Clemson University
School of Health Research
Spring Information Exchange
February 26, 2021 | 9 - 10:10 AM
Welcome

Windsor Westbrook Sherrill, PhD
Associate Vice President for Health Research
Professor, Public Health Sciences
Chief Science Officer, Prisma Health-Upstate
Operationalizing Clemson’s Strategic Plan

Health Innovation Research Cluster

- Biomedical Devices
- Biomaterials
- Regenerative Medicine
- Mobile Health Technologies
- Health Informatics
- Architecture and Health

- Health Care Access and Delivery
- Health Predictors
- Health Disparities
- Genetic Disorders & Personalized Medicine
- Health Care Systems
Good Luck and Thank you!!

Jeannette Saunders

Retiring from Clemson-Prisma Health
Office of Sponsored Programs
Agenda

• Welcome and Introductions
  • Windsor Westbrook Sherrill, PhD
• CUSHR Updates - Thomas Britt, PhD
  • Team
  • Appointment Committee – Thomas Britt, Chair
  • Grant Awardees
• Announcements
• Addiction Research Center
  • Alain Litwin, MD, MPH
  • Angelica Perez, PhD
• Upcoming Events
Call for Faculty Scholar Applications

Faculty Scholar Appointment and Reappointment
(Reappointment applicable for any faculty holding an appointment for >3 years)

Faculty Scholars are Clemson faculty members who demonstrate a strong record of health research, teaching and service in collaboration with other Clemson faculty and students as well as Prisma Health–Upstate researchers and other health partners.

Please send your completed application to CUSHR cushr@clemson.edu by Wednesday, March 31, 2021.

Application Deadline: March 31, 2021
Faculty Appointment Agreement: 3-year term (fixed, non-tenure)
Spring 2021 Faculty Fellow

Hugo Sanabria, PhD
Associate Professor,
Department of Physics and Astronomy

Research interests: Protein Misfolding Diseases, Synaptic Plasticity, Protein Structure, Protein Dynamics, Single-molecule Fluorescence Spectroscopy

Congratulations!
Fall 2020 Appointed Clinical Faculty

- Kenneth Becker, MD
  Hospital Medicine
  *Clinical Associate Professor*

- Alfredo Carbonell, DO
  General Surgery
  *Clinical Professor*

- Arwen Declan, MD, PhD
  Emergency Medicine
  *Clinical Assistant Professor*

- Drew Epling, MD
  Diagnostic Radiology
  *Clinical Associate Professor*

- Sagar Gandhi, MD
  Vascular Surgery
  *Clinical Assistant Professor*

- Phillip R. Thomas, DO
  Family Medicine
  *Clinical Assistant Professor*

- Aaron Zeller, MD
  Family Medicine
  *Clinical Associate Professor*

Congratulations!
Fall 2020 Reappointed Clinical Faculty

Matthew Bitner, MD, Med
Emergency Medicine
Clinical Associate Professor

Thomas Blackwell, MD
Emergency Medicine
Clinical Professor

Christopher Carsten, MD
Vascular Surgery
Clinical Professor

Amy Crockett, MD, MSPH
Maternal-Fetal Medicine
Clinical Professor

Kacey Eichelberger, MD
Obstetrics and Gynecology
Clinical Associate Professor

Jennifer Hudson, MD
Pediatric Hospital Medicine
Clinical Associate Professor

Matthew Hudson, PhD, MPH
Cancer Care Delivery Research
Clinical Associate Professor

Desmond Kelly, MD
Pediatrics
Clinical Professor

Michael Kissenberth, MD
Orthopedic Sports Medicine
Clinical Professor

Jonathan Markowitz, MD
Pediatric Gastroenterology
Clinical Professor

Phillip Moschella, MD, PhD
Emergency Medicine
Clinical Assistant Professor

Mark O’Rourke, MD
Hematology Oncology
Clinical Assistant Professor

Ronald Pirrallo, MD, MHSA
Emergency Medicine
Clinical Professor

Scott Sasser, MD
Emergency Medicine
Clinical Professor

Jesse Stafford, MD
Pathology
Clinical Professor

Peter Tilkemeier, MD
Internal Medicine - Cardiology
Clinical Professor

Mark Wess, MD, MSc
General Internal Medicine
Clinical Associate Professor

Thomas Wheeler, MD, MSPH
Obstetrics and Gynecology
Clinical Professor
2020 CUSHR COVID Research Launch Grant Awardees

