State of the Department of Psychiatry

October 7, 2021

Jill A. RachBeisel, MD
Dr. Irving J. Taylor Professor and Chair
Today's Agenda

- In Memoriam & Staff Recognitions
- New Faculty & Promotions
- Financial Summary
- Diversity, Research, Education, & Clinical Highlights
- Community Engagement
- Invited presentations
  - Drs. Belcher and Gould on Ketamine
  - Drs. Weintraub and Greenblatt on HARP
  - Dr. Kochunov on data-informed, personalized medicine
- Forward Motion: FY22 Priorities
Thank you to our Central and Business Administration teams for your steadfast support and seamless operations!

A special thanks to:

- Lis Baker
- Gary Benson
- Ashley Boeree-Kline
- David Castine
- Lisa Cleary
- Arthur Crow
- David Flax
- Nanci Henningsen
- Andre Jackson

- Nicholas Meyer
- Charlene Mercer
- Winny Mwaura
- Afshan Qureshi
- Karen Robinson
- Liz Tafida
- Mia Thompson
- Scott Windmiller

Silas Nickson
Mwaura Wandui
RECOGNITION: ABOVE & BEYOND

DANAE DI ROCCO, MD
RACHAEL FUNK, LCSW-C
Program Manager for PACT, CSP
CRYSTAL HAN, MD
C&A Psychiatry Fellow, PGY5
SYLVIA MCCREE-HUNTLEY, EDD
Director, Development & Training

VICTORIA PARSONS, LMSW
Clinical Social Worker/Therapist, Fayette Clinic
ANDRE' THOMPSON, MSW, CDC-AD
Social Work Care Manager, DART
PAMELA WALKER, OTR/L
Manager of Psychiatric Occupational Therapy
WELCOME, NEW FACULTY!

KIM GORDON-ACHEBE, MD
Child & Adolescent

SOYOUNG LEE, MD
Geriatrics

STEPHANIE HARE, PHD
MPRC

MARK KVARTA, MD, PHD
MPRC

DAVID MANCINI, MD
CL

JYOTI KANWAR, MBBS
Midtown

ANTONIA GIRARD, PSYD

BENJAMIN ISRAEL, MD

MARK KVARTA, MD, PHD
MPRC

STEADHAM LITTLEWOOD, MD

DPSR

JULIE FIELDS, MD
Midtown

BENJAMIN ISRAEL, MD
CL

AVINASH RAMPRASHAD, MD
Division of Addiction Research & Treatment

KIM GORDON-ACHEBE, MD
Child & Adolescent

SAMYOUNG LEE, MD

STEPHANIE HARE, PHD
MPRC

MARK KVARTA, MD, PHD
MPRC

DAVID MANCINI, MD
CL

JYOTI KANWAR, MBBS
Midtown

ANTONIA GIRARD, PSYD
Child & Adolescent
FACULTY PROMOTIONS

JILL RACHELSE, MD
Dr. Irving J. Taylor Professor and Chair

ANIQUE FORRESTER, MD
Chief of Diversity

SARAH EDWARDS, DO
Division Director, C&A

SETH AMENT, PHD
Associate Professor, Tenure

SESHAGIRI DODDI, MBBS
Clinical Associate Professor, Non-Tenure

JAMIE FIELDS, DO
Assistant Professor, Non-Tenure

PATRICK JUNG, MD
Assistant Professor, Non-Tenure
Medical Director, Telemental Health Program

JULIE KREYENBUHL, PHARM., PHD
Tenured Professor

CHRISTOPHER MILLER, MD
Associate Professor, Non-Tenure

ERIC WEINTRAUB, MD
Professor, Non-Tenure

EMERSON WICKWIRE, PHD
Professor, Non-Tenure
FY21 total operating budget: $58M, including $34M for grants/service contracts, $8.4M for UMMC Physician Services, & $6.9M for SOM
Generated $2.8M through practice plan, & completed fiscal year 6.7% behind budget for charges & 8.1% ahead of budget for collections
PA cash balance increased 37.2% & reserves increased 23.2% as compared to prior year
Total revenue increased from prior year by 16% & is 1% better than budget.
FY22 budget has a positive margin.
FY22 revenue expected to grow by 12%.
FINANCIAL OVERVIEW

