



Family Medicine Research

Dept of Family Medicine / Greater Charlotte Region

Summer 2023 Newsletter

Meet the Research Team with a highlight of 3 current studies

Coach McLungsSM

Atrium Health has been awarded a \$3.5 million NIH/National Heart, Lung, and Blood Institute grant to implement Coach McLungsSM, a web-based asthma platform, across 21 Atrium Health pediatric and family medicine practices. An interactive digital asthma coaching tool, Coach McLungsSM provides asthma education and clinical decision support to enhance patient and provider communication using shared decision making.

About 1 in 12 children have asthma. Currently, there are over 6 million children in the US with asthma, which can lead to missed school days, emergency department visits, and hospitalizations. Significant disparities in asthma outcomes occur by gender, race, ethnicity, and socioeconomic status. As part of the grant, we will measure changes in emergency department visits, hospitalizations, and prescribed oral steroid.

COACH MCLUNGSSM IN PRIMARY CARE: HOW TO EXCEED PRACTICE RECRUITMENT GOALS DURING COVID-19

Lindsay Shade, MHS, PA-C | Kelly Reeves, BSN, RN, LNC | Thomas Ludden, PhD | Cheryl Courtland, MD | Katherine O'Hara, MSW | Rebecca Bellows, MD, MPH | Melinda Manning, BS | Lyn Nae, MD | Andrea Daniels, DO | Charly Paterson, PhD, MPH | Kevy Boatner, PhD, MPH | Chelsiegor Shaw, PhD, MA, MPA | Hazel Tapp, PhD

CONTEXT
Coach McLungsSM is an interactive, digital, health coaching response to a major research, innovation, and practice to further considerations about asthma and common shared decision-making (CDM) in setting a plan of care for the great cities. Through pioneering settings and the care settings, Coach McLungsSM has been proven to increase asthma knowledge scores and increase ED visits a 100% year reduction rate.

OBJECTIVE
To demonstrate the successful application, we received funding to implement Coach McLungsSM across the primary care clinics of a large healthcare system with a goal of reaching 15 pediatric and family medicine practices.

STUDY DESIGN
Randomized, stepped-wedge, with a baseline control period and 5 intervention sites over 3 years.

INTERVENTION
Coach McLungsSM is an interactive, digital, health coaching response to a major research, innovation, and practice to further considerations about asthma and common shared decision-making (CDM) in setting a plan of care for the great cities. Through pioneering settings and the care settings, Coach McLungsSM has been proven to increase asthma knowledge scores and increase ED visits a 100% year reduction rate.

MAP OF PRACTICES
A map showing the locations of the 21 practices across the Charlotte region.

OUTCOME MEASURES
Numbers of practices.

RESULTS
21 Practices met or exceeded recruitment goals during COVID-19.

CONCLUSIONS
Despite competing activities during the COVID-19 pandemic, along with a systematic decision and recruitment strategy we exceeded our practice recruitment goal for Coach McLungsSM in 21 practices.

ACKNOWLEDGEMENTS
This study is funded by the National Institutes of Health, grant #HL158844.

SETTING
Pediatric and family medicine practices.

POPULATION
Patients with asthma.

Study team members Tekeshia Jones, Kristin Minehart, Nick Stevens, Lindsay Shade, Kelly Reeves, Tom Ludden, Brianna Gutch, Margo Burnard, Shaina Glass. Additional members not shown – Jeremy Thomas, Melinda Manning, Rachel Frazier, Hazel Tapp

USING PRAGMATIC DECENTRALIZED RECRUITMENT STRATEGIES IN PRACTICE BASED RESEARCH: The PREVENTABLE Study

Kelsey Strout, BS | Faith Ellerbe, BS | Cody Oliver, MPH | Zane Allioor, BA | Nick Soovers, MS | Lindsay Shade, MHS, PA-C | Hazel Tapp, PhD | Tom Ludden, PhD

BACKGROUND
Pragmatic trials are those that test the effectiveness of an intervention in an everyday clinical setting, conducted in a controlled setting. Pragmatic refers to the actual design of the study and testing care that is expected to be provided in practice.

SETTINGS/PARTICIPANTS
The study was conducted in 21 primary care practices across the Charlotte region.

METHODS
The study used a pragmatic, decentralized recruitment strategy.