Dr. Jordon Gilmore, Dr. Nancy Meehan, Caitlin Kickham & Dr. Jerome McClendon
Predicting COVID Symptom Severity

Dr. Jeff Anker & Dr. Delphine Dean
Development of a New Saliva Test

Dr. William Haller, Dr. Miao Li, Dr. Ye Luo, Dr. Yu-Bo Wang & Patricia Carbajales-Dale
Tracking the COVID-19 Outbreak in the Upstate

Dr. Alexey Vertegel, Dr. Jeremy Tzeng, Dr. Delphine Dean, Dr. Alfredo Carbonell, Dr. Yuliya Yurko & Beth Smith
Developing a Longer-Lasting Topical Disinfectant

Dr. Diana Vanegas & Dr. Eric McLamore
Developing a New COVID Diagnostic Test
Announcements

Funding Opportunities
Healthy Greenville 2021 Grant Initiative

Healthy Greenville will make grants that improve at least one of the four focus areas of the current Community Health Needs Assessment (CHNA) of Prisma Health:

- Access to Healthcare
- Social Determinants of Health
- Mental/Behavioral Health
- Healthy Eating and Exercise

Visit [greenvillehealthauthority.org/healthygreenville/](http://greenvillehealthauthority.org/healthygreenville/) for a detailed grant timeline

Letter of Intent Deadline: March 1, 2021
Application Deadline (By Invitation): July 31, 2021
Funds Available for Award: $650,000
Funding Opportunity: The National Institute of Biomedical Imaging and Bioengineering (NIBIB) and VentureWell

NIBIB and VentureWell are challenging undergraduate student teams to develop technology solutions to unmet needs in any area of healthcare. Three NIH partners, NIH Office of AIDS Research, the National Institute of Minority and Health Disparities, and the National Cancer Institute are providing a prize each for 1) technologies for HIV/AIDS prevention and/or care, 2) technologies for underrepresented populations and/or for low-resource settings, and 3) technologies for cancer prevention, diagnosis and treatment prize.

Submissions are open from January 4 – June 1, 2021
**Funding Opportunity: Pfizer COVID-19 Vaccine Grants**

**Pfizer** is launching their COVID-19 vaccine grant program in phases. The following areas of research will be considered:

- Studies evaluating COVID-19 burden of disease and sero-epidemiological surveys among specific populations
- Epidemiology studies evaluating direct & indirect impact, including modeling approaches, of Pfizer’s vaccine particularly in specific patient populations
- Studies measuring the impact of efforts to overcome vaccine hesitancy and enhance vaccine uptake

**Contact:** GMG@pfizer.com
Funding Opportunity: Major Research Instrumentation Program

Clemson University Division of Research is requesting proposals for its Major Research Instrumentation Program, which provides financial support for the purchase or replacement of major research equipment that will impact funding, scholarship and research productivity.

Proposals are due March 24, 2021
Addiction Research Center

Alain Litwin, MD, MPH
Executive Director, Addiction Research Center
Vice Chair of Academics and Research, Department of Medicine
Professor of Medicine, University of South Carolina School of Medicine – Greenville
Clemson University School of Health Research
Alain.Litwin@prismahealth.org

Angelica Perez, PhD
Director of Development and Innovation, Addiction Research Center
Clemson University School of Health Research
aperezl@clemson.edu
Prisma Health and Health Sciences Center

ADDICTION RESEARCH CENTER

Alain Litwin, MD, MPH
Executive Director, Addiction Research Center
Professor, Clemson University School of Health Research
Professor of Medicine, University of South Carolina School of Medicine - Greenville
Vice Chair of Academics and Research, Department of Medicine
Vision Statement

To develop and evaluate disruptive models of addiction treatment, prevention, and recovery that will transform care across the United States and globally.
Mission Statement

We are achieving our vision by:

1. Growing an ecosystem of stakeholders dedicated to evidence-based care.
2. Building a robust research and clinical infrastructure to foster innovative research and models of care.
3. Serving as the umbrella organization for all addiction-related research.
4. Promoting interdisciplinary collaborations and team science.
5. Leveraging technology and big data to move the field forward.
6. Accelerating the careers of the next generation of researchers and clinicians through mentorship, opportunities, resources, and connections.
The Addiction Research Center
ARC Team