FY21 Budget

- Research, Grants, & Contracts, $33,789,576 (51.2%)
- Clinical, $17,621,827 (26.7%)
- Operating, $11,693,974 (17.7%)
- Other, $2,876,559 (4.4%)

FY21 Actual*

- Research, Grants, & Contracts, $31,874,567, 52.4%
- Clinical, $15,122,530, 24.9%
- Other, $2,872,849, 4.7%
- Operating, $10,923,200, 18%
Diversity: Year of Assessment

- Dr. Anique Forrester promoted to Chief of Diversity
- Created guide for faculty hiring
- Established best practices to improve interview processes
- Hired 13 out of 14 minority faculty hires
- 5-part Grand Rounds series
- Teams channel & increasing membership
Tiffany Beason, PhD
Dana Cunningham, PhD
Anique Forrester, MD
Kimberly Gordon-Achebe, MD
Laurel Kiser, PhD
Madeline Marks, PhD
Sylvia McCree-Mchuntley, EdD
Brittany Patterson, PhD
Andre' Thompson, MSW, CDC-AD
Pamela Walker, OTR/L
Research Highlights

Major contributors to our success include the Divisions & teams of:

- Gloria Reeves, MD, Vice Chair
- Melanie Bennett, PhD
- Bob Buchanan, MD
- Richard Goldberg, PhD
- Todd Gould, MD
RESEARCH OVERVIEW

RESEARCH GRANTS
- $19M; 58 active grants
- 18 active R01s
- 5 new R01s & 1 R01 Supplement
- 6% growth in research
- 18th on the Blue Ridge Report

COVID-RELATED GRANTS
- Submitted 24 COVID-related grants
- Projected $15.5M
- 10 grants have been awarded

MPRC
- Submitted 29 grant & contact applications, including 15 NIH applications
- Awarded $12M in grants
Publications

- 233 peer-reviewed journal articles
- 8 book chapters
- 3 books
Chief of Medical Education &
Director of Residency Training
Mark Ehrenreich, MD

- Residents received 17 national & local awards
- 99.4% ABPN test pass rate
- Published 26 papers
- Delivered 31 presentations
EDUCATION OVERVIEW: Highlights

- Fellowships: all 4 ACGME programs received continued accreditation
  - Addiction Medicine program -- initial accreditation with 2 Fellows
- Virtual residency recruitment: 17 PGY-1 & 1 PGY-2 residents
- COVID: maintained program by adjusting rotations through 8 hospitals
- DEI: Chief Resident of DEI, anti-racist book club
- Medical Student Education: created 2 online elective rotations, including on substance use treatment
- Added 3 clerkship sites
- Expanded sub-internship to Midtown
Clinical Highlights

Under the leadership of Jill RachBeisel, MD

- Opened the Child & Adolescent Psychiatry Inpatient Unit
  - Directed by Dr. Edwards
  - First of its kind within the state
  - Unique architectural design & clinical programming
  - $9.5M hospital investment
  - 14,000 square feet, 16 beds
  - Services for youth ages 5-7
- $18.1M from 29 service grants across all Divisions
## CLINICAL OVERVIEW: Highlights

### CONSULTATION LIASION
- Expanded its consultation and Integrated Care Initiative services to Shock Trauma
- Madeline Marks, PhD, coordinated efforts

### COMMUNITY
- Provided access to vaccines & voter registration opportunities to individuals with SMI

### MARYLAND CENTER OF EXCELLENCE ON PROBLEM GAMBLING
- Reached 3,000+ Maryland residents via presentations
- March Problem Gambling Awareness Month: 25,000+ emails sent

