health and Environmental Control (DHEC) and hospital systems.

Methods: We established a multi-center dataset that integrates South Carolina outpatient and inpatient medical claims and CDC contact tracing data [i.e., Person Under Investigation (PUI)], with which the data are linked at the individual level by using unified patient IDs determined by South Carolina Revenue and Fiscal Affairs (RFA). Using this dataset, we identified individuals who have COVID-19 related hospitalization and were previously captured by contract tracing, and retrieved their sociodemographic data and health care

history two years before the timing of hospitalization. We designed supervised machine learning (ML) models to determine predictors of hospitalizations using algorithms including Random Forest, Support Vector Machine (SVM), and XGBoost. We performed the interval validation on trained models using 10-fold cross-validation. Identified predictors were evaluated by feature ranking algorithms (e.g., tree-based, correlation-based, mutual information) and clinicians specialized in infectious diseases (SW), which were categorized into a framework that fit with SC DHEC and hospital systems' (i.e., Prisma) existing information systems for implementation.

Results: In a total of 81,911 individuals in our dataset, we identified 3,297 COVID-19 cases and 1,860 individuals who have COVID-19 related hospitalization and were previously captured by contract tracing. These 1,860 individuals were matched with control cases at the ratio of 1:2. We used the unbalanced ratio to simulate realistic distribution of COVID-19 cases. With 10-cross validation, SVM performed best (F1=0.83), followed by Random Forest (F1=0.81) and XGBoost (F1=0.77). Based on trained SVM, we identified the most robust predictors for those with COVID-19 exposure and progressed adversely to hospitalization, including comorbidities such as primary hypertension, end-stage renal disease, type 2 diabetes mellitus without complications, asthma, pneumonia, and nuanced patterns of predictors from both contact tracing and health care history (presentable at the conference). One physician researcher (SW) is validating these predictors and fit the predictors into an advanced care planning framework for DHEC and local hospital systems.

Discussion/Conclusions: This study is among the first that integrated individual-level contact tracing data with statewide medical claims. The modeling results demonstrated that the supervised machine learning approach is feasible for identifying COVID-19 related hospitalizations prior to the timing of hospitalization, which shows the potential for clinical implementation. Further, identified robust predictors include those from individuals' medical history and information captured from contact tracing, meaning that early intervention and timely therapeutics are feasible to deploy in local hospitals. Based on statewide public health resources identified by DHEC (e.g., monoclonal antibody distributions, healthcare resources by location), identified at-risk individuals and their residential areas, it is feasible to use this model to aid DHEC for healthcare resources optimization. This study is subject to limitations. First, because our contact tracing data contain large numbers of missing values, the results interoperation on contact tracing is limited. Second, for this pilot study we only tested baseline machine learning algorithms, and advanced algorithms are warranted when additional data (e.g., EHR) become ready. Third, in this pilot study we did not provide comprehensive testing on models' external validity because of the limited time for preparing for this conference presentation, which is important for clinical implementation. Despite limitations, this pilot work successfully tested the feasibility of using integrated contact tracing and medical claims to proactively identify individuals who have COVID-19 related hospitalization. We constructed a framework for implementing the model for DHEC and local health systems for supporting advanced care planning for COVID-19 and future infectious diseases outbreak.

Implementation of a Trauma Center-Based Mental Health Program for Traumatic Injury Survivors

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Introduction/Objectives: Annually, over 600,000 adults served in U.S. trauma centers (≥ 20%) develop posttraumatic stress disorder (PTSD) and/or depression in the first year after injury. American College of Surgeons guidelines mandate screening and addressing mental health recovery in traumatic injury patients. The Trauma Resilience and Recovery Program (TRRP) is a scalable and sustainable, technology-enhanced stepped model of care - one of the few in the US - that provides early intervention and direct services after traumatic injury via 4 steps: education, risk screening, and brief intervention at the bedside (Step 1); symptom self-monitoring via text messaging (Step 2); mental health screening at 30 days (Step 3); and, when appropriate, referral to mental health treatment (Step 4). This presentation describes the TRRP implementation process, program acceptability, and preliminary dissemination roadmap.