Aaron Zeller
Alex Ewing
Allie Conry
Amy Crockett
Brianna Norton
Britt Baker
Brooke McPhail
Bryan Miller
Caitlin Kickham
Chris Goodman
Cindy Corbett
Dale Savidge
Darin Thomas
Dawn Blackhurst
Des Kelly
Edwin Lathan
Greg Huckins
Heather Corley
Hubert Yarborough
Jenn Hudson
Jessica Mavis
Jessica Owens
Jiajing Niu
Jim Thrasher
John Absher
John Brooks
Jonathan Lancaster
Kacey Eichelberger
Karen Lommel
Katie Beben
Kerry Howard
Kevin Walker
Khoa Truong
Kimbley Smith
Kristine Boswell
Krupa Merchant
Laura Stanley
Lauren Demosthenes
Lior Rennert
Lu Shi
Marc Burrows
Margaret Garrett
Mary Katherine Sosebee
Matthew Akiyama
Matt Tucker
Meenu Jindal
Melanie Miller
Meredith Eicken
Michelle Deems
Mike Guyton
Mike McClain
Paul Bornemann
Phil Thomas
Phyllis Raynor
Quang Pham
Rachel Mayo
Rebecca Maddox
Rich Jones
Ron Gimbel
Sarah Floyd
Tina Harris
Tricia Lawdahl
Trish Melling
Veronica Parker
Will Hand
Xia Jing

ARC Interns and Scholars

Akhila Padi
Bailee Dover
Catherine Wei
Jeremy Grenadier
Madhuri Martin
Mina Rasmani
Rahul Raghavan
Roann Abdeladl

Health Sciences Center

Prisma Health
Clemson University
Furman
University of South Carolina
EDUCATION AND MENTORING CORE

• Early Career Accelerator Program – faculty investigators
  • 15 mentors and mentees working on submitting NIH K and R awards in 2021

• Summer Research Scholars Program – medical students

• Monthly Addiction Research Collaborative Forum – diverse stakeholders

• Other research educational programs
  • Post-docs
  • Undergraduate and graduate student internship programs

• Clinical training programs – medical, nursing, and nurse practitioners
  students as well practicing physicians and nurse practitioners
Patients speak

“I could never put into words what this program has done for me. The staff and doctors are truly one of a kind. Not only do I have my life back, but I also have the tools and knowledge to manage and understand my addiction. I am forever grateful!”

“This program gave me my life back! The doctors are very sincere, and I feel they truly care about me! There are a multitude of resources at your fingertips. All you have to do is ask. Since beginning the program, every single relationship, both personal and professional, has flourished. I feel normal and more like myself than I have in years, and for that I am grateful.”

“The recovery program has been the family to me that I never had. I have been offered the help that I was always refused.”

Prisma Health Recovery Program
Internal Medicine Clinic
876 W. Faris Rd
Greenville, SC 29605
P 864-455-5648

Comprehensive treatment for addiction

Recovery Program

PrismaHealth.org
DATA CORE
Moonseong Heo, PhD

• Provide data and statistical support for all phases of ARC research projects and also for all ARC-related research initiatives and the development of protocols and applications for peer-reviewed funding:
  • Formulation of testable hypothesis and end point outcomes, Experimental design, Sample size determinations, Data collection processes, Monitoring, Statistical analysis plan, Analysis of data, and Reporting for manuscript writing and research grant applications

• Provide cleaned quality research data along with a pertinent codebook in a timely manner meeting deadlines for analyzing and reporting findings of study outcome.
# Data Core: Members and Expertise

<table>
<thead>
<tr>
<th>Name</th>
<th>Primary Expertise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moonseong Heo</td>
<td>Clinical Trial Design and Analysis</td>
</tr>
<tr>
<td>Lior Rennert</td>
<td>Public Health Data Modeling</td>
</tr>
<tr>
<td>Mirinda Gormley</td>
<td>Systemic Reviews/Meta Analysis, Observational Data Analysis</td>
</tr>
<tr>
<td>Trayson Llano</td>
<td>EPIC EHR Data Report Out</td>
</tr>
<tr>
<td>Alex Ewing</td>
<td>Statistical Consulting</td>
</tr>
<tr>
<td>Jiajing Niu</td>
<td>General Statistical Analysis</td>
</tr>
<tr>
<td>Smitty Heavner</td>
<td>Clinical Informatics</td>
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</tbody>
</table>