RESULTS
The study successfully recruited 20,000 participants across 100 sites.

CONCLUSIONS
The study demonstrated the effectiveness of decentralized recruitment strategies.

Study team members Ali Hemphill, Margo Burnard, Lindsay Shade, Kelsey Strout

The PREVENTABLE Study

Funded by the NIH, NIA, and NHLBI
Lead Site: Duke University
Coordinating Center: Wake Forest
Atrium Health Site PI: Lindsay Shade, PA-C

PREVENTABLE is a landmark study of statins in older adults. The study will enroll 20,000 participants from 100 sites across the US. Statins are known to be effective for reducing the risk of cardiovascular events in individuals with cardiovascular disease and up to age 75 without disease, but limited evidence proves the usefulness of statins for primary prevention in adults over age 75, especially in the setting of multiple chronic conditions. We are hoping to learn if taking a statin (atorvastatin 40 mg vs placebo) could help older adults live well longer by preventing dementia, disability, or cardiovascular disease.

DETECTING PATIENTS AT RISK FOR RAPID PROGRESSION OF DIABETIC KIDNEY DISEASE AT TREATABLE STAGES

Thomas Ludden, PhD¹ | Barry I. Freedman, MD² | Lindsay Shade, MHS, PA-C¹ | Amanda Balasco¹ | Hazel Tapp, PhD¹
¹Department of Family Medicine, Atrium Health; ²Department of Internal Medicine – Nephrology, Atrium Health Wake Forest Baptist; ³Atrium Health; ⁴Atrium Health Wake Forest Baptist

BACKGROUND

- The Centers for Disease Control and Prevention (CDC) estimates that 15% of US adults, or 37 million people, currently have chronic kidney disease (CKD).
- Further, the CDC reports that 9 of 10 adults with CKD do not know they have it, and one of two people with early kidney function who are not on dialysis do not know they have CKD.
- KidneyIntelX™ is a novel prognostic test that interprets the combination of laboratory results from a simple blood draw and selected electronic health record (EHR) information using a machine learning algorithm to assess a patient's near-term risk for progressive kidney function decline and failure.

SETTING & PARTICIPANTS

- Atrium Health serves more than 2 million people throughout 40 hospitals and more than 1,400 care locations across North Carolina, South Carolina and Georgia.
- Two thousand patients with type 2 diabetes and nephropathy (CKD Stage 1 or 2 with microalbuminuria or more proteinuria, or CKD Stage 3) will be recruited for the study across primary care practices within Atrium Health.

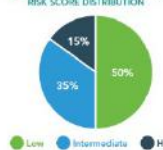
METHODS

- A single blood draw for 8 plasma biomarkers (TNF-α, TNF-β, and IL-6) and EHR data including demographic information, medical history, laboratory test results, information about the patient's physical activities, diet, and family's medical history will be collected at a routine primary care visit.
- KidneyIntelX™

ELIGIBILITY CRITERIA

- Study coordinators will review charts prior to all scheduled appointments to ensure eligibility, maintaining the flow.
- Clinical diagnosis of T2D
- Estimated GFR 30-59 mL/min/1.73 m² within past year (confirmed 2 months prior)
- Estimated GFR >60 mL/min/1.73 m² with microalbuminuria or proteinuria (over albumin excretion rate >30mg/day)
- Age >25 years
- Exclusive use of Enoxel

EXPECTED KidneyIntelX™ PATIENT RISK SCORE DISTRIBUTION



RESULTS

- After each annual visit, KidneyIntelX™ research test results will be sent to the physician for review and shared with the patient.
- Unlike other available tests, the KidneyIntelX™ risk score is anticipated to assess a patient's near-term risk for progressive kidney function decline and kidney failure at an earlier stage of disease, when treatment to modify daily to-daily nephropathy progression – the clinical pathways after recent medication along with strategies to prevent kidney disease.
- KidneyIntelX™ results will be assessed for relationships with cardiovascular events and heart failure, as well.

CONCLUSION

The KidneyIntelX™ risk score is being assessed for its ability to predict progressive decline in kidney function and allows early identification of patients at risk for kidney failure.