Methods: We used the Exploration, Preparation, Implementation, Sustainment (EPIS; Aarons et al., 2011) model to implement TRRP in four Level I-II trauma centers. First, we collaborated with stakeholders to assess trauma center's needs and resources to identify implementation strategies (Exploration). Second, we worked with stakeholders to outline an implementation plan, taking into account resources and barriers to implementation to identify program adaptations (Preparation). Third, we implemented TRRP and addressed factors associated with engagement at the patient, provider, and center level (Implementation). Finally, we implemented strategies to promote long-term sustainability (Sustainment).

Results: These programs have reached more than 10,000 patients, we identified high prevalence of PTSD and depression after discharge, and observed high patient engagement. Several lessons were learned that shaped our implementation protocol, including: model adaptations are needed for integration into center infrastructure, and early application of billing and reimbursement practices are critical to enhancing buy-in during the initial stages of implementation and promoting long-term sustainability.

Discussion/Conclusions: Trauma-center based, sustainable models of mental health care are needed to ensure that all patients receive the full range of services that they need. This study explored best-practice strategies for implementing and sustaining TRRP with the goal of identifying strategies to maximize adoption and sustained use of behavioral health programs in trauma centers.

Use of an Evaluative Logic Model to Describe the Impact of a Community Child Health and Advocacy Institute

Emily Richardson; Caitlin Koob*, MS; Mackenzie Stuenkel, PhD, MS; Kerry Sease, MD, MPH

Introduction/Objectives: There are several frameworks and theories that guide the development, implementation, and evaluation of programs. Program logic models (LM) are a way to diagrammatically display the planning, creation, goals, and outcomes of programs. LMs are a tool for integrative framework in analysis, aiding in the funding for programs and departments, highlighting program success or lack thereof, and clearly defining the process behind the "why" and "how" a program was developed.

Methods: The Bradshaw Institute for Community Child Health & Advocacy is housed within a large hospital system in Upstate, SC and uses a LM to (1) guide the development of programs; (2) provide rationale and justification for existing programs; (3) show support for the continuation and addition of programs that serve their targeted population; and (4) aid in the transparency and rigor of their programs. The 3 domains of the program goals that guide our LM are Access to Care, Injury Prevention, and Social Health.

Results: This LM framework categorizes 12 programs into a specific community health domain and displays the resources, outcome criteria, and ultimate impact of the entire institute. Pediatric Support Services (PSS) is a care coordination program that is a large contributor to the programs at Bradshaw and is interwoven within each of these domains. PSS initiated the development of the LM framework for all programs in the institute because of its significant reach across many domains surrounding child health and advocacy.

Discussion/Conclusions: The relevant community health data directs each LM program and is vital to support the ongoing initiatives and to serve as a baseline for the data that each program is attempting to improve in the community. The Bradshaw Institute consists of value-based programs that should be regularly evaluated using this framework to measurably improve the performance of the institute and the health impact on the surrounding community.

Utilizing the EPIS framework to evaluate the implementation of WE CHAT, a novel, mobile health technology

Caitlin Koob*, MS; Mackenzie Stuenkel, PhD, MS; Emily Richardson; Melissa Fair, PhD, MPH; Kerry Sease, MD, MPH; Sarah Griffin, PhD, MPH

Introduction/Objectives: One in five children in South Carolina are considered obese (BMI>30), with those from low-income households and rural areas, and of racial and ethnic-minority heritage at the highest risk. Wellness Education to Create Health habits and Actions to Thrive, known as WE CHAT, is a novel, electronic chatbot that engages participants to enhance primary care delivery and associated care coordination services through mobile health technology. WE CHAT was developed from previous work using unidirectional text messaging to address pediatric obesity, and serves patients aged 2 through 18 with a BMI ≥ 85th-percentile referred by their primary care providers.

Methods: The Exploration, Preparation, Implementation, Sustainment (EPIS) framework informed WE CHAT implementation evaluation to address pediatric obesity in Upstate, South Carolina. Implemented in May 2022, EPIS was applied to consider lessons learned from previous intervention in the validation and successful implementation of the chatbot across pilot sites.

Results: Focus groups conducted, following beta testing, among caregivers and teen users indicate that the chatbot is culturally, linguistically, and age appropriate. Since implementation across three pilot sites in May 2022, 48 patients have enrolled in WE CHAT. Further data related to reach and enrollment, fidelity, and satisfaction are continually collected via patient-specific chatbot utilization reports and will be systematically analyzed throughout program evaluation.