Health Sciences Center
Data Core: Future Directions

- Construct a comprehensive data capturing, managing and monitoring system by identifying and seamlessly linking diverse data sources for research purposes: “Made” data: Clinical data, Instrument questionnaire data, Lab data, Imaging data; and “Found” data: Medical record data, Administrative data
- Secure data server space dedicated to ARC
- Recruit a data manager who will conduct and oversee all data support activities

<table>
<thead>
<tr>
<th>Made Data</th>
<th>Made Data</th>
<th>Found Data</th>
<th>Found Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>Observational</td>
<td>Administrative</td>
<td>Other Types of Big Data</td>
</tr>
<tr>
<td>• Data are collected to investigate a fixed hypothesis.</td>
<td>• Data may be used to address multiple research questions.</td>
<td>• Data are not collected for research purposes.</td>
<td>• Data are not collected for research purposes.</td>
</tr>
<tr>
<td>• Usually relatively small in size.</td>
<td>• Data may be very large and complex (but usually smaller than big data).</td>
<td>• May be very large and complex.</td>
<td>• May be very large and very complex.</td>
</tr>
<tr>
<td>• Usually relatively uncomplex.</td>
<td>• Highly systematic.</td>
<td>• Semi-systematic.</td>
<td>• Some sources will be very unsystematic (e.g. data from social media posts).</td>
</tr>
<tr>
<td>• Highly systematic.</td>
<td>• Known sample / population.</td>
<td>• May be messy (i.e. may involve extensive data management to clean and organise the data).</td>
<td>• Very messy / chaotic.</td>
</tr>
<tr>
<td>• Known sample / population.</td>
<td></td>
<td>• Multidimensional (i.e. may involve multiple fragments of data which have to be brought together through data linkage).</td>
<td>• Multidimensional (i.e. may involve multiple fragments of data which have to be brought together through data linkage).</td>
</tr>
</tbody>
</table>

Connelly et al, Social Science Research, 2016;59:1-12
PRESENTATIONS LINEUP

• Projects focused on addiction
• Projects focused on infectious diseases
• Projects focused on education
Inpatient Link to Peer Recovery Coaching

Kaileigh Byrne, PhD
Clemson University

Prerana Roth, MD
Prisma Health
Inpatient Link to Peer Recovery Coaching: Results from a Pilot Randomized Controlled Trial

Public Health Concern:

- ~17% of hospitalized patients have a SUD
- Only 10% of SUD patients self-refer to receive treatment
- No system in place to treat underlying SUD in inpatient setting

Proposed Solution:

- Implement a care team-initiated link to recovery coaching in inpatient setting
- Determine whether this intervention is an effective inpatient option that can improve SUD care
- Funded by Prisma Health Transformative Seed Grant
Study Design

- **Participants**: Patients ($N=98$) hospitalized with SUD at Greenville Memorial

- **Study Overview**: Prospective randomized controlled trial
  - Two-arm, 6-month longitudinal study
Study Results

• Compared to the control, those in the intervention condition had:

1. Greater engagement in recovery services at all post-baseline time points
2. Diminished alcohol use for those with AUD overall
3. Decreased substance-related ED visits

A Randomized Pilot Trial of Web-Based Cognitive-Behavioral Therapy and Peer Recovery Coaching for Buprenorphine-Maintained Individuals

<table>
<thead>
<tr>
<th>Public Health Problem</th>
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<tbody>
<tr>
<td>~ 2.1 million people have OUD in the US¹</td>
</tr>
<tr>
<td>Only 58% of individuals who initiate MOUD are retained 6 months later²</td>
</tr>
<tr>
<td>Individuals with OUD present multiple comorbid SUDs³</td>
</tr>
<tr>
<td>High rates of overdose after MOUD discontinuation⁴</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prior Proposed Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBT</td>
</tr>
<tr>
<td>CBT as an add-on to MOUD has failed to reduce drug use or increase treatment retention</td>
</tr>
<tr>
<td>A web-based CBT (CBT4CBT) provided favorable results</td>
</tr>
<tr>
<td>Recovery coaching</td>
</tr>
<tr>
<td>Useful for improving initiation to MOUD</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Our STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>An intervention combining a web-based CBT training (CBT4CBT) and Recovery Coaching for individuals with OUD receiving MOUD</td>
</tr>
</tbody>
</table>

