

Implementing Telehealth-enabled Psychiatric Collaborative Care (CoCM) in Rural South Carolina

+ COE Overview & Perinatal BH Screening Program

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NRHA Annual Rural Health Conference

Thursday, May 9, 2024



Acknowledgments

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MUSC Center for Telehealth





MUSC Center for Telehealth History

SOUTH CAROLINA
Telehealth
ALLIANCE



2005-2009

Maternal Fetal
Telemedicine,
Telestroke, ICU,
Telepsych, SBH

2013

State of SC
telehealth
investment; MUSC
Center for
Telehealth founded

2014

SCTA founded;
headquartered at
MUSC

2017

Designated by
HRSA as a
National
Telehealth
Center of
Excellence

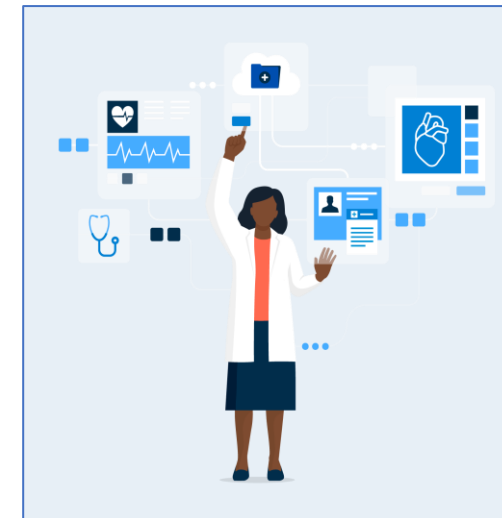
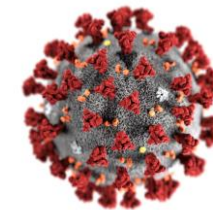
2019

Awarded ATA's
President's
Award for
Transformation
of Health Care
Delivery (SCTA)

2020 - 2021

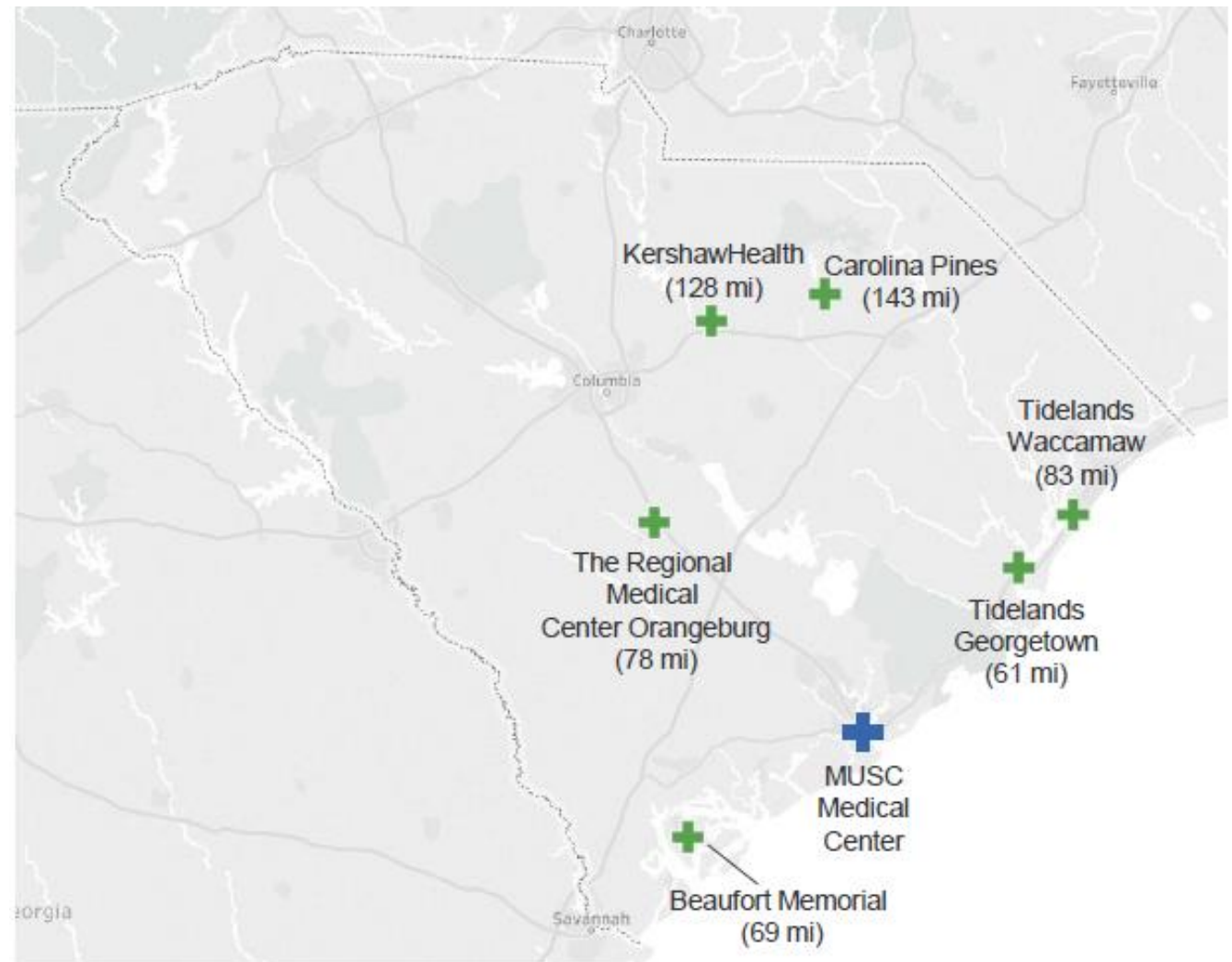
Explosive
growth of
telehealth in
ambulatory
space due to
COVID-19

2022 - current
Building a virtual
ecosystem for the
future



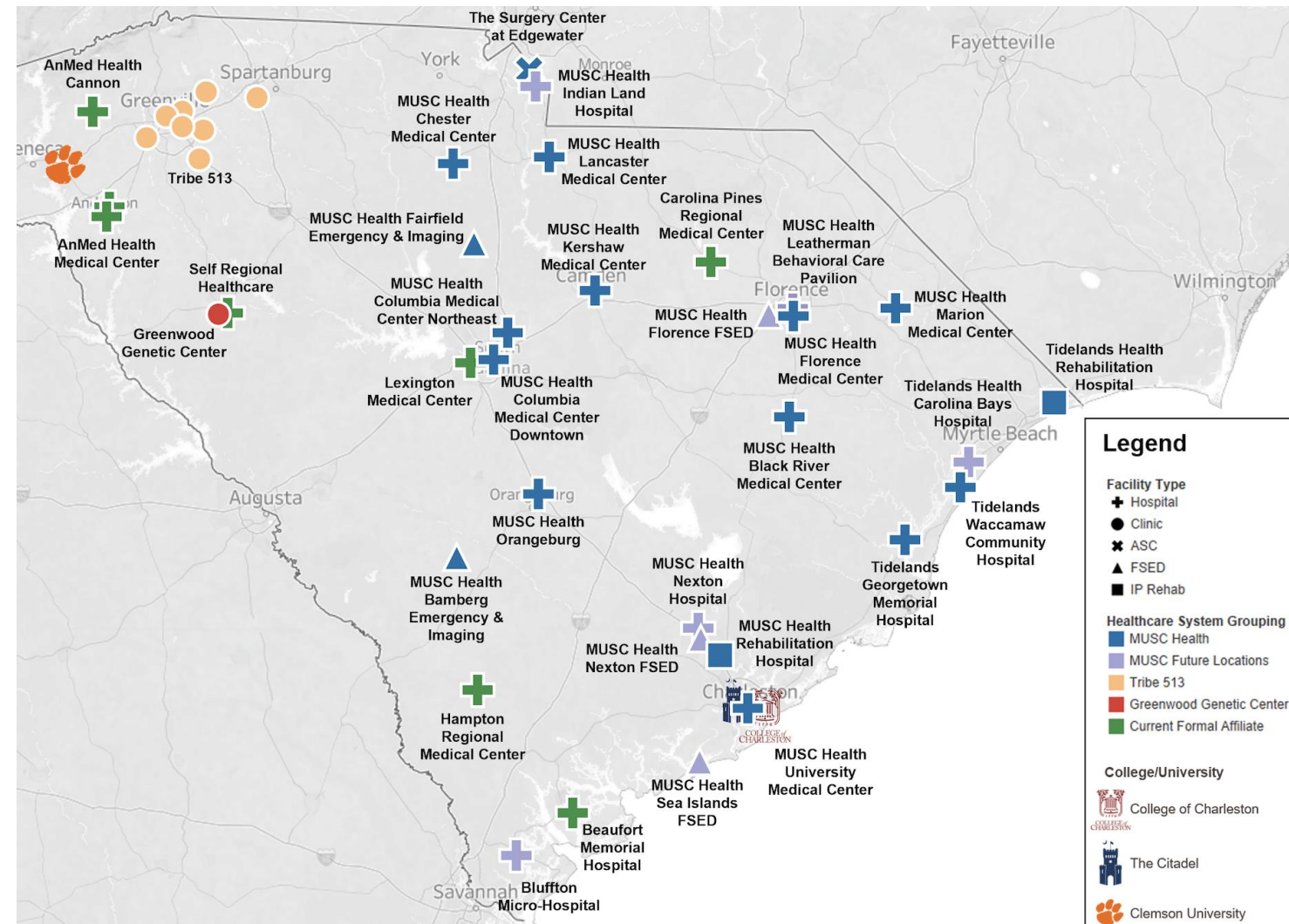
MUSC Health 2016

- 1 hospital located in Charleston, SC
- 800-beds
- 6 formal affiliates



MUSC Health 2024

- 16 hospitals (owned or governing interest)
- 2,700 beds and four additional hospital locations in development
- 350 telehealth sites
- 750 care locations situated in all regions of South Carolina.
- 6 formal affiliates





MUSC Telehealth Center of Excellence

- Goal of COEs: Fill important gaps in the national telehealth landscape through a combination of ongoing regional and national collaborations, as well as proactive dissemination of telehealth resources
- Since 2017, the COE has produced:
 - > 128 peer-reviewed publications
 - > 277 national telehealth presentations
 - > 320 technical assistance consultations, including 20+ site visits and 12 technical assistance documents
- Over 60 faculty and staff supported to investigate nearly 40 subprojects