KidneyIntelX™ PATIENT RISK SCORE CLINICAL PATHWAYS



Study team members Zane Alkoor, Lindsay Shade, Cody Oliver, Sebastian Haja, Brianna Gutch, Tekeshia Jones, Tom Ludden. Additional members not shown – Jeremy Thomas, Andrea Price, Kelsey Strout, Hazel Tapp

Renalytix AI – A prospective clinical utility trial to evaluate the impact of KidneyIntelX™, a novel test that interprets a combination of laboratory results and selected electronic health record information using a machine learning algorithm, on the management of patients with Type 2 diabetes and diabetic (chronic) kidney disease who are identified as having increased risk for progressive decline in kidney function within 5 years. Specific clinical decisions such as referral to a nephrologist, or initiating treatment (e.g., SGLT2, GLP-1, ACE-I/ARB) will be tracked along with measurable clinical endpoints including lowering of blood pressure and reduction in levels of Hb1Ac.

Clinical Trial subcontract between WFUHS and Atrium Health
 Study PI: Barry Freedman, MD
 Atrium Health Site PI: Hazel Tapp, PhD

Other studies to note:

SURPASS – industry-sponsored (Eli Lilly) phase 3 clinical trial to assess the effect of alternate medications on cardiovascular (CV) outcomes when added to standard of care in Type 2 diabetes patients with established CV disease.

Super Supporters – Duke Endowment funded collaboration between Wake Forest and Atrium Health for Specially Trained Staff to facilitate Virtual Care for Vulnerable Patients and Family Caregivers across the health system, to assist them with connecting more easily and successfully with their providers in Virtual Care appointments.

FOCUS – Gilead Sciences funds this public health initiative that enables partners to develop and share best practices in routine blood-borne virus (HIV, HCV) screening, diagnosis, and linkage to care.

CAPTURE – multi-site, NHLBI funded grant with almost 1,000 participants from Atrium Health. Through a simple tool using five questions combined with selective peak expiratory flow measurement, the study seeks to identify individuals suffering from undiagnosed ‘clinically significant’ COPD.

MISSION: To improve health through innovative research and collaboration

VISION: To be a nationally recognized partner in primary care research

VALUES: Patient-centered, Inclusive, Engaging, Relevant, Rigorous

FAMILY MEDICINE RESEARCH

Special Thanks to our research-associated physicians for their clinical expertise, namely **Drs. Rebecca Beesley, Jewell Carr, and Anthony Caprio.**

MEET THE TEAM—in alphabetical (first name) order



ALI HEMPHILL

I studied fine arts and was a member of the cross-country team at UNCC. I have a diverse background including elder care and real estate and have a passion for art, travel and spending time outdoors.

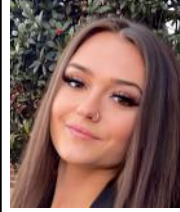
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ANDREA PRICE

I am a mother of two and a lover of all things science. I am so grateful to have called Family Medicine my home for the last four years. Working with these patients and caregivers has been one of the most rewarding experiences of my career.

* 2, 4, 8, 9



BRIANNA GUTCH

I graduated from UNCC in May 2022. I have 2 cats and live in NoDa, but grew up in Wilmington. I enjoy traveling, especially for music festivals. My goal is to obtain my doctorate in clinical psychology in order to open a private practice as a clinical child psychologist. * 3, 8



CODY OLIVER

I graduated from ECU with a B.S. in Biology and a Master of Public Health with the concentration in Epidemiology. Some of my favorite activities to do are watch movies, hang with friends, and watch basketball. I am a huge Boston Celtics fan! * 2, 4, 8, 9



HAZEL TAPP

I grew up in Wales, received a PhD from the University of Birmingham England, and did a post-doctoral fellowship at NYU. I live in Charlotte with husband Craig, sons Nicholas and Harrison, and dogs Willow and Lucy. My interests are national primary care research leadership and running, hiking, and dog walking in my spare time. * 2, 3, 4, 5, 6, 8

*** SEE NEXT PAGE FOR LIST OF RESEARCH STUDIES EACH TEAMMATE WORKS ON**



JAMARI TYSON

I am a rising senior at UNCC studying Business Analytics, and am a participant in the Levine Scholars Program. I enjoy reading fantasy novels and cooking.



JEREMY THOMAS

I was raised in Cleveland, Ohio and sometimes miss the snow, but always miss my sports teams. I am a Girl Dad to two smart, brave, and funny girls, who take after their mom in all the best ways.