¹Substance Abuse and Mental Health Services Administration. Key Substance Use and Mental Health Indicators in the United States: Results from the 2016 National Survey on Drug Use and Health. Rockville, MD; 2017.
³Bogan C et al. Implementation of emergency department-initiated buprenorphine for opioid use disorder in a rural southern state. J Subst Abuse Treat. 2020;112s:73-78
⁴Cornish R, et al. Risk of death during and after opiate substitution treatment in primary care: Prospective observational study in the UK General Practice Research Database. BMJ. 2010; 341(7799):928
Design and Methodology

**Study Design:**
- Prospective randomized controlled trial

**Participants:**
- Individuals with OUD ($N=60$) receiving office-based buprenorphine

**Groups:**
- CBT4CBT + Recovery Coaching
- Treatment as Usual (TAU)

**Study Outcome Measures:**
- Drug use (primary)
- Retention to MOUD (secondary)

---

**Funded by Prisma Health Transformative Seed Grant**
Mechanisms of Response to Web-Based Cognitive-Behavioral Therapy and Peer Recovery Coaching for Buprenorphine-Maintained Individuals in a Pilot Clinical Trial

Rationale

- Individuals with OUD are vulnerable to relapse due to poor cognitive control and biased attention towards drug-related cues
- Strategies delivered in the intervention (CBT4CBT+RC) may improve cognitive strength or attention control, which may reduce risk of relapse.

Aims

To examine whether (a) cognitive functioning and (b) neurophysiological responses to drug-related cues change across treatment differentially by condition (CBT4CBT+RC vs TAU)

Study under consideration for funding as a Prisma Health Transformative Seed Grant (2021-2022)

Methods

- A subsample of participants (N=30)
- Outcome measures: inhibitory control (CPT); attention control (Stroop task); cue-reactivity (IAPS)

Procedures

- Screening and recruitment of individuals with OUD, Randomization
- Assessment TAU
- Assessment CBT+RCT
- Stroop, CPT & Cue reactivity tests in Neuro Lab - Baseline
- Stroop, CPT & Cue reactivity tests after 8 weeks

Picture 1. EEG, heart rate, respiration and electrodermal activity

Picture 2. Participant during the laboratory session
iPAL – intelligent Pervasive Augmented reality

Angelica Perez, PhD: Co-PI
Clemson University

Laura Stanley, PhD: PI
Clemson University & Montana State University
iPAL is a 4-year research project sponsored by the National Science Foundation and the National Institute of Health. $1.2 M
1-min in-App Craving + Triggers
Assessment

Recommendation
- Virtual
Therapist

CBT Therapist
Integrated Videos

HRV Biofeedback
+ ART

AR
Glasses

Smartphone

Health Sciences Center

Survey Start

Let's Begin the Survey

This short survey is designed to help us evaluate your current mood and craving levels. It will take
approximately 2 minutes to complete and provide us with valuable data for our recommender system. If
you want to take the survey again or at a later time, it's available in the settings tab.

Thank you!

Continue

Skip

Recommendation
- CBT – 1

Recommendation
- CBT – 2

Survey Complete!
Based on your responses, we recommend that you watch the following CBT Module:

I don't want to watch this video.

Begin

Survey Complete!
Based on your responses, we recommend that you complete a biofeedback exercise. Please
choose a scene below:

I don't want to do this exercise.

Begin
Virtual Therapist

Smartphone Interface and User Experience

Biofeedback Exercise

Health Sciences Center
Oconee County

Bureau of Justice Assistance Projects

Bryan Lee Miller, PhD  
Clemson University

Taylor Beachler, MPH  
Prisma Health

Health Sciences Center
Rural Responses to the Opioid Epidemic

Comprehensive Opioid, Stimulants, and Other Substances Abuse Program (BJA) - $750,000 (January 2020 – September 2021)

• Goals: Decrease morbidity and mortality associated with opioid overdose in Oconee County, SC.

• Activities:
  • Strengthening the Epidemiologic and Public Health Infrastructure
  • Community Level Opioid Overdose Prevention Efforts
  • Public Health/Public Safety/Behavioral Health Collaborations
  • Increase recovery supports

• Status: Implementation Phase
Oconee County Detention Center

Justice and Mental Health Collaboration Program (BJA) - $561,687 (October 2020 – September 2023)

• Goals: Reduce the number and length of stay of individuals in jail with CMISA (co-occurring mental illness and substance abuse).