Y4 MUSC COE Projects

Rural Hospitals

Digital ICU
Innovations program

Rural hospital
telehealth support
models

ICU recovery clinic

Evaluation of
telehealth palliative
care

Primary Care

Smoking cessation &
COPD screening

Determine feasibility
of OUD treatment
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for peripartum
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Population Health & Health Equity

School-based tele-
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Telehealth strategies
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Pediatric telemental
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Healthcare Workforce

Virtual Nursing,
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Mental health
support for health
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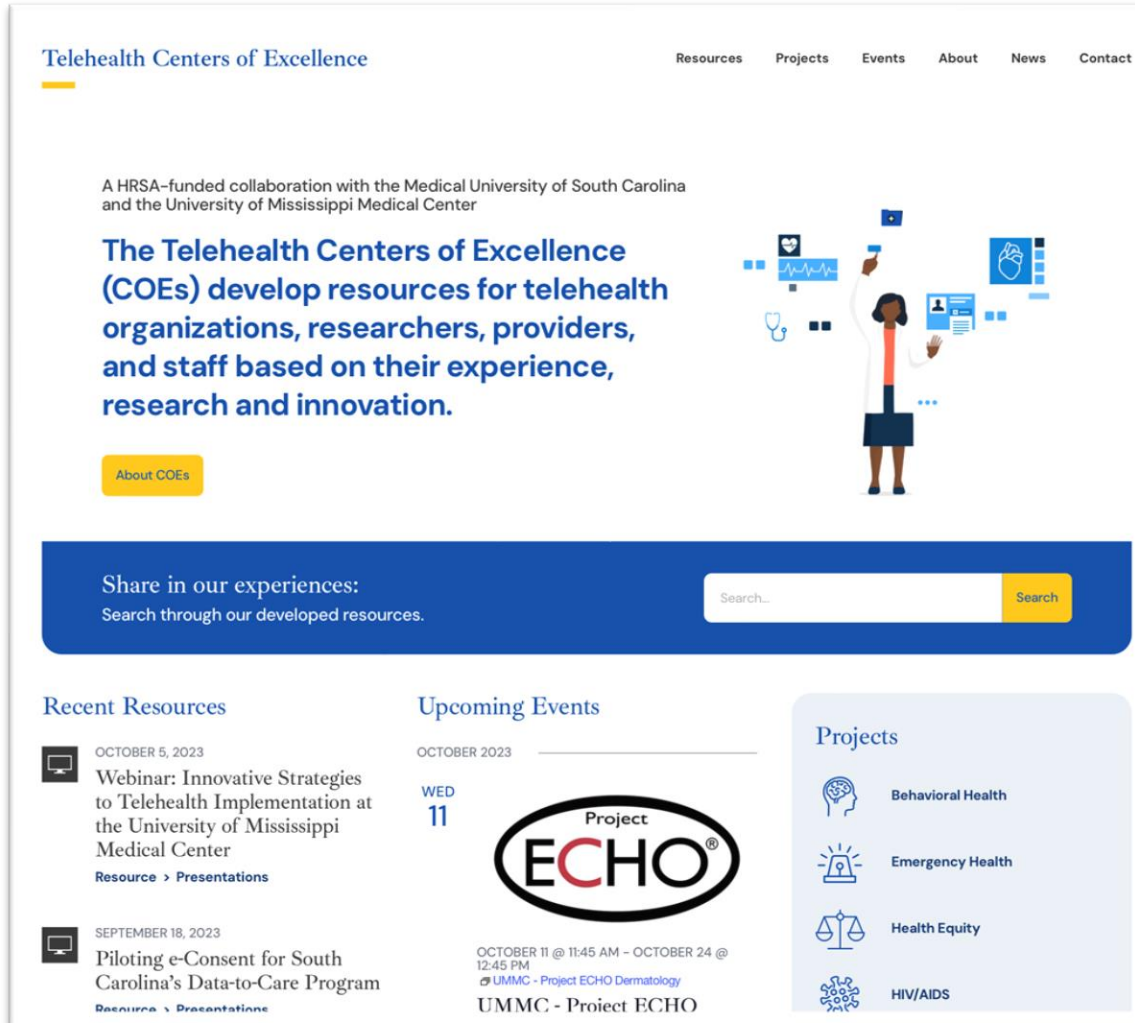
Telehealth Research Methods

Conducting remote
trials

Telehealth and data
aggregation
methods

Technical Assistance & National Engagement

Join COE Website and Newsletter



The screenshot shows the homepage of the Telehealth Centers of Excellence website. At the top, there is a navigation bar with links: Resources, Projects, Events, About, News, and Contact. Below the navigation bar, a header section describes the organization as an HRSA-funded collaboration with the Medical University of South Carolina and the University of Mississippi Medical Center. It states that the Telehealth Centers of Excellence (COEs) develop resources for telehealth organizations, researchers, providers, and staff based on their experience, research, and innovation. An illustration of a person holding a tablet with various health icons is shown. Below this, there is a search bar with the text "Share in our experiences: Search through our developed resources." and a "Search" button. The main content area is divided into three sections: "Recent Resources" featuring a webinar on innovative strategies to telehealth implementation at the University of Mississippi Medical Center (October 5, 2023) and a pilot of e-consent for South Carolina's Data-to-Care Program (September 18, 2023); "Upcoming Events" featuring Project ECHO (October 11, 2023) and a presentation on UMMC - Project ECHO Dermatology (October 11, 2023); and "Projects" listing Behavioral Health, Emergency Health, Health Equity, and HIV/AIDS.

Telehealth Centers of Excellence

Resources Projects Events About News Contact

A HRSA-funded collaboration with the Medical University of South Carolina and the University of Mississippi Medical Center

The Telehealth Centers of Excellence (COEs) develop resources for telehealth organizations, researchers, providers, and staff based on their experience, research and innovation.

About COEs

Share in our experiences:
Search through our developed resources.

Search...

Search

Recent Resources

OCTOBER 5, 2023

Webinar: Innovative Strategies to Telehealth Implementation at the University of Mississippi Medical Center

Resource > Presentations

SEPTEMBER 18, 2023

Piloting e-Consent for South Carolina's Data-to-Care Program

Resource > Presentations

Upcoming Events

OCTOBER 2023

WED 11

Project ECHO®

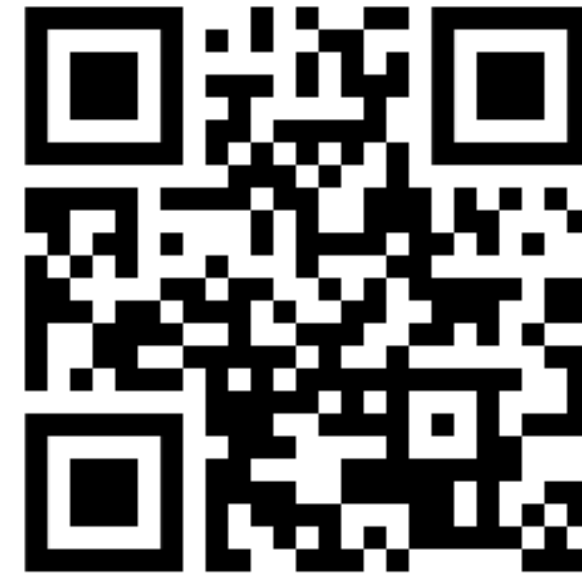
OCTOBER 11 @ 11:45 AM - OCTOBER 24 @ 12:45 PM

UMMC - Project ECHO Dermatology

UMMC - Project ECHO

Projects

- Behavioral Health
- Emergency Health
- Health Equity
- HIV/AIDS



Scan this QR code to
navigate to website and
sign-up for newsletter

telehealthcoe.org



Webinar Sneak Peak:

**Improving Systems of
Care for Perinatal
Behavioral Health**

Upcoming MUSC COE Projects

Rural Hospitals

Digital ICU
Innovations program

Rural hospital
telehealth support
models

ICU recovery clinic

Evaluation of
telehealth palliative
care

Primary Care

Smoking cessation &
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Determine feasibility
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Technical Assistance & National Engagement



Webinar Series



Improving Systems of Care for Perinatal Mental Health and Substance Use Disorders

June 11, 2024
12:00 EST

[Register Here!](#)

Connie Guille, MD, MSCR
Professor
Department of Psychiatry and
Behavioral Sciences
Medical University of South Carolina

Participants will learn about the application of text/phone and telehealth strategies to:

- Improve screening and identification of mental health and substance use disorders, intimate partner violence, and social determinants of health.
- Increase referrals and enhance attendance to maternal mental health and substance use disorder treatment.



Webinar Sneak Peak

- Effective screening, identification, referral, appropriate treatment and communication and care coordination during pregnancy and postpartum year
- 1 in 5-8 screened for depression
 - Black individuals < likely to be screened than White individuals
- 1 in 4 attend treatment
 - Black individual < likely to attend treatment than to White individuals
 - Rural residence < likely to attend treatment than urban residence

Guille C, King C, King K, Kruis R, Ford D, Maldonado L, Nietert PJ, Brady KT, Newman RB. **Text And Telephone Screening And Referral Improved Detection And Treatment Of Maternal Mental Health Conditions.** Health Aff (Millwood). 2024 Apr;43(4):548-556.