Discussion/Conclusions: Initial evaluation of the chatbot using EPIS highlights the innovations of WE CHAT, including the use of a customized order set for patient recruitment and care coordination services to address social-emotional health and SDOH needs. The commitment of experienced clinicians, academic partners, Conversa Health, and the health system supports ongoing implementation efforts. Over time, EPIS will be used to evaluate the implementation of WE CHAT systemwide, helping to identify provider champions and guide interviews and focus groups among users to optimize reach and ensure appropriate enrollment for program sustainment.

Implementation of a Clinical Pathway to Screen and Treat Medical Inpatients for Opioid Withdrawal

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Introduction/Objectives: Opioid-related inpatient hospital stays are increasing at alarming rates. Unidentified and poorly treated opioid withdrawal may be associated with inpatients leaving against medical advice and increased health care utilization. To address these concerns, we developed and implemented a clinical pathway to screen and treat medical service inpatients for opioid withdrawal.

Methods: The pathway process included a two-item universal screening instrument to identify opioid withdrawal risk (Opioid Withdrawal Risk Assessment [OWRA]), use of the validated Clinical Opiate Withdrawal Scale (COWS) to monitor opioid withdrawal symptoms and severity, and a 72-hour buprenorphine/naloxone-based treatment protocol. Implementation outcomes including adoption, fidelity, and sustainability of this new pathway model were measured. To assess if there were changes in nursing staff acceptability, appropriateness and adoption of the new pathway process, a cross-sectional survey was administered to four hospital medical units before and after pathway implementation.

Results: Between 2016 and 2018, 72.4% (77,483/107,071) of admitted patients received the OWRA screening tool. Of those, 3.0% (2,347/77,483) were identified at risk for opioid withdrawal. Of those 2,347 patients, 2,178 (92.8%) were assessed with the COWS and 29.6% (645/2,178) were found to be in active withdrawal. A total of 49.5% (319/645) patients were treated with

buprenorphine/naloxone. Fifty-seven percent (83/145) of nurses completed both the pre- and post-pathway implementation surveys. Analysis of the pre/post survey data revealed that nurse respondents were more confident in their ability to determine which patients were at risk for withdrawal (p=.01) and identify patients currently experiencing withdrawal (p<0.01). However, they cited difficulty working with the patient population and coordinating care with physicians.

Discussion/Conclusions: Our study demonstrates a process for successfully implementing and sustaining a clinical pathway to screen and treat medical service inpatients for opioid withdrawal. Standardizing care delivery for patients in opioid withdrawal can also improve nursing confidence when working with this complex population.

RE-AIM Guided Evaluation of a Pediatric Navigation Service

Mackenzie Stuenkel*, PhD, Caitlin Koob, MS Emily Richardson Kerry Sease, MD, MPH

Introduction/Objectives: To evaluate program effectiveness and adapt program features, the implementation science framework, RE-AIM was applied to the implementation and delivery of a pediatric care coordination service, the Pediatric Support Service (PSS). An implementation framework was necessary to evaluate the novelty of universal implementation the service into primary care settings with ongoing programmatic change.

Methods: Implemented in 2017, RE-AIM was recently applied to evaluate current program reach, effectiveness, contextual adoption, with the goal of informing measures of implementation and maintenance.

Results: Over four years, the PSS has triaged 13347 referrals to services for mental health, food and housing resources, family programming, and specialty care. In practice, PSS has been adopted in over 70 clinics and had the original goal of increasing referral connection services to 50% over 5 years. After developing the evaluation along the RE-AIM constructs, a satisfaction survey based on the validated 22-item Navigation Satisfaction Tool, was developed to measure participant perspectives of implementation and maintenance. Additional measures collected in the evaluation include, visit characteristics to evaluate adoption of services in the clinical setting, reasons for referral noncompletion, and overall referral connection rate.

Discussion/Conclusions: Initial evaluation of PSS measures guided by RE-AIM highlighted several areas of data gaps and program inefficiencies. Using this information, PSS reach is now being evaluated by the demographics of patients served in the context of potential population demographics. Measures of effectiveness demonstrated gaps in referral connection which is being mediated by earlier follow-up to at-risk patients. The initial goal of 50% of referral services being integrated was adapted to an open-source

network where providers sign up to be included. Lastly, to support long-term sustainability, data collection was automated using a secure data repository. The implementation science framework will continue to be used to guide the evaluation of PSS throughout its delivery.