• Activities:
  • CIT (crisis intervention team) training for sworn deputies
  • MHFA (mental health first aid) & CIT for all jail employees
  • Jail-based case management and tele-health for CMISA
    • Screening/assessment for mental health, substance abuse, and criminogenic risk

• Status: Planning Phase
Oconee Addiction Recovery Solutions Center

Comprehensive Opioid Stimulant and Other Substance Abuse Program (BJA) - $586,172 (October 2020 – September 2023)

• Goals: Provide a treatment as an alternative-to-incarceration programs and support services

• Activities:
  • Residential treatment (28-day program)
  • Peer support/EBPs (think for a change, moral reconation therapy)
  • Transitional/recovery housing
  • Medication-assisted treatment (MAT)

• Status: Planning Phase
COMMIT

Michelle Strong, MSN, FNP-BC
Prisma Health
Prerana Roth, MD
Prisma Health
Modality of Care Study: Randomized Control Trial

- **Treatment as Usual (varied per site)**
  - Current Prisma Health Standard of Care
    - Symptom management
    - Consideration for me standard induction with sublingual Buprenorphine
    - Referral to outpatient recovery clinic or patient method of choice

Vs

- **Long-Acting Buprenorphine**
  - Induction with sublingual Buprenorphine
  - Sublocade (Long-Acting Buprenorphine) injection once stabilized and prior to hospital discharge
    - 3 total injections provided by study
COMMIT Study Timeline

Baseline: Screening and Enrollment → Treatment As Usual
Week 1: Treatment As Usual
Week 4: Treatment As Usual
Week 8: Treatment As Usual
Week 12: Treatment As Usual
Week 24: Treatment As Usual

Legend:
MM = Med Management
R = Randomization

1st Long Acting Buprenorphine → 2nd Long Acting Buprenorphine → 3rd Long Acting Buprenorphine

Health Sciences Center

PRISMA HEALTH
CLEMSON UNIVERSITY
FURMAN
UNIVERSITY OF SOUTH CAROLINA
• **Aim 1**: The primary outcome will be a binary indicator of whether a patient is enrolled in and *receiving effective medication treatment for opioid use disorder* at 12 weeks after randomization.

• **Aim 2**: Evidence of *improved opioid use outcomes*.

• **Aim 3**: Higher rates of completion of the *antimicrobial regimen* for their infectious disease and decreased re-hospitalizations and ER visits.
iLink

Phillip Moschella, MD, PhD
Prisma Health

Prerana Roth, MD
Alain Litwin, MD, MPH

Smith Heavner, MS, RN
Clemson University and Prisma Health

Jess Knapp, MPH
Susan Cordero-Romero

Health Sciences Center
Goals and Funding

- Routine testing
  - Hepatitis C Virus
  - Human Immunodeficiency Virus
- Linkage to Care
  - Internal Medicine Clinic
  - New Horizons
  - AID Upstate

- Frontlines of Communities US
  - Gilead Pharmaceuticals
  - Testing and linkage to care up to the first appointment
- SC DHEC
  - Non-competitive subaward
  - Renewed annually since 2016
Implementation and Evaluation

• 2020 versus 2019
  • 340% increase in HIV screening
  • 360% increase in HCV screening

• Routine screening in 2 ED
  • GMH
  • OMH
### Future Directions

**Screening and Linkage to Care 2020**

<table>
<thead>
<tr>
<th></th>
<th>HIV</th>
<th>HCV</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tested</strong></td>
<td>31,921</td>
<td>29,474</td>
</tr>
<tr>
<td><strong>Screened Positive</strong></td>
<td>N/A</td>
<td>1,253</td>
</tr>
<tr>
<td>(4.3%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Confirmatory Testing</strong></td>
<td>N/A</td>
<td>1,177</td>
</tr>
<tr>
<td>(93.9%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Identified Positive</strong></td>
<td>89</td>
<td>490</td>
</tr>
<tr>
<td>(0.3%)</td>
<td>(41.6%)</td>
<td></td>
</tr>
<tr>
<td><strong>Linked to Care</strong></td>
<td>76</td>
<td>319</td>
</tr>
<tr>
<td>(85.4%)</td>
<td>(65.1%)</td>
<td></td>
</tr>
</tbody>
</table>

- **Research Goals**
  - Reports on current epidemic
  - Colocalization of care for SUDs and IDs
  - Implementation science on screening and linkage from the ED