Listening to Women & Pregnant & Postpartum People



Text Message Based Screening



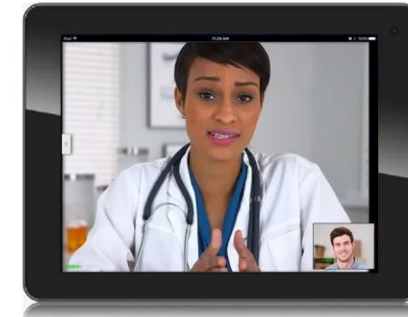
Brief Intervention

Remote Care Coordinator (MSW)



Referral to Treatment

Telemedicine/ Office or Home
Follow up

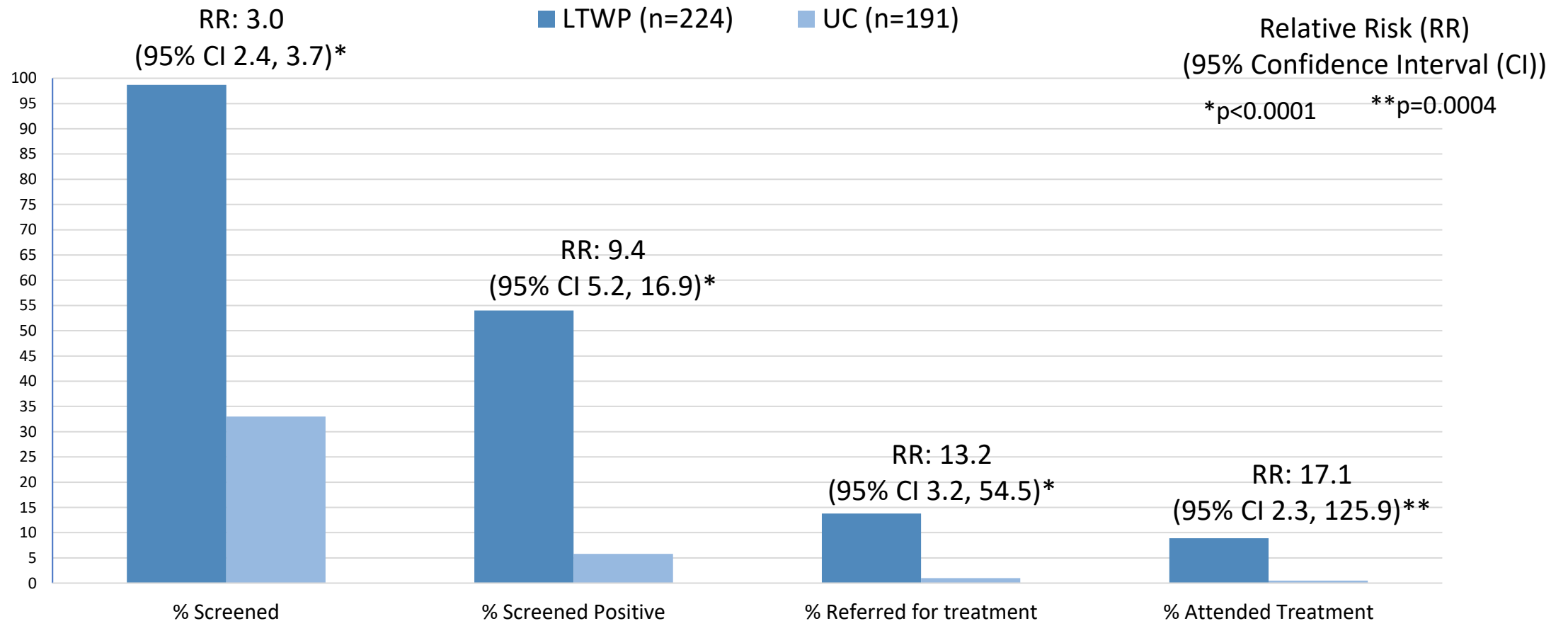


Communicate with Ob/Peds Team

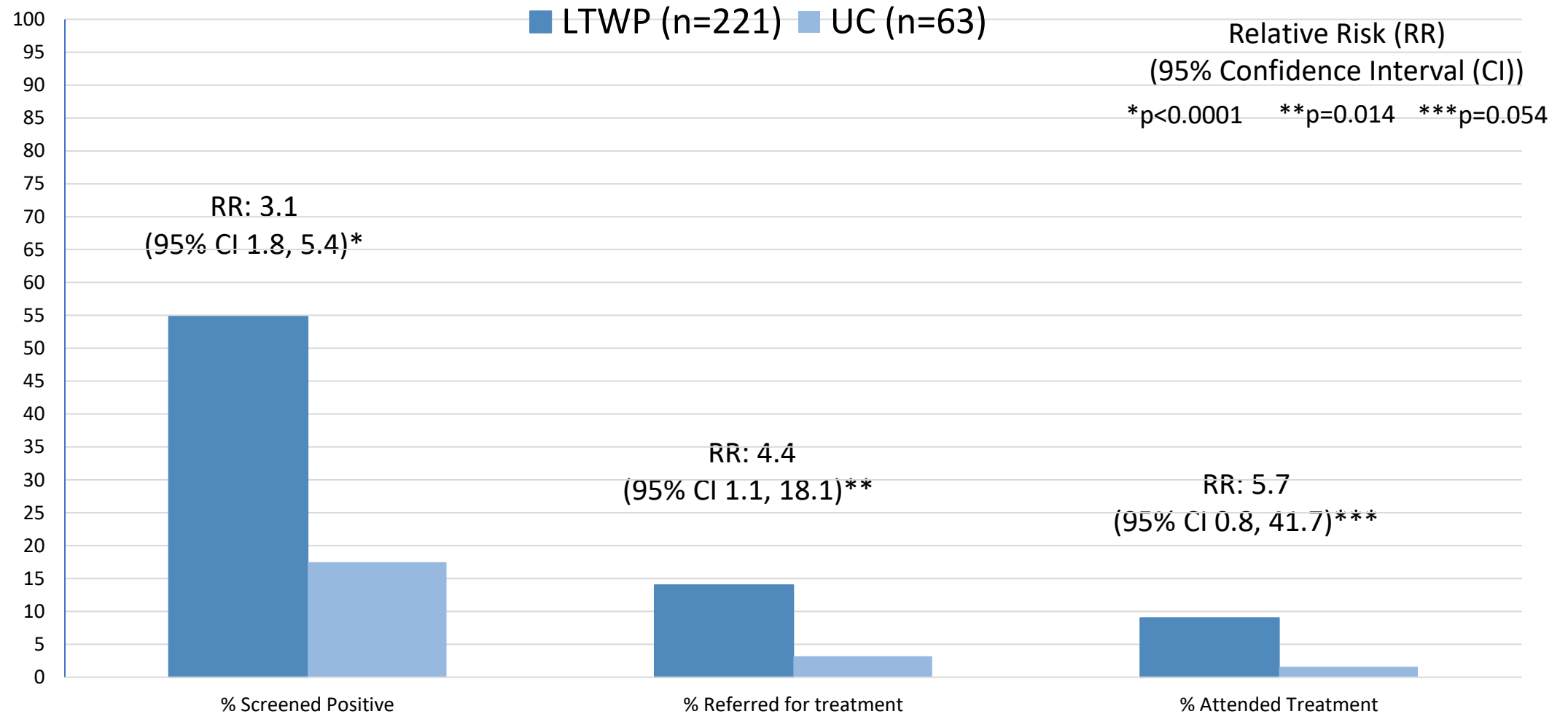
Screening information
Referral and Tx Progress



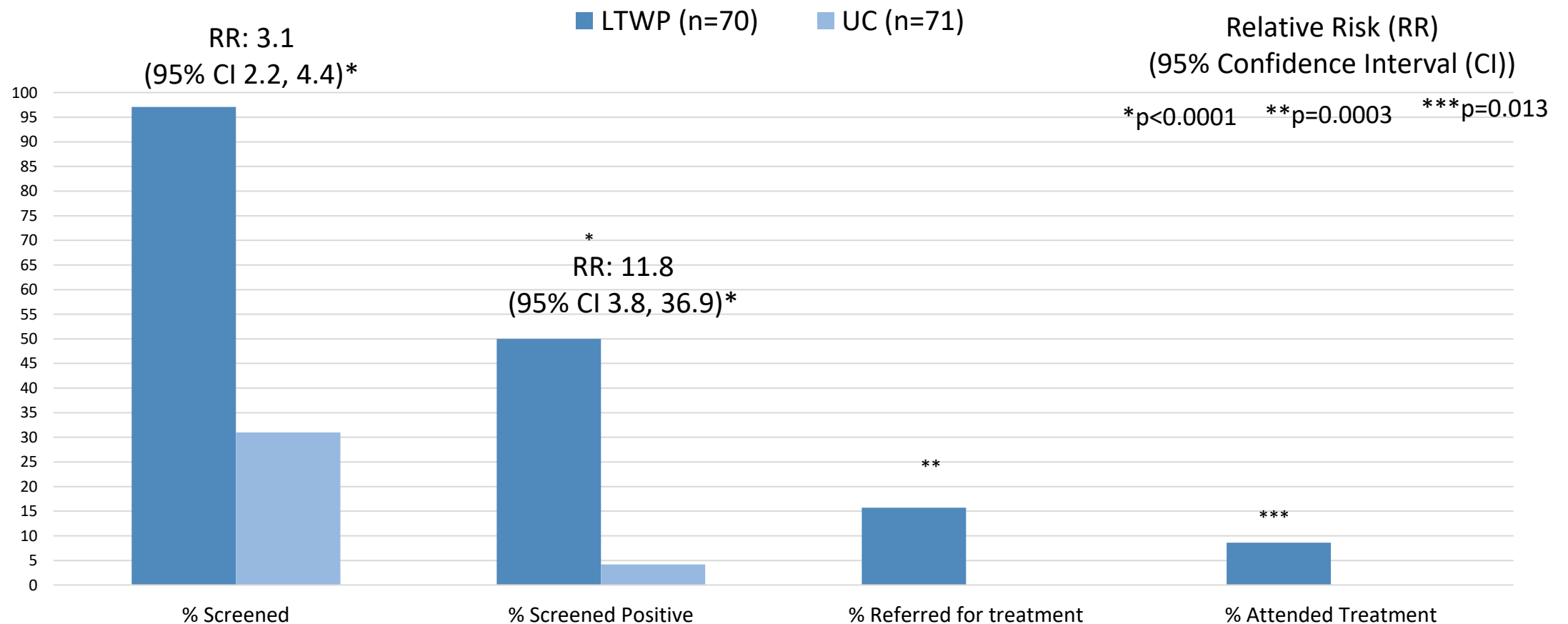
Primary Outcomes:
% of LTWP vs. UC Screened, Screened Positive,
Referred to Treatment & Attended Treatment