PRISM Guided Development of Statewide SBHC Implementation Science Study

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Introduction/Objectives: The Practical, Robust, Implementation and Sustainability Model is an implementation framework that expands on several D&I models to create a comprehensive model for translating research into practice. PRISM uses outcome measures guided by RE-AIM and expands on this to include four domains from which to consider the influence on the outcomes. The purpose of this study was to use the PRISM framework to explore strengths and limitations of School-Based Health Center (SBHC) implementation and delivery across model type and context. The goal was to expand on current SBHC research to compare implementation and delivery across model types and through multiple perspectives.

Methods: Initial participant recruitment was designed to recruit individuals from the program perspective (clinicians), recipients (school staff, nurses), and implementation and sustainability framework (program managers). PRISM guided the development of the interview-guide using elements highlighted by the model from each domain. Deductive/inductive thematic coding was used to analyze interviews, with the deductive codebook developed along RE-AIM constructs and cross-coded with model type and perspective.

Results: The study included in-depth interviews with 22 participants. Results were structured by commonalities across model type and perspective, isolated themes to specific perspectives, and isolated themes to specific model types. Common themes included challenges to planning physical space, relationship building, the importance of adaptability in planning, and opportunities for care coordination. Isolated themes included challenges to necessary personnel and resources, barriers to service awareness, and opportunities for care continuity.

Discussion/Conclusions: The use of PRISM to guide the exploration of SBHC implementation and delivery added a new focus to planning efforts and highlighted the need to focus on characteristics isolated to specific perspectives and model types. The study also demonstrated the complexity that is needed in evaluation and implementation studies of existing programs and in the development stage of future programs to capture the complexity of program implementation.

Dissemination and implementation of remote patient monitoring: An academic-community primary care partnership in South Carolina

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Introduction/Objectives: Remote patient monitoring (RPM) for diabetes and hypertension may reduce barriers to patient care, leading to improved disease control and decreased morbidity and mortality. We describe the implementation of a community-academic partnership to improve diabetes and hypertension control for underserved populations using RPM. We will review the key lessons learned for implementation of an academic medical center (AMC)-community health center (CHC) partnership, with desired program outcomes and an example approach.

Methods: Since 2014 our academic medical center (AMC) began working with community health clinics (CHCs) to implement a centrally-monitored RPM program for patients with diabetes. Patients were eligible for participation if they had a HbA1c of 8 or higher within 21 days of enrollment. AMC nurses recruited, trained, and supported community partners through regular communication. Community sites were responsible for enrollment, follow-up visits, and all treatment adjustments.

Results: Over 1700 patients have been enrolled across 19 counties and 16 predominantly rural CHCs. The majority of patients reported low annual household income and African American or Hispanic background. It took about 6 to 9 months of planning at each CHC prior to first enrolled patient. Over 30% of patients utilizing the newer device continued to transmit glucose readings regularly at week 52 of enrollment. Hemoglobin A1c data reporting was completed for more than 90% of patients at 6 and 12 months post-enrollment.

Discussion/Conclusions: Partnering of our AMC with CHCs enabled dissemination of an effective, inexpensive tool which engaged underserved populations in rural South Carolina and improved chronic disease management. We supported implementation of clinically effective diabetes RPM programs at several CHCs, reaching a large number of historically underserved and under-resourced rural CHC patients with diabetes. We summarize key steps to achieving a successful, collaborative RPM program through AMC-CHC partnerships.

Investigating the Influence of Psychosocial Factors on Adherence to a Home Exercise Program Following Stroke

Gabrielle Scronce*, Lisa McTeague, Viswanathan Ramakrishnan, Jillian Harvey, Michelle Nichols, Na Jin Seo

Introduction/Objectives: Upper extremity (UE) impairment is a common consequence of stroke that results in long-term disability and reduced quality of life. Recovery can be improved with the addition of a home exercise program (HEP) to increase rehabilitation therapy dose. However, HEP adherence is often poor, limiting recovery. Behavioral interventions can increase adherence to medication regimens among people with chronic disease, but limited evidence of the effects of behavioral interventions in stroke rehabilitation suggests that conventional behavioral interventions are inadequate to increase HEP adherence post-stroke. It is expected that increasing HEP adherence post-stroke requires more careful consideration of individual survivors' psychosocial factors than is necessary for medication adherence. Therefore, the relationship between modifiable psychosocial factors and HEP adherence must be better understood for development of a behavioral intervention to adequately address barriers to HEP adherence. Thus, the objective of this study is to explain how modifiable psychosocial factors manifest themselves in terms of barriers and facilitators for HEP adherence among stroke survivors.