- **Integrated SUD screening**
  - CDC PS 21-2102
  - SBIRT/FAVOR

- **Overall Expansion**
  - Four additional EDs in Upstate
  - Inpatient expansion
  - Primary Care and Adolescent Medicine
  - Mobile Health Clinics
Clemson Rural Health Mobile Units

Caitlin Kickham Moore, NP  Ashley Coleman, MSW
Clemson University  Prisma Health
Michelle Bublitz, MSN, APRN, FNP-C
Carrie Baldwin, MSN, APRN, FNP-C
Clemson Rural Health (CRH) Mobile Units

- Currently: 3 mobile clinics, 2 SUVs
  - 2 additional units arriving spring 2021
- Populations currently served:
  - Migrant and seasonal farmworkers
  - Un/underinsured women
- All NP led clinics, supported by medical office assistants, clinician dietitian, health educator and translators as needed
Research Study

• Study Purpose
  • To explore innovative models of HCV care in rural settings with vulnerable populations

• Study Overview
  • Mixed-methods randomized control trial
  • NP-led mobile clinics
  • Virtual care coordination mobile app
  • HCV+ people who inject drugs
  • 2 years

• Study Primary Outcome: HCV cure – sustained virologic response (SVR)
Study Progress

• Obtained X waivers & collaborating physicians

• Observational experiences:
  • HCV treatment with Dr. Prerana Roth
  • MAT with Carrie Baldwin, MSN, APRN, FNP-C

• Attended Opioid Use Disorder and Infectious Disease Office Hours

• Attended Opioid Stewardship and Chronic Pain Office Hours

• Prisma Health IRB approved protocol
PCORI HERO Study

Alain Litwin, MD, MPH
Irene Pericot-Valverde, PhD
Moonseong Heo, PhD
A Multisite Randomized Pragmatic Trial of Patient-Centered Models of Hepatitis C Treatment for People Who Inject Drugs: The HERO Study

- Facilitating access to hepatitis C virus (HCV) treatment in PWID (people who inject drugs) is an urgent public health priority.\(^1\)
- People who inject drugs can be effectively treated for HCV with direct-acting antiviral agents.\(^2\)
  - Cure rates between 63% and 100%
  - Most people injecting drugs are not offered treated due to concerns of non-adherence
- Definitions of injection drug use in trials have varied from having ever injected drugs to injecting within the last 6 months.
- Optimal models of care for promoting HCV cascade of care and cure (sustained virological response) for people actively injecting drugs have not been studied.

HCV, hepatitis C virus; PWID, people who inject drugs; DAA, direct-acting antiviral agent.
**Study Design**

**Participants**
- HCV-infected
- Injecting within 12 weeks
- With and without HIV

Participants enrolled at community-based clinics and from within opioid treatment programs.

**Randomization**

- **mDOT**
  - Tx initiation
  - EOT
  - SVR12
  - Quarterly follow-up

- **PN**
  - Tx initiation
  - EOT
  - SVR12
  - Quarterly follow-up

**Baseline**
- Consent
- Up to 12 weeks to initiate treatment

**Weeks**
- 0: Sofosbuvir/velpatasvir for 12 weeks (with monthly follow-up)
- 12, 24, 168

Note: HCV = Hepatitis C Virus; PWID = People Who Inject Drugs; DAA = Direct Acting Antivirals; HIV = Human Immunodeficiency Virus

EOT = end of treatment; Tx = treatment; SVR 12 = Sustained Virologic Response 12 weeks after EOT
Cascade of Care

- Enrolled with HCV infection: mDOT 100, PN 100
- Initiated treatment with SOF/VEL: mDOT 81.4%, PN 83.3%
- Completed Treatment: mDOT 66.8, PN 69.7
- Achieved SVR: mDOT 4.3, PN 4.5

P-values: 0.414, 0.392, 0.543
Project EMPOWER and Project TRANSFORM

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Lauren Demosthenes, MD
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Veronica Parker, PhD
Moonseong Heo, PhD
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Health Sciences Center
A Call to Educate Clinicians

American Society of Addiction Medicine (ASAM)
American Association of Colleges of Nursing (AACN)
American Association of Medical Colleges (AAMC)

Increase education on substance use disorder.