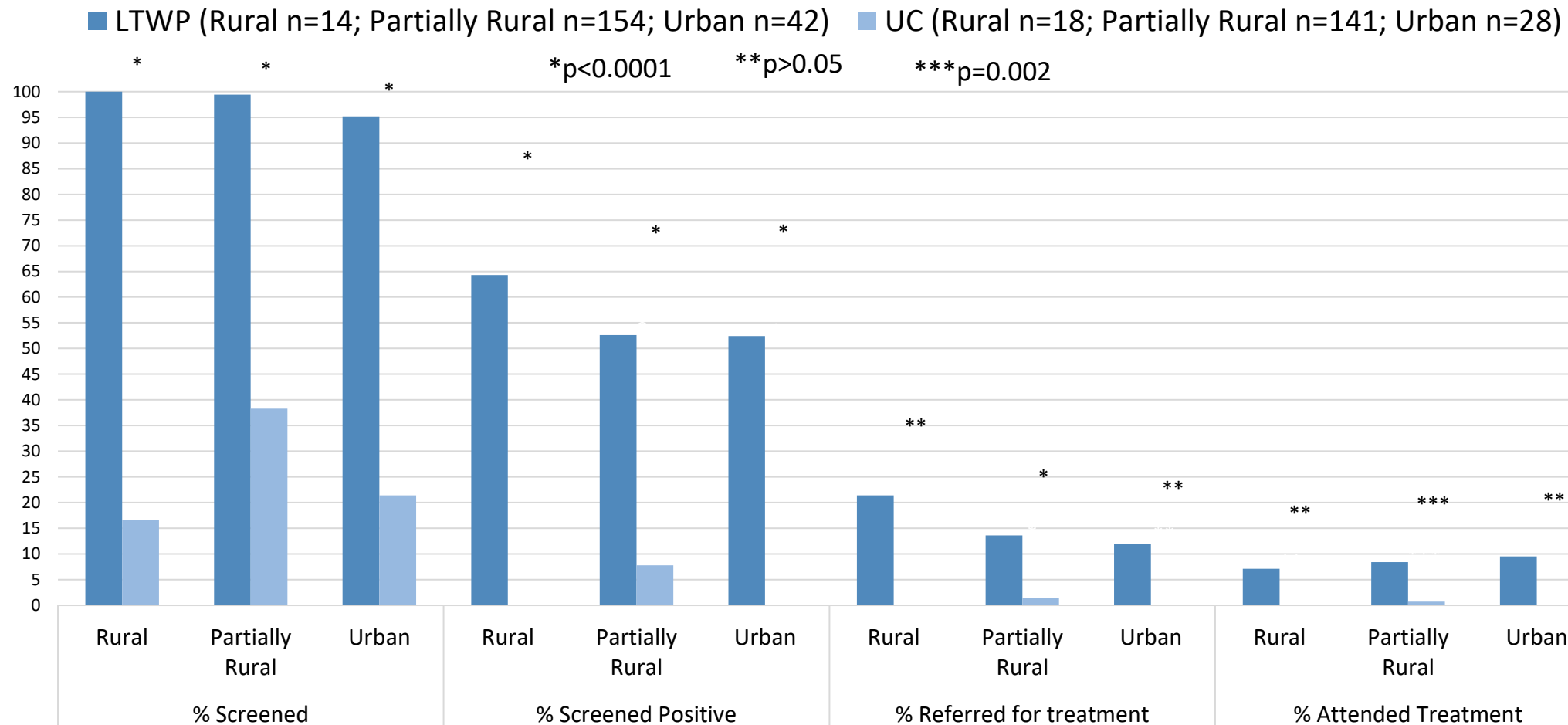
Secondary Outcomes [Participants Completing a Screen]: % of LTWP vs. UC Participants Screened Positive, Referred to Treatment & Attended Treatment



Subgroup Analyses [Black, Non-Hispanic]: % of LTWP vs. UC Participants Screened, Screened Positive, Referred to Treatment & Attended Treatment



Subgroup Analyses [by Rural, Partially Rural and Urban Residence]: % LTWP vs. UC Participants Screened, Screened Positive, Referred to Treatment & Attended Treatment





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Background

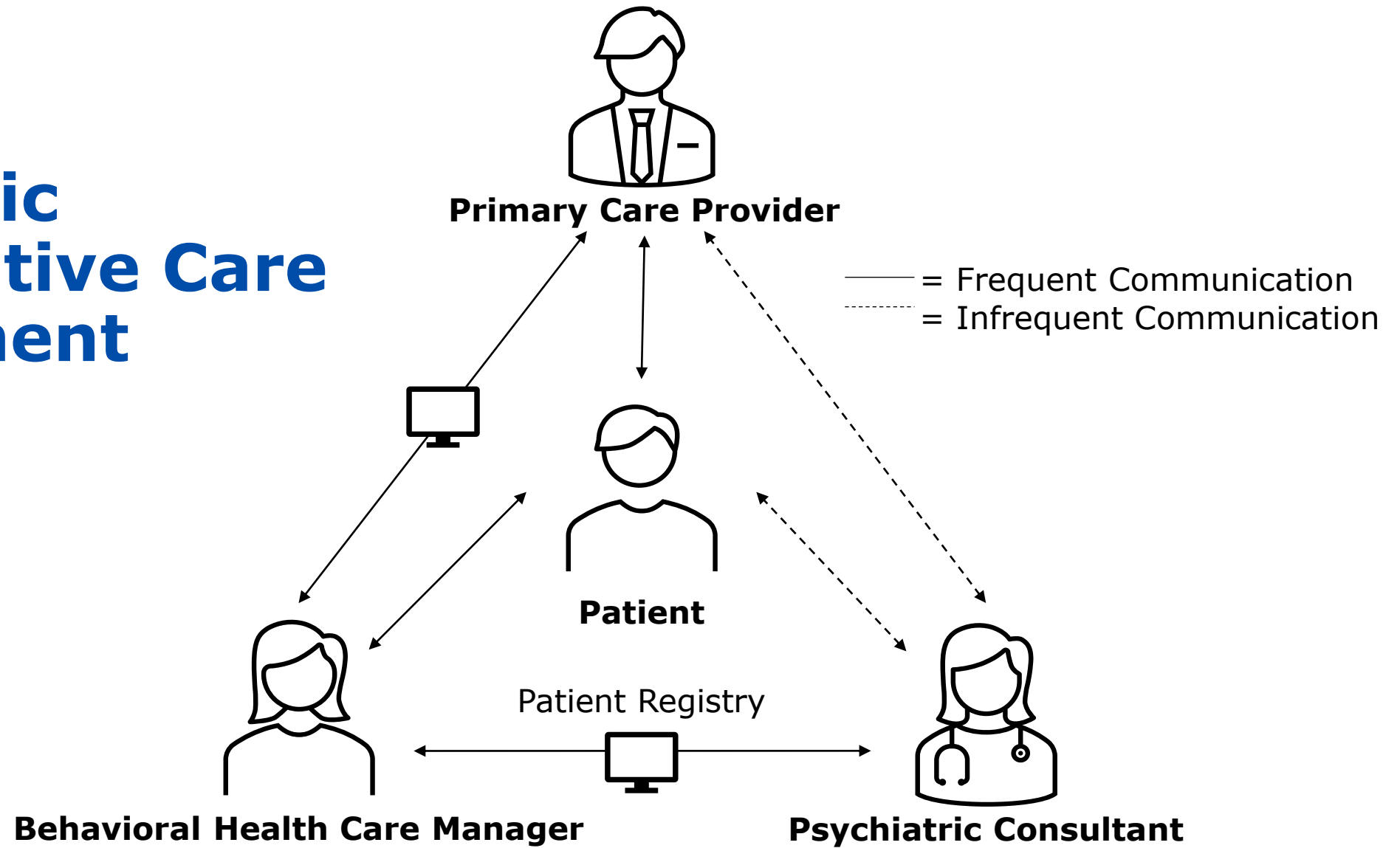
Behavioral Health Crisis

- Mental illness and substance use disorders are highly prevalent in the United States
 - 1 in 5 adults and 1 in 6 youth experience mental illness each year.¹
 - 13.9% of U.S. adults meet the criteria for alcohol use disorder and 3.9% for another drug use disorder.²
 - Acuity has only worsened since pandemic.³
- High costs of healthcare associated with not addressing behavioral health (BH)^{4,5}
- Rural BH especially concerning
 - Lower access to BH treatment despite similar rates.¹
 - Higher rates of suicide in rural communities.⁶
 - BH treatment often addressed in primary care.^{7,8}

Psychiatric Collaborative Care Management (CoCM)

- Model of “integrated care” or “BH integration” – treating BH in the context of primary care
- Strong-evidence base with over 90 clinical trials across a variety of primary care settings,⁹ and adoption has become a key policy priority^{10,11}
- Key components:⁹
 - Team-based Care: Primary care provider, BH care manager, psychiatric consultant
 - Population-focused: universal, preventative screenings and referrals to treatment; patient registries for efficient management
 - Measurement-based: Regularly administered, validated BH assessments to monitor progress toward to reach treatment goals.