* 1, 3, 5, 10



KELLY REEVES

I am a research nurse certified in user experience (UX). I have interest in leveraging health IT to engage patients and families in their health. I am the mother of four and enjoy traveling and spending time with my family and friends. * 3, 4, 6



KELSEY STROUT

I graduated from NC State with a bachelor's in Biological Sciences and in Animal Science with a Veterinary Bioscience concentration. In my spare time, I enjoy running in as many races as possible, going hiking with my pups Franklin and Delta, and attending the Charlotte FC games.

* 2, 7, 8



KRISTEN MINEHART

I'm about to graduate from UNCC with a double major in Biology and Health Systems Management. I love to explore different cultures, travel, try new foods, and watch foreign TV shows and movies. I enjoy spending time with my family and friends, playing tennis, listening to music, cooking, or playing board and card games.

* 3



LINDSAY SHADE

I graduated from UNC Chapel Hill, then from the Duke University PA Program, practicing in Family Medicine in Charlotte ever since. I am the Director of Clinical Trials and Quality and have been involved in nearly 30 research studies over the past decade. In my spare time, I enjoy yoga, making jewelry, and most of all spending time with my two young children and husband.

* 2, 3, 6, 7, 8



MARGO BURNARD

I graduated from Drake University with my bachelor's degree in Biochemistry, Cell and Molecular Biology. In my free time, I enjoy gardening, taking care of my large house plant collection, and spending time with my partner and our two cats.

* 3, 7



MELINDA MANNING

I have a degree in applied math from UCLA, was a consulting actuary for many years, then came to CHS for claims analysis before finding my home with FM Research. In my spare time, I chair the benefits committee for the Charlotte Firefighters' Retirement System and enjoy working with power tools. * 3



NICK STEVENS

I have my Bachelor's and Master's degrees in Exercise Science from Appalachian State University. I have a passion for pediatric research and I love interacting with patients! Outside of EFM, I am a competitive powerlifter, powerlifting coach, gamer, and avid fan of Formula 1 and UFC/MMA. * 3, 4



RACHEL FRAZIER

I am originally from Durham, North Carolina. I am a UNC-Charlotte Alumni (x2) and a mom to a beautiful baby boy, Noah. My favorite vacation spot is anywhere tropical! * 3



SEBASTIAN HAJA

I graduated from Wake Forest University with a B.S. in Biology and a minor in Chemistry. I am an avid Chelsea FC fan but enjoy watching soccer, football, and basketball. I like to spend my time outside of work with friends and family, working on cars, and fishing. * 4, 8



SHAINA GLASS

I'm a student at UNCC in the Cognitive Science graduate certificate program, Master of Psychology program, and in the Health Psychology Ph.D program. I also have training in programming, video game design, and statistical analysis. I have a cat named Shego, and enjoy going to the gym, playing video games, reading books, and spending time with friends and family. * 3



TEKESHIA JONES

I am a graduate of NC Central University with a B.S. in Public Health. I was a Clinical Research Associate and Community Engagement Specialist for UNC-Chapel Hill School of Medicine in infectious diseases. I am a Charlotte native, have a beautiful two-year-old daughter, and enjoy vacationing and volunteering with local non-profit organizations. * 3, 8



TOM LUDDEN

I have been with the Department of Family Medicine since 2007, and I am the Director of Data Analytics and Population Health, an Associate Professor with WFSOM, and the co-director of the Mecklenburg Area Partnership for Primary Care Research (MAPPR). In my spare time, I enjoy hiking as much as possible on the weekends and during vacations.

* 1, 3, 4, 5, 6, 8, 10



ZANE ALKOOR

I graduated from Davidson College in 2021 as a religious studies major, writing my dissertation on Japanese Imperial propaganda during the interwar period. After graduation, my focus has been on a career in healthcare. In my free time, I love outdoor extreme sports like rock climbing, surfing, and snowboarding!

* 4, 8

*** MAJOR RESEARCH STUDIES**

1—ARTAS/HIV LINKAGE TO CARE

5—FOCUS

9—SURPASS

2—CAPTURE

6—PCORI ED

10—THRIVE: HIV TESTING IN ED

3—COACH MCLUNGS

7—PREVENTABLE

4—DUKE ENDOWMENT SUPER SUPPORTERS

8—RENALYTIX