The purpose of the research: Increase access to education on SUD and quantify the changes in:
• attitudes/beliefs
• confidence/preparedness
• concerns/barriers
• ability to treat
• attitudes/beliefs regarding perinatal substance use disorder
SAMHSA Grant – answering the call to action to increase education

• Project EMPOWER-Engaging Medicine Providers On Ways to Enhance Recovery
  • Funding $445,489  September 2018-2021
  • Goals: Increase the number of MAT providers
  • Provide DATA waiver training for medical and nurse practitioner students

• Project TRANSFORM-Teaching Recovery-informed Addiction Care And Negating Stigma FOR Medical Professionals
  • Funding $500,000 September 2019-2021
  • Goals: Online SUD education curriculum to implement in at least 20 medical/nursing schools in the U.S.
  • National experts + lived experiences
    Topics: SBIRT and MI, Nicotine, Alcohol, Cannabis, Stimulants, Opioids
Project EMPOWER & TRANSFORM - Results

Project EMPOWER DATA Waiver trained 260 medical and nurse practitioner students

Significant Changes in students’ (p<.05 – p<.001) in all areas of Survey of Knowledge, Attitudes and Beliefs of SUD

“It’s a full-time job to stay in recovery.” “MAT is not a substitute for other drugs” – NP student

“I learned that this is why I went into medicine; treating this population is the closest you get to humanity....” – MD student

• Project TRANSFORM modules have been implemented in 10 university/schools
Evaluation of Opioid Practice and Policies

Lior Rennert, PhD
Clemson University
Overview

• Collaboration with Prisma Health’s Opioid Stewardship Committee
  • Study Investigators: Lior Rennert (Clemson) and OSP Members Kevin Walker, Doug Furmanek, Dawn Blackhurst, Vito Cancellaro, Marissa Walcott, and Alain Litwin

• Research questions we aim to answer:
  1. How effective are Prisma Health and state policies at limiting opioid prescriptions?
  2. What is direct effect of patients’ prescribed opioid supply on long-term outcomes?

Funding: Prisma Health Transformative Seed Grant (2020; $20,000)
Evaluation

• To assess changes over time and reduce selection bias, we limit population to 13 common elective surgical procedures
  • Minor procedures include varicose vein removal, laparoscopic cholecystectomy, laparoscopic appendectomy, hemorrhoidectomy, thyroidectomy, transurethral prostate surgery, parathyroidectomy, and carpal tunnel. Major surgical procedures include ventral incisional hernia repair, colectomy, reflux surgery, bariatric surgery, and hysterectomy.

• Exclusions: Chronic pain, OUD or any opioid use w/in 6 months pre-surgery

• Any patient meeting inclusion criteria in Prisma Health system receiving this surgery between Q2 of 2016 and Q3 of 2019 is included: \( N = 9,262 \) patients
Preliminary Results and Future Directions

POLICIES

1) Sequential decrease of available opioid dosage vials to lower opioid exposure in operating rooms
   - Implemented 2017 Q2-Q4
2) Standardization of opioid discharge sets and in-patient practices, including EPIC alerts
   - Implemented 2017 Q4 and 2018 Q1, Q2
3) Senate Bill 918 – Limit initial post-surgery opioid supply to 7 days
   - Implemented 2018 Q2

Average MME per person reduced from peak of over 200 in Q2 of 2017 to under 125 in 2019

Future direction: Identification of opioid prescription practices that simultaneously improve pain while minimizing risk of adverse outcomes (precision medicine)
Interactive and Collaborative Directory of Researchers, Mentors & Others

• Firsthand is an “all-in-one” platform that works to match people based on career interests and skills

• The Addiction Research Center will utilize Firsthand to create a research and networking platform to connect individuals among the Health Sciences Center.

• Some Firsthand features include:
  • Interest Groups and Discussion Boards
  • Resource Library
  • Career Mentoring
  • Matching Algorithm
JOIN OUR NEXT
Addiction Research Collaborative Forum
March 17, 2021, 12:30PM

REACH OUT TO US:
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Announcements

Upcoming Events
Save the Date: HSC Research Showcase

When: October 22, 2021
SAVE THE DATE: CUSHR Information Exchange – Aging Research

March 30, 2021 | 3:30 – 4:30 PM
Hosted on Zoom

Guest Speakers:

Dr. Lesley A. Ross, *SmartLife Endowed Chair in Aging and Cognition*

Dr. Cheryl Dye, *CU Institute for Engaged Aging*