Psychiatric Collaborative Care Management (CoCM)



Note. Adapted from University of Washington AIMS Center (2024)



CoCM in Rural Communities

- CoCM has great potential for rural BH:
 - Efficient use of limited BH resources
 - Ability to be conducted via telehealth
 - Embedded in primary care
- BUT, implementation has proved difficult:
 - Limited availability for BH workforce
 - Limited training and implementation resources for rural contexts
 - Financial constraints for startup

Implementation Science

- Implementation science deploys diverse study methods to support the uptake of evidence-based treatments into routine practice.¹²
- Implementation science has been applied broadly to in-person, practice-based CoCM
- Very few implementation science studies examining rural CoCM.^{13,14}
- Even fewer have focused on telehealth-enabled CoCM.¹⁵





MUSC Telehealth
Center of Excellence

171 Ashley Avenue,
Charleston, SC
(843) 792-1414

[TelehealthCOE.org](https://telehealthcoe.org)

Telehealth Centers
of Excellence

Implementation Science

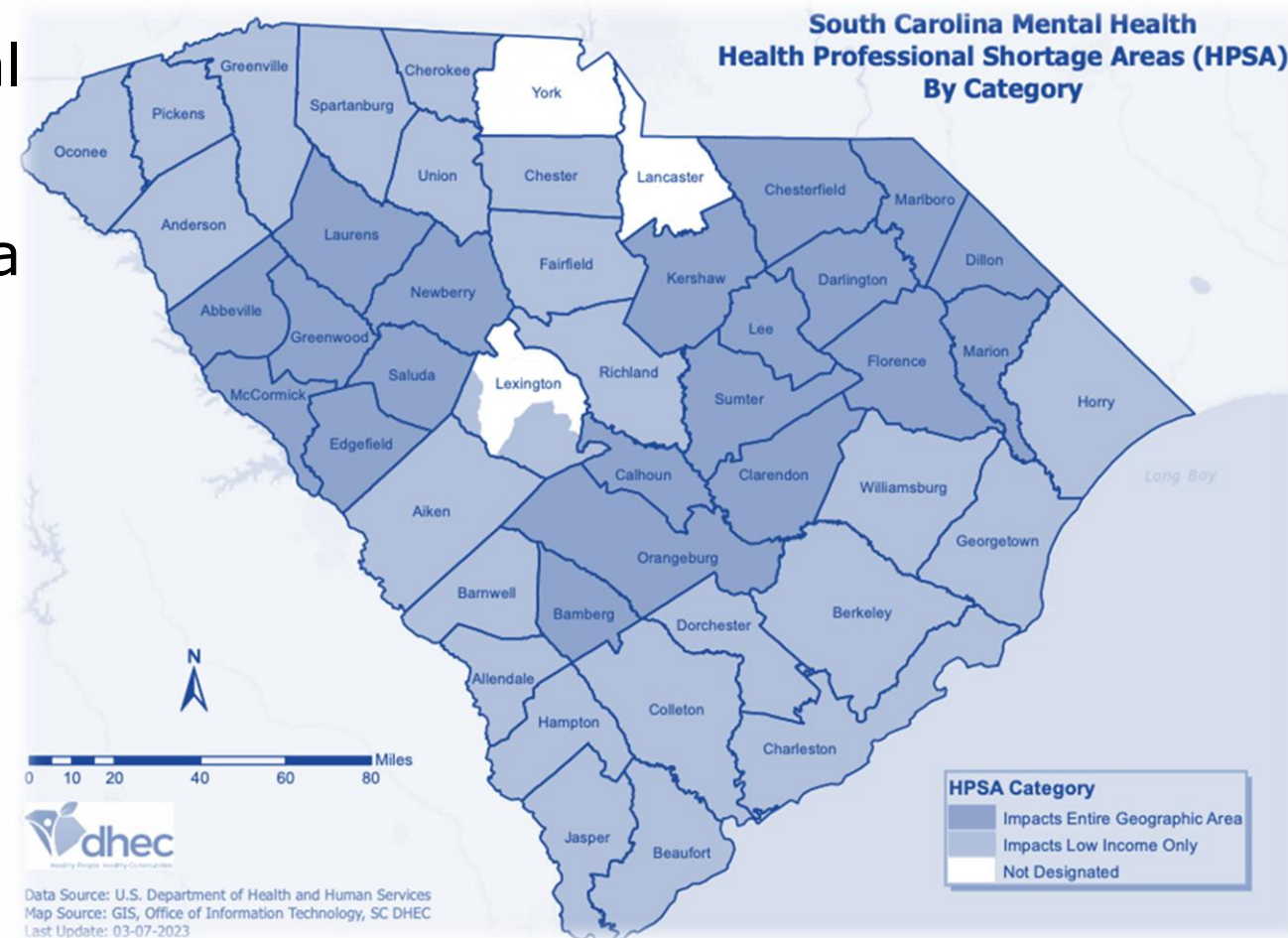
Telehealth Toolkit



- Available on COE website:
 - <https://telehealthcoe.org/wp-content/uploads/2023/07/MUSC-COE-Implementation-Science-Telehealth-Toolkit.pdf>
- Johnson EE, Kruis R, Verdin R, Wells E, Ford DW, Sterba KR. **Development of an Implementation Science Telehealth Toolkit to Promote Research Capacity in Evaluation of Telehealth Programs.** *Telemed Rep.* 2023 Oct 4;4(1):286-291. doi: 10.1089/tmr.2023.0039. PMID: 37817872; PMCID: PMC10561742.

Pilot Background

- 34% of South Carolinians are rural (compared to 19% nationally)²⁸
- 17 of 46 SC counties are without a practicing psychiatrist²⁹
- Regularly ranked in the top 10 worst states for mental health^{30,31}
- Most state is either full or partial MH HPSA

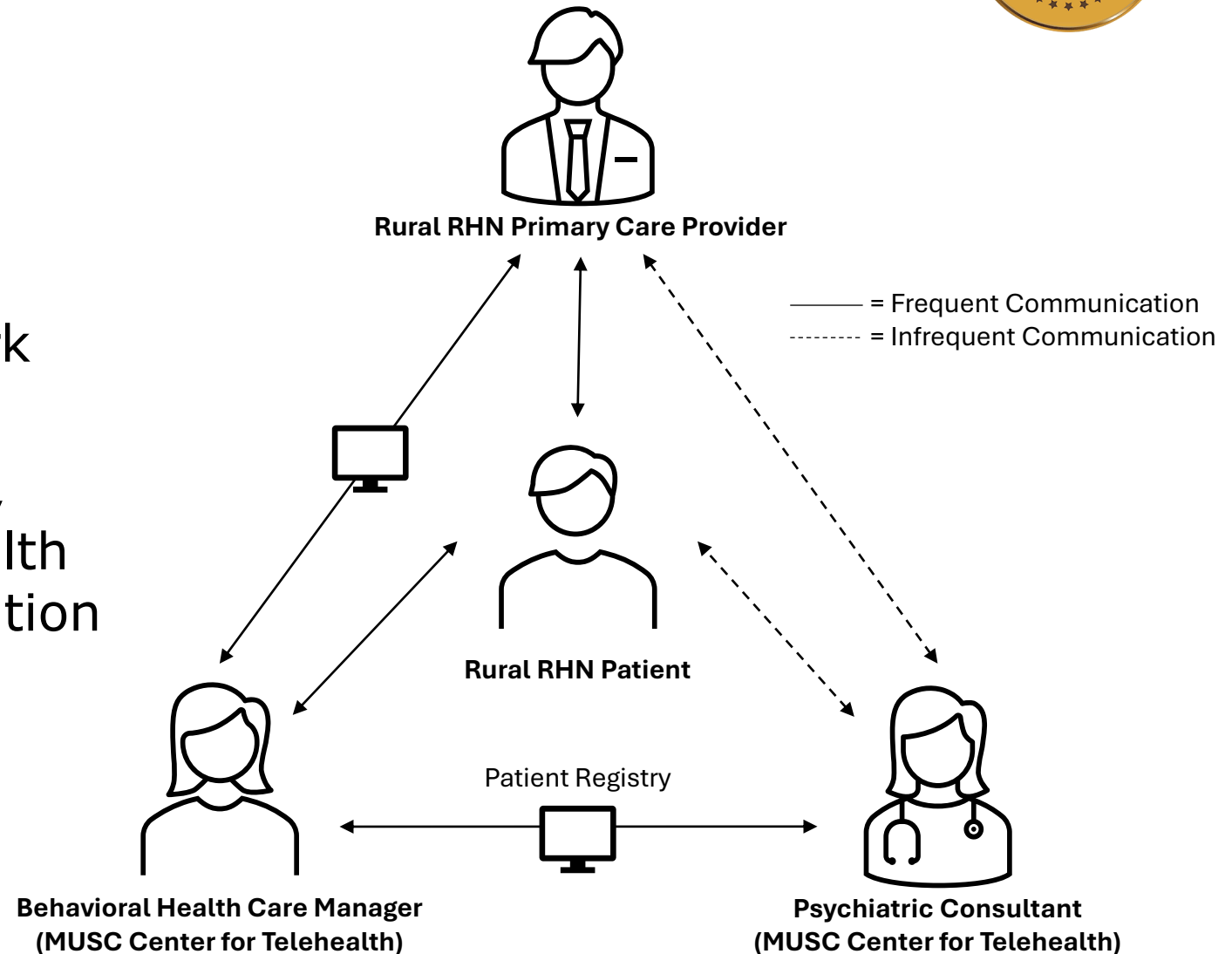


Pilot Background: Historic MUSC Outpatient Telehealth (OT) Program

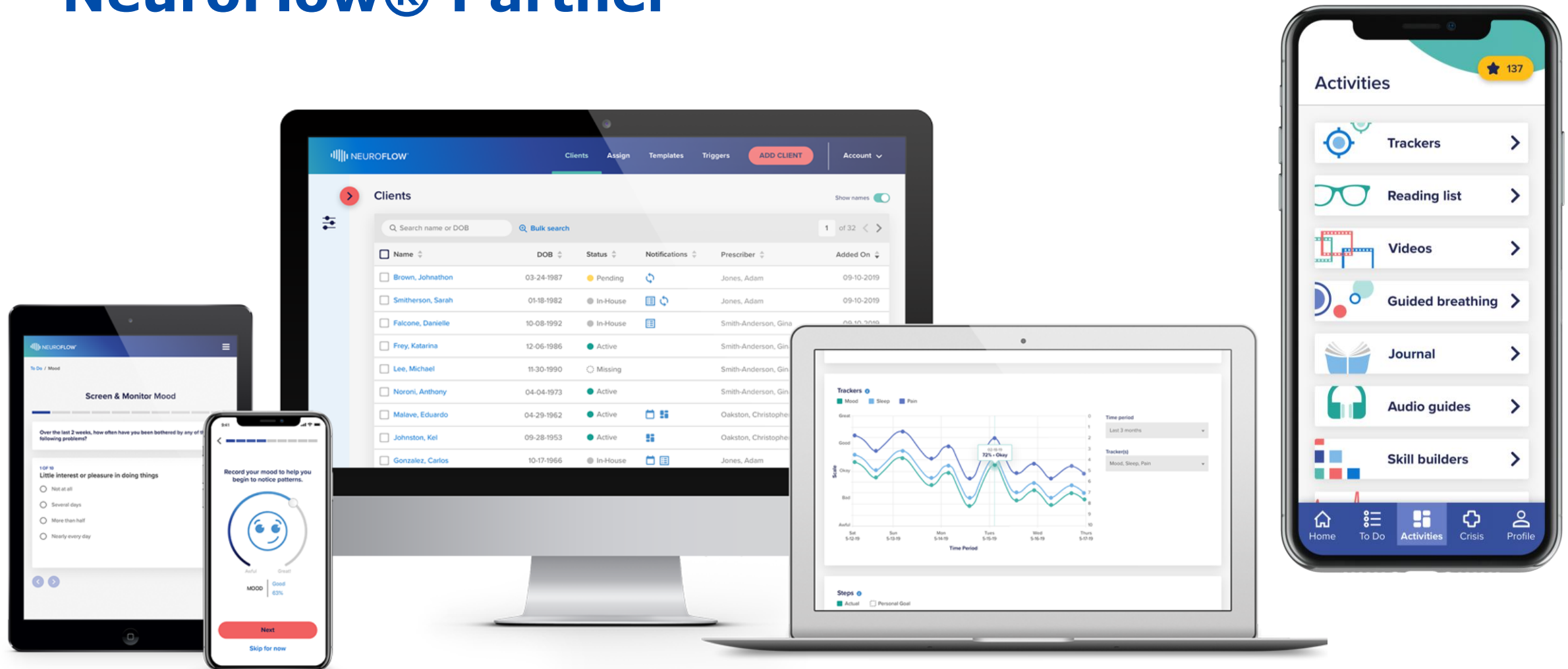
- Started in 2009, MUSC's historic OT program provides psychiatric consultation from MUSC providers to PCPs serving rural and underserved populations³⁵
- The goal of these programs are to support primary care providers and collaborate with them on a patients care plan
- The program currently includes 60 actively referring sites (mainly outside of MUSC) and has been shown effective at saving cost and time for patients participating.
- Challenges with program current state:
 - Relies solely on psychiatric time and does not include broader BH team
 - PCPs want help managing patients (not just consultation)
 - No systematic screening/referral
 - Does not provide stepped care