Methods: In this observational study with mixed-methods design, 35 people with stroke-related UE impairment will be asked to complete objective measures of modifiable psychosocial factors, perform a HEP for 7 days during which adherence will be objectively monitored, and participate in semi-structured interviews to share barriers and facilitators to HEP adherence. Quantitative findings relating psychosocial factors with HEP adherence and qualitative findings from the semi-structured interview will be integrated to elucidate the relationship among psychosocial factors, barriers and facilitators for HEP adherence, and objective HEP adherence level.

Results: We expect that HEP adherence will be associated with modifiable psychosocial factors including self-perceived stroke impact, self-efficacy, mood, sleep, health literacy, and behavioral activation.

Discussion/Conclusions: The results of this study will be used to develop a new enhanced behavioral intervention targeting stroke survivors' modifiable psychosocial factors to increase HEP adherence, ultimately improving UE recovery.

Implementation of a reflex biomarker testing strategy for patients newly diagnosed with advanced non-small cell lung cancer

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Introduction/Objectives: Lung cancer is the leading cause of cancer-related deaths and nearly half of new diagnoses of lung cancer are made at the metastatic stage. Biomarker-driven therapies, including targeted and immune therapies, for metastatic non-small cell lung cancer (NSCLC) offer eligible patients improved outcomes over traditional chemotherapy. Despite this benefit, evidence suggests that biomarker testing to assess patient eligibility for these therapies is underutilized. Reflex testing, in which eligible patients with NSCLC are tested for biomarkers at the time of pathologic diagnosis has been proposed to help improve testing rates and turnaround time of results. Several studies evaluating reflex testing have shown improved testing rates and turnaround times but were performed at single sites in academic centers and results are not generalizable to the community setting, where the majority of lung cancer care takes place. Given the critical need for timely and complete biomarker

testing, we are proposing an implementation study of reflex testing in a community hospital setting.

Methods: The study will take place at a community hospital in South Carolina. First, a qualitative needs assessment using semi-structured interviews will be performed to understand current processes, barriers to testing, and acceptability of a reflex testing strategy. Relevant personnel essential to the diagnosis and treatment of lung cancer in primary care, pulmonology, radiology, pathology, and oncology departments will be recruited. Results and themes from this initial analysis will inform the design of a reflex testing strategy. Evaluation of the intervention will include both patient-level outcomes (e.g., identification of patient's eligible for targeted therapies, turnaround time of results), outcomes related to its implementation (e.g., feasibility, fidelity, acceptability), and provide evidence for a future multi-site trial.

Lifestyle Modification Initiative for Prevention of Cardiovascular and Renal Adverse Outcome (LISMICARE)

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Introduction/Objectives: Numerous cohort studies have demonstrated the burden of hypertension, diabetes, and obesity on adverse cardiovascular outcomes. These include cardiac sudden death, myocardial infarction, ischemic hemorrhagic stroke, and end-stage renal disease. South Carolinians face increasing rates of chronic disease, that are among some of the highest in the United States. Greater risk is observed among blacks compared to their white counterparts. To-date, there has not been a culturally tailored, systematic, community wide approach to reduce chronic disease burden in South Carolina.

Methods: Our approach is to implement a long-term community engaged programed aimed at identifying barriers to lifestyle modification for various counties. This strategy will take into account community beliefs and perceptions, environment, and health literacy of individuals served. Morris College will serve as a nidus to introduce the DASH diet to students' campus wide. A wholistic approach will be applied, using the American Heart Associations, 'Life's Essential 8' to identify those at highest risk. We will engage college students as 'Campus Champions', promoting the concept of lifestyle modification to their peers through physical toolkits and social media campaigns. These innovatively generated tools will provide culturally tailored, community level behaviorally modified education aimed at producing a generational impact on rates of chronic disease.

Results: Quantitative data including physical activity minutes, weight, height, body mass index, 24-hr home blood pressure monitoring, home glucose monitoring, and urinary sodium will be obtained. Qualitative data will include community and health care provider perceptions. All will be statistically analyzed and serve as insight to project impact.