### PA FACULTY PRACTICE & EMPLOYEE ASSISTANCE PROGRAM
- Served campus through COVID & every Monday - worked with COVID-19 Unified Command of UMMC
- Expanded Pharmacy Rehabilitation Service
CLINICAL OVERVIEW: Highlights

Midtown

- Est. telepsychiatry in ED
- Re-opened Adult Day Hospital
- Faculty implementing 2 research studies
  - Dr. Bennett - digital interventions to improve smoking cessation in persons with SMI
  - Dr. Kelly - Clozapine CHAMPION-ECHO

Telemental Health Program

- Launched its new website & social media
CLINICAL OVERVIEW: Highlights

Division of Addiction Research and Treatment

Maryland Addiction Consultation Service (MACS)

MACS for MOMS awarded $957,678
- PI: Chris Welsh, MD
- To provide training & clinical support to providers caring for women with SUDs who are pregnant/postpartum

DC Addiction Consultation Service (DACS) awarded $2M
- PI: Eric Weintraub, MD
- To provide referral services to providers who treat individuals with SUDS & chronic pain
COMMUNITY OUTREACH: 30% of faculty involvement

Community Outreach by County
Heath And Recovery Practice (HARP)

University of Maryland Drug Treatment Center
Division of Addiction Research and Treatment

1001 West Pratt Street

Eric Weintraub, MD
Health and Recovery Practice (HARP)

Anthony Amoroso, MD
Associate Chief, Division of Infectious Disease
Chief, Clinical Care Programs for Institute of Human Virology, Director, Baltimore VA HIV and Infectious Disease Clinic
Professor of Medicine

Eric Weintraub, MD
Division Head, Alcohol & Drug Abuse; Acting Division Head, Adult Psychiatry
Professor of Psychiatry Director Division of Alcohol and Drug Abuse Co-Director of Adult Psychiatry, UMMC

October 7th, 2021
Background: Our “other” epidemic

• Substance use and related morbidity and mortality is at an epidemic historic high both regionally and nationally. Nationally the cost for the opioid epidemic is upwards of $1,021 billion and in Maryland over $6.6 billion. (1)

• People with substance use issues have high incidence of chronic medical conditions needing ongoing medical care and psychiatric comorbidities (2,3,4).

• People with substance use disorders are marginalized from mainstream healthcare, including office-based primary care, leading to high ED and hospital utilization.

• High rate of utilization of emergency room services by this population in Baltimore, with lack of follow up, results in fragmented care and enormous costs to the patient and healthcare system (5).

• Medication Based Treatment combines behavioral therapy with medication. It is highly effective but exists in a silo, disconnected with traditional locations of medical care.
Program Design

- Reverse colocation/integration of medical and substance abuse care to be delivered in a culturally competent and contextually relevant site within the premises of UMMC substance use treatment programs at 1001 W Pratt St.
- Delivery of both primary and preventive care as well as same-day appointments for acute issues.
- Intensive targeted medical care and case management, including post ER discharge care for the highest utilizing segment of the patient population.
- Subspecialty care for management of HIV and hepatitis C is built into this model due to high prevalence of these conditions in this population.
- Recovery services are essential components of the initiative.
Project Timeline

2014-2016
Program Conceptualization: Dr. Amoroso & Dr. Weintraub

March 2018
Initial Data review UMMC Utilization: Dr Callahan

July 2019
UPL Application and Access to Funds

October 2019
Billable Patient Care

May 2021
Increase Staffing Capacity: Social Work Department (2), LPN (1), Front Desk (1), & Program Director (1)

February 2018
Model of Care Design

April 2019
Clinical Research Partnership: ANCHOR Study

August 2019
Lundy Foundation Funding for Clinic construction (8 Exam rooms)
Medical Director and Nurse Manager Hired

September 2020
Infrastructure Planning/Clinic Expansion Planning: Costing of renovation
Scope of HARP Services

**Primary Care / Urgent Care**
Provide comprehensive care and continuing care for persons with any undiagnosed sign, symptom, or health concern.