Pilot Background

- HRSA Telehealth Center of Excellence pilot
- 4 rural regional health network (RHN) primary care practices
- Funding to hire care manager, psych consultant, and telehealth platform, support implementation science evaluation
- Additional technology enhancements provided by telehealth partner



NeuroFlow® Partner



Methods

Methods: Aims & Design

Specific Aims:

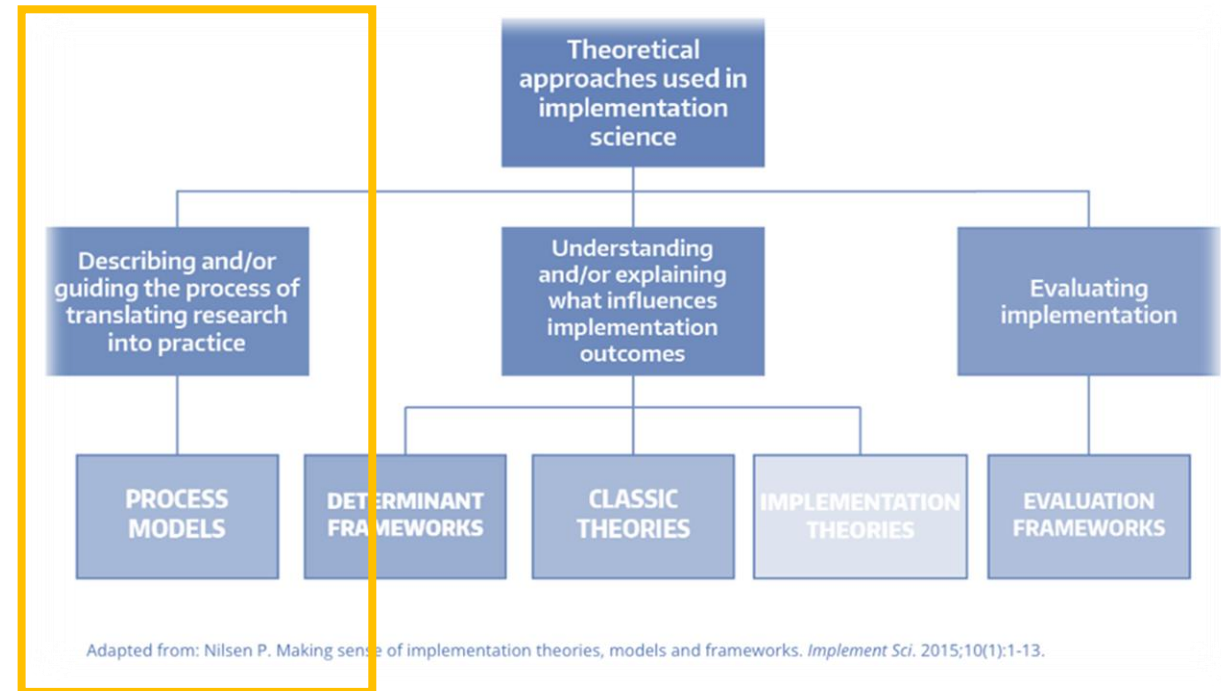
- Determine ideal CoCM program model and implementation strategies to aid uptake
- Identify initial barriers and facilitators to implementation of telehealth-enabled CoCM among the four rural clinics
- Demonstrate the utility of the Dynamic Adaptation Process implementation science framework

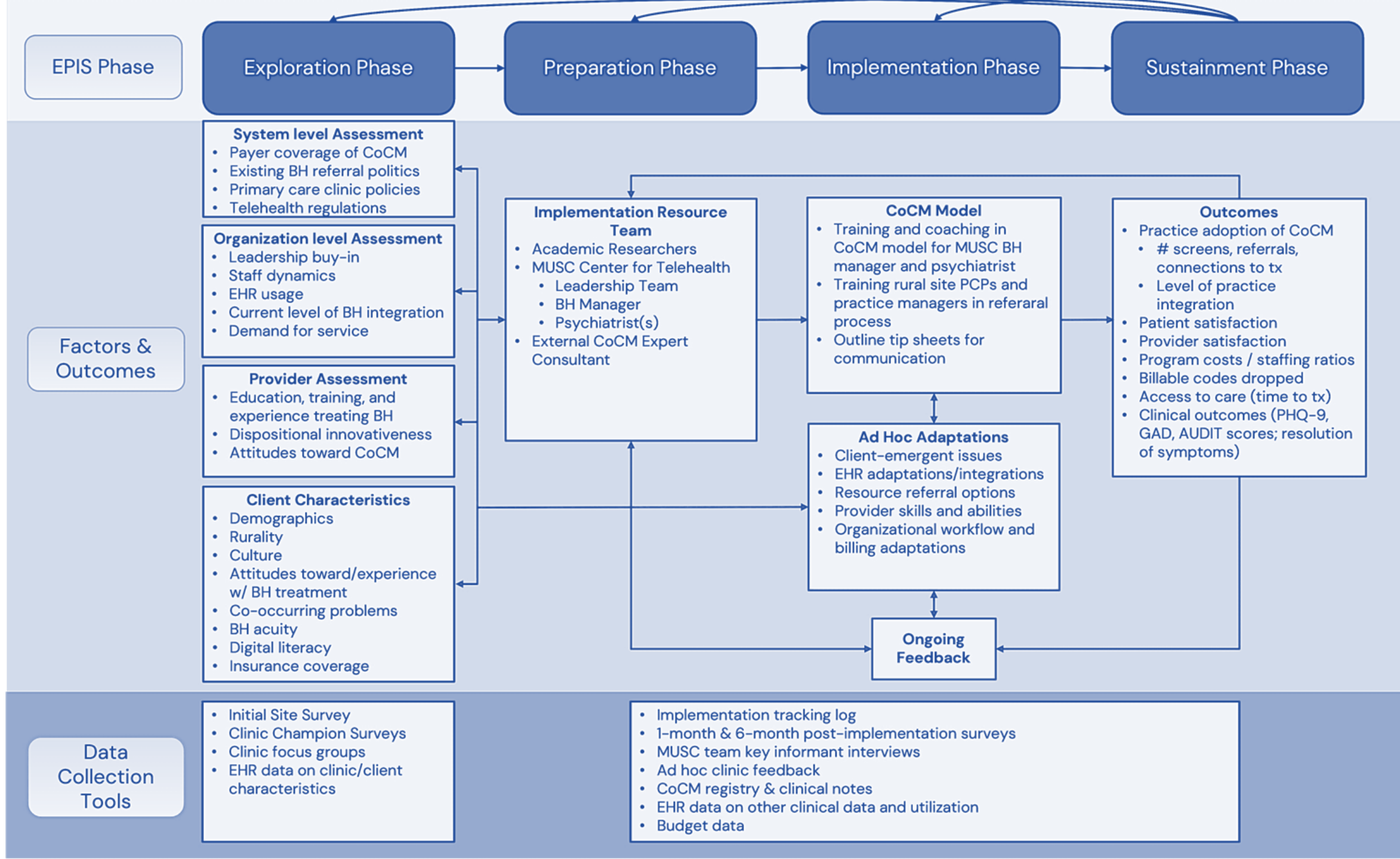
Design:

- Mixed-methods, embedded, chronology case study³²

Methods: Model

- Dynamic Adaptation Process (DAP) Model³³
 - Implementation science process model
 - Focused on adapting evidence-based practices into specific contexts
 - Making adaptations in a *planned* and *considered* manner
 - Based on the Exploration, Preparation, Implementation, and Sustainment (EPIS) framework³⁴
- Adapted the model to guide implementation process





Methods: Analysis

- Use chronological sequencing to develop a timeline of events pertinent to implementation
- Independent analysis of quantitative and qualitative methods
 - Descriptive statistics applied to surveys
 - Coded interviews and qualitative comments using codebook derived from EPIS³⁴:
 - Inner Context, Outer Context, Bridging, and Innovation factors
 - Additional codes regarding questions and implementation recommendations
- Integrated using a weaving approach, organized by the phases of DAP

Results

Exploration Phase

- Implementation Activities
 - Built CoCM care team
 - Workflow and platform configuration
 - Conducted a multi-level assessment
- Multi-level Assessment
 - Site Survey
 - Champion Surveys
 - Clinic Focus Groups

System level Assessment

- Payer coverage of CoCM
- Existing BH referral politics
- Primary care clinic policies
- Telehealth regulations

Organization level Assessment

- Leadership buy-in
- Staff dynamics
- EHR usage
- Current level of BH integration
- Demand for service