Discussion/Conclusions: Reduction in hazard ratio is the desire for project success. Methodological modification may be necessary with various metrics as guidance. These will lead to further exploration examining what impact and how various risk factors exert health outcome. Insight to causal relationship will illuminate and shape the path to community health statewide.

Evaluating Use of the Google Apple Exposure Notification App on a University Campus
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Introduction/Objectives: Clemson University piloted the Google Apple Exposure Notification (GAEN) app among students and employees to support case identification and exposure notification. The current study was designed to evaluate knowledge, perceptions, and experiences with the app among Clemson employees and students.

Methods: This study utilized a qualitative thematic content analysis design. Two researchers with training in behavioral science conducted nine focus groups with Clemson University students and employees. Two researchers worked together to create a codebook, code data, and transform codes to final themes and sub-themes, with review by additional research team members to further enhance trustworthiness of results.

Results: Most participants had positive perceptions about the app, describing it as a robust platform that could be used to help control the Covid-19 pandemic, while a few participants had concerns about issues related to confidentiality and security. Participants suggested app modifications that could enhance functionality and user engagement, such as having the app confirm that it was downloaded correctly. Many participants noted that the app would need to be downloaded and used by more people for its public health benefit to be optimized, with suggestions provided for how the app could be marketed more robustly on campus and in the community.

Discussion/Conclusions: Overall participants described enthusiasm for the GAEN app as a tool for helping to mitigate the Covid-19 pandemic and provided useful suggestions for how app enhancements and marketing could help to optimize the benefit of the app for rapid Covid-19 case identification and exposure notification.

Upcoming SCTR Funding Opportunities

Discovery Grants

Purpose:
To facilitate new and innovative, scientifically meritorious, high-impact projects across the translational spectrum with emphasis on diseases of significant prevalence in South Carolina and beyond.

Pre-applications are due Friday, September 30, 2022, at 5:00 PM EST.

Read more about this grant.

Apply for a Discovery Grant.

Science of Team Science Grants

Purpose:
To generate new knowledge about factors that maximize the efficiency, productivity, and effectiveness of teams and/or new information about processes by which teams organize, communicate, and function collaboratively in healthcare, education, and research.

Applications are due on October 28, 2022, at 5:00 PM EST.

Read the RFA and apply for a Team Science Grant.

Translational Science Challenge Grants

Purpose:
Aims to support projects focused on understanding a scientific or operation principle underlying a step of the translational process.

Learn more about the Translational Science Challenge Grant.

Applications will be open and rolling beginning September 30th.

For more information visit the SCTR Pilot Projects webpage.

D&I Science Extramural Grant Funding Opportunities

Below is a list of sources of funding opportunities that are either specific to or include sources of support for D&I science.

For up to date funding resources, please visit the Dissemination & Implementation Science (DISC) webpage.

If you would like additional assistance with finding the types of funding resources specific to your study, please feel free to enter a SPARC Request for a consultation. Once on the SPARCRequest page you will find the D&I services under the green SCTR services button on the left.

NIH: National Cancer Institute
Division of Cancer Control & Population Sciences
[Dissemination and Implementation Research in Health (DIRH) Notice of Reissuance (PAR-22-105, PAR-22-106, PAR-22-109)]

Portals for finding further D&I funding

The Agency for Healthcare Research and Quality (AHRQ)
This website is a portal for a variety of grants, and we recommend visiting it frequently for updated D&I opportunities.
- Grant Mechanisms and Descriptions
- Agency for Healthcare Research and Quality

The Patient-Centered Outcomes Research Institute (PCORI)
The PCORI site is also one we suggest visiting frequently for D&I funding opportunities.

MUSC Funding Portal
Search for funding opportunities matching specific keywords using databases. You can also set up funding alerts.

MUSC Library
Need help? Colleges and programs have a designated liaison librarian. Liaisons are subject specialists who provide support for students, staff and faculty in the areas of education, research, clinical work, and scholarly communication. You can contact your Library Liaison or "Ask A Librarian" at the MUSC library.

Office of Research Development

ORD identifies extramural funding opportunities and assists faculty members in writing competitive grant proposals, emphasizing strategic research areas. Access their MUSC Funding Portal and through that page sign up for their Funding Focus newsletter and/or access a variety of funding databases where you can create profiles unique to your specific area of research.

Dissemination and Implementation (D&I) Science Funding Opportunities curated by ORD.

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