Provider Assessment

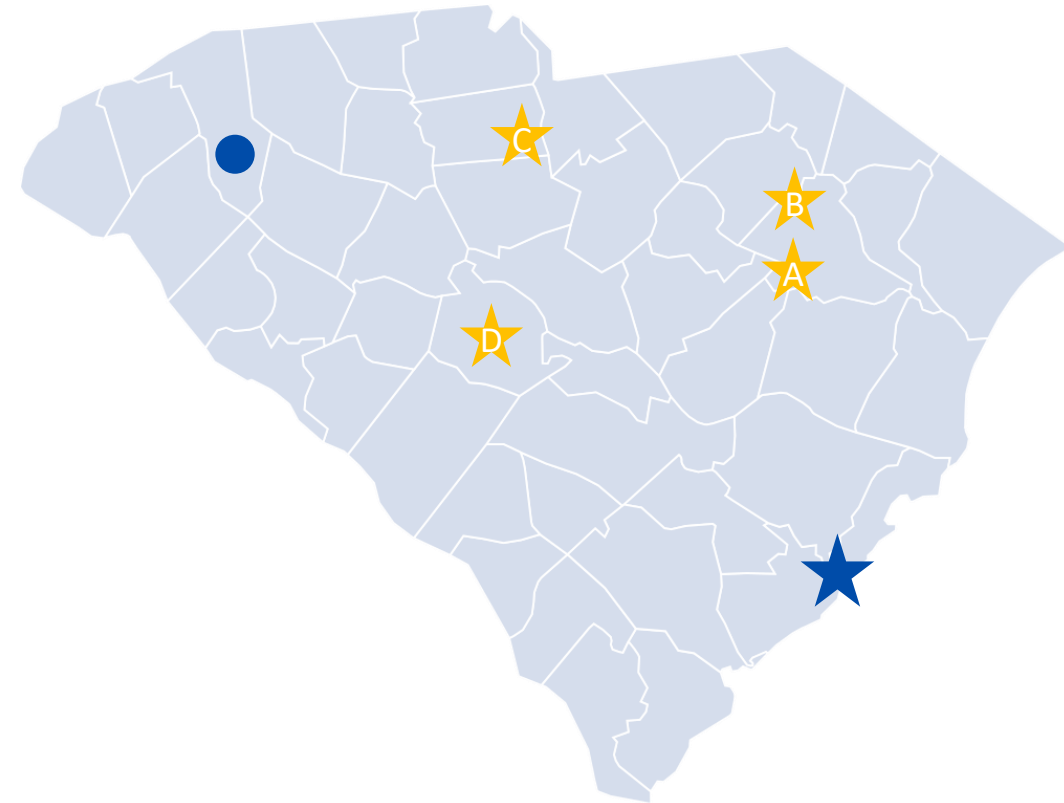
- Education, training, and experience treating BH
- Dispositional innovativeness
- Attitudes toward CoCM

Client Characteristics

- Demographics
- Rurality
- Culture
- Attitudes toward/experience w/ BH treatment
- Co-occurring problems
- BH acuity
- Digital literacy
- Insurance coverage

- Initial Site Survey
- Clinic Champion Surveys
- Clinic focus groups
- EHR data on clinic/client characteristics

Table 1 Pilot Clinic Characteristics



	Clinic A	Clinic B	Clinic C	Clinic D
RHC designation	Yes	No	No	No
Staffing				
Primary care providers (PCP)				
Physician FTE	2	2	1	0
NP or PA FTE	2	1	1	1
Clinical support staff				
RN FTE	0	0	0	0
LPN FTE	3	1	2	0
CMA FTE	4	3	2	1
Behavioral health staff	0	0	0	0
Average number of patients scheduled / day / PCP	≥ 25	≥ 25	≥ 25	15-19
Annual staff turnover rate	< 10%	10 - 25%	< 10%	< 10%
Amount of time on current EHR	1-2 years	3+ years	3+ years	1-2 years
Universal depression screening rate	0-24%	missing	0-24%	50-74%
Patient Demographics				
Race				
American Indian/Alaska Native	0.4%	0.3%	0.4%	1%
Asian	0.4%	1%	0.3%	3%
Black/African American	35%	40%	20%	16%
Native Hawaiian/Pacific Islander	0%	0.1%	1.3%	0.2%
White/Caucasian	63%	56%	78%	78%
Other	1%	2%	1%	3%
Primary Insurance				
Commercial	29%	39%	31%	27%
Medicare	36%	32%	36%	42%
Medicaid	19%	9%	18%	6%
Managed Care	12%	14%	9%	13%
Other	5%	5%	7%	12%

PCP Champion Survey

- PCPs generally disagreed that they they were adequately meeting patients BH needs
- No issues identifying patient BH needs
- 7of 8 reported longer than 8 weeks for patients to see a psychiatrist
- Barriers outlined in Table 3.2

Barriers	Mean (SD)	Median (IQR)
Lack of BH Providers to Refer Patients to	4.0 (0.0)	4.0 (4.0-4.0)
Adequate Financial Resources	3.0 (0.5)	3.0 (3.0-3.0)
Adequate Time	2.9 (0.8)	3.0 (2.0-3.3)
Designated Space for Behavioral Health Services	2.6 (1.2)	3.0 (1.8-3.3)
Patient Stigma around Mental Health	2.6 (0.7)	3.0 (2.8-3.0)
Patient Stigma around Substance Use	2.6 (0.7)	3.0 (2.8-3.0)
Designated Staff to Coordinate	2.5 (1.1)	3.0 (1.8-3.0)
Communication Between Disciplines	2.4 (0.7)	2.5 (2.0-3.0)
Other Issues Have Higher Priority	2.3 (0.7)	2.0 (2.0-3.0)
Adequate Staff Training	2.0 (0.8)	2.0 (1.8-2.3)
Health IT Systems	1.8 (0.7)	2.0 (1.0-2.0)
Obtaining Data Related to Quality Improvement Activities	1.8 (0.7)	2.0 (1.0-2.0)
Primary Care Provider Discomfort Discussing Mental Health	1.6 (0.5)	2.0 (1.0-2.0)
Primary Care Provider Discomfort Discussing Substance Use	1.6 (0.5)	2.0 (1.0-2.0)
Other Staff Commitment	1.4 (0.5)	1.0 (1.0-2.0)
Leadership within my Clinic	1.4 (0.7)	1.0 (1.0-1.3)
Primary Care Provider Commitment	1.3 (0.5)	1.0 (1.0-1.3)
Evidence about the Value of Such Activities	1.3 (0.5)	1.0 (1.0-1.3)

Table 2 Responses Ranking Barriers

Clinic Focus Group Themes

- Outer Context Factors
 - BH strain the PCPs are working under
 - Few referral resources
 - Reliance on local ED
 - Long wait times/distance for referrals
 - Insurance coverage challenges

People that come in and are actively manic and a danger to themselves and others, you literally have to go straight to the ER. We don't have any other resources here... Or it may be days to get them into a state bed somewhere. **Physician 1 (Clinic A)**

And heaven help you if you send them to the ER, they're going to get piled up in a room in the ER and sit there for days until a bed opens up or somebody from mental health comes through and says yeah, they're not suicidal anymore. All right. You can go home and go back to see your family doctor again and then it's kind of back here again.
Physician 2 (Clinic A)

Clinic Focus Group Themes

- Outer Context Factors
 - BH strain the PCPs are working under
 - Few referral resources
 - Reliance on local ED
 - Long wait times/distance for referrals
 - Insurance coverage challenges
- Inner Context Factors
 - PCPs currently manage psychiatry

The timeframe for evaluation is approximately three to four months just to get into the mental health system. And our availability for counselors right now is terrible. We basically have no one. So probably 95% or greater of all of our psychiatric population now are treated in-house.

Nurse Practitioner 2 (Clinic C)

Clinic Focus Group Themes

- Outer Context Factors
 - BH strain the PCPs are working under
 - Few referral resources
 - Reliance on local ED
 - Long wait times/distance for referrals
 - Insurance coverage challenges
- Inner Context Factors
 - PCPs currently manage psychiatry
- Innovation Factors
 - Strong innovation fit due to high need

I think this sounds like a great idea and the fact that access will be opened up, that patients will have access to counseling & we will have access to more advanced providers that can help us with medication recommendations...I'm looking forward to it. I just wish it would happen sooner than June.

Physician 4 (Clinic B)

We have a lot of problems with anxiety and depression, and a lot of patients that are on medications – a lot of different medications that haven't worked, and we definitely need some help.

Physician 5 (Clinic C)

Clinic Focus Group Implementation Recommendations



Team Communication

Preference for asynchronous communication with BHCM regarding patients via EHR



Provider Training

Requested tip sheets with optional synchronous trainings to attend if needed



Patient Education

Requested flyers to assist with patient education when referring to the program

Preparation

- Implementation Activities
 - Finalized Workflow
 - BH Care Manager Site Visits
 - Care team training
- Planned for implementation based on feedback
 - Tip sheets
 - Workflow considerations

BHCM visited site, provided pastries and met providers, office staff, and office manager. This office is busy, interactions were brief but high energy. Providers requested printed referral criteria. I think this would be good, along with the tip sheets for EPIC referrals. BHCM did learn of three providers not on our initial provider list that work in this office. Will pass those names along to [IRT]. [Clinic A] is rural, more so than [Clinic B]. Staff is excited and feel the services are long overdue.

BHCM Site Visit Memo (Clinic A)

Implementation

- Implementation Activities
 - Go live in June 2023
 - Post-implementation surveys (6 weeks, 7 months)
- Post-implementation surveys
- CoCM Care Team interviews

	6-Week Survey (n=5)	7-Month Survey (n=5)
Facilitators to Referral		
Patient Need	4	4
Engagement with BHCM	3	3
Patient interest	3	4
Support Staff	1	2
Provider Tip Sheet	1	0
In-Clinic MH Screenings	1	0
Training	0	1
Patient Handouts	0	0
Other	0	0
Barriers to Referral		
Patient interest	1	2
Other: Patient Tech Access	1	-
Other: EHR Referral Process	-	1
Lack of knowledge re: pilot	0	0
Remembering the pilot	0	0
Ability to describe the pilot	0	0
Adequate time	0	0
Lack of confidence in the pilot	0	0

Table 3 Post-Implementation Referral Facilitators

CoCM Care Team Interview Themes

- Bridging Factors
 - AIMS Center training resources used regularly
- Inner Context Factors
 - PI support on training and orientation to model
 - Commitment to adaptability
 - Prior work with integrated care models
 - Strong communication
 - BHCM site visits for building rapport
 - Telehealth platform
- Innovation Factors
 - Strong endorsement / EBF FIT

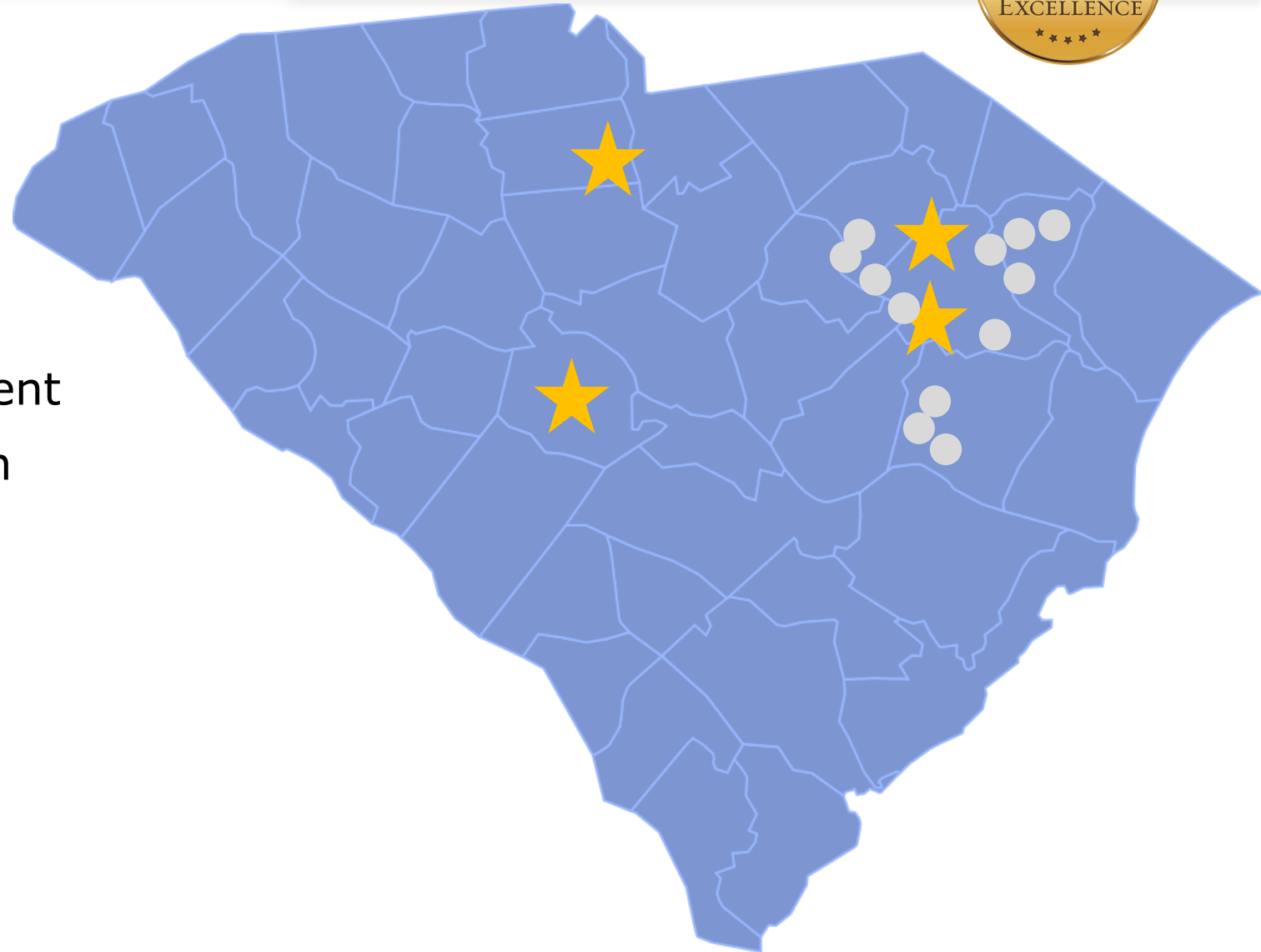
This is – it's amazing model...I've always done integrated care. I've never specifically done collaborative care management, but it is – like, I have drank the Kool-Aid. I am all for it. We have been able to touch so many people, like, who need mental health services, who would otherwise have gone without them doing this. Yeah, I'm a big proponent of this. This is – it's amazing.

BH Care Manager

Sustainment

- Implementation Activities

- Process Improvement
- Planning for growth



Outcomes

- Practice adoption of CoC
- # screens, referrals, connections to tx
- Level of practice integration
- Patient satisfaction
- Provider satisfaction
- Program costs / staffing
- Billable codes dropped
- Access to care (time to
- Clinical outcomes (PHQ-GAD, AUDIT scores; reso of symptoms)

Process Outcomes

- 99 patients enrolled
- 296 referred
- 60+ medication recommendations to PCPs

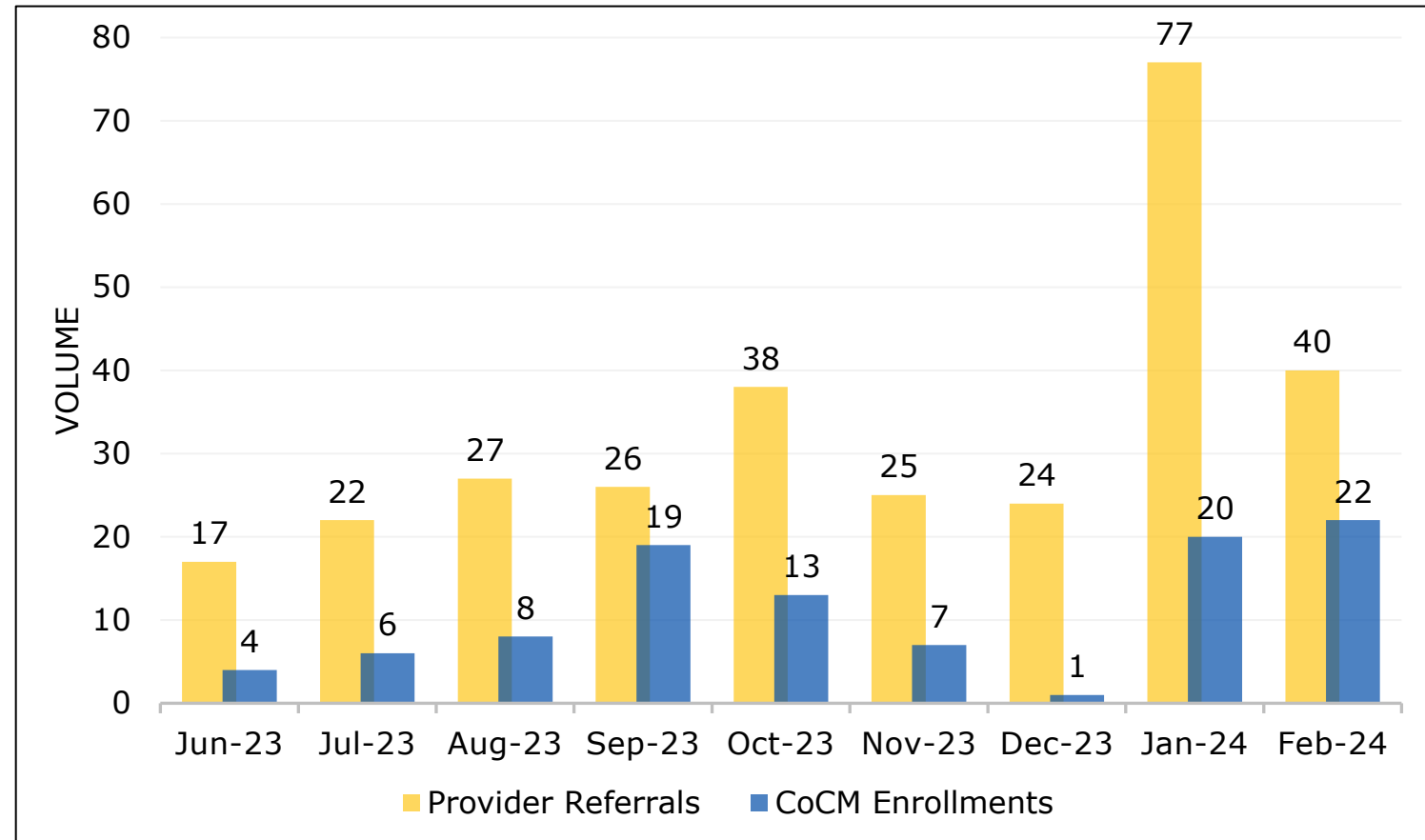
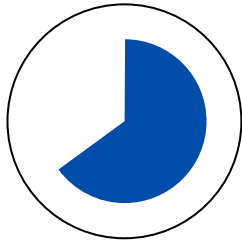


Figure 1 Referrals and enrollment by month

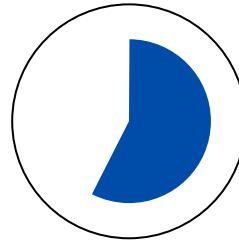
Outcomes



68%

Improved PHQ-9

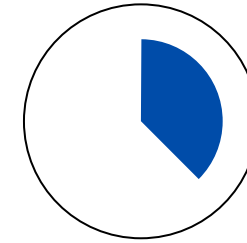
68% of patients reported a reduction in depression symptoms at 8 weeks



58%

Improved GAD-7

58% a reduction in anxiety symptoms at 8 weeks



38%

Engaged in Platform

38% utilized the self-guided psychoeducation tools of the platform)



Discussion

- Utility of the DAP model
- Importance of remote CoCM care team in enabling program
- Scarcity of BH referral sources enabler to program
- Value of a community-academic partnership
- Limitations
 - Generalizability
 - Single health system
 - Small sample size
 - No billing constraints / caseload pressures



Discussion

- Future directions
 - Non-affiliated clinics (HRSA BHI Grant)
 - Expansion across MUSC
 - Referral to treatment gap
 - Technology engagement



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Discussion / Q&A

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