**Psychiatric Care**
Provide outpatient evaluation of diseases related to mental health.

**Infectious Disease**
Provide outpatient prevention and treatment of communicable diseases. Ensures proper disease prevention, diagnosis, treatment, and recovery.

**Wound Care**
Provide outpatient prevention and treatment of wounds. Ensures proper disease prevention, diagnosis, treatment, and recovery.

**Social Work and Case Management**
Provide social support to individuals including relationship building, life skills instruction, employment support, tangible support including food & financial assistance, & information & referral services.

**Nurse Care Coordination**
Provide patients with chronic medical conditions and high healthcare utilization care coordination.
Program Goals and Objectives

Goal 1: Harm Reduction targeted to most at-risk population and common comorbidities

- Comprehensive health screenings
- Management of chronic medical conditions
- Integrated pharmacy management and dispensing
- Community care coordination

Goal 2: Utilization Reduction targeted to the emergency room and inpatient hospital care

- Provide on-demand primary care and urgent care services
- Population and sub-population specific-targeted intensive medical care and case management to reduce ED and hospital utilization for the most resource-intensive patients
- Post-hospital and Emergency Department (ED) follow-up for individuals with complicated conditions that need detailed follow-up care
- Connect to Care program to facilitate enrollment into substance abuse and medical services
- Expansion of recovery services

Goal 3: Address the social determinants of health (SDOH)

- Integrated case management and social work
- Community engagement through a peer support worker program
HARP Early Impact (Year 1 & 2 UPL)

HEP C
• 117 people treated for Hepatitis C (would not have otherwise been treated):
  • 94 were cured
  • 9 failed treatment
  • 14 unknown SVR (completed treatment but no cure data; mostly these are lost to follow up)
• 4 on active treatment
• 21 currently being worked up for treatment

HIV
• 14 currently on HIV ARVs
  • 86% virally suppressed
HARP Early Impact (Year 1 & 2 UPL) Cont’d

**Psychiatric Care**
Over 25% of OTP clients have sought psychiatric care at HARP

**Wound Care**
25% of HARP’s patient panel are seeking wound care treatment

**Harm Reduction Services**
- Syringe Access Partnership with Harm Reduction Coalition
  - Officially recognized as an Opioid Response Program by The Maryland Department of Health (8/2021)
  - 80,000+ syringes distributed
  - 4,500+ Naloxone treatments distributed
  - 338 COVID-19 vaccines administered
  - 60 flu vaccines* (2020-2021 season)
Ketamine Study
Gould Lab
Translational Laboratories
Division of Addiction Research & Treatment

Todd Gould, MD
Annabelle (Mimi) Belcher, PhD
Increasing Retention in Methadone Maintenance Treatment: Feasibility and Preliminary Efficacy of Adjunct Ketamine for the Treatment of Patients with Opioid Use Disorder and Comorbid Depression
Background: Ketamine Treatment for Depression/Depressive Disorder

Over two decades, controlled studies have described a rapid, robust, and sustained antidepressant response following infusions of sub-anesthetic doses of ketamine (or intranasal esketamine; Spravato ®)

The discovery of the rapid antidepressant efficacy of ketamine, as well as esketamine has resulted in a reconceptualization of how depression could be treated

Ketamine has been used clinically in the context of opioid agonist treatment, but studies investigating its use in patients enrolled in an opioid agonist treatment (methadone) program are lacking
Methadone Maintenance Treatment for Opioid Use Disorder (OUD)

PHQ-9 Depression Symptom Scores

- Severe: 27.1% (16 patients)
- Moderately Severe: 22.0% (13 patients)
- Moderate: 23.7% (14 patients)
- Mild: 13.6% (8 patients)
- Minimal: 13.6% (8 patients)

Retention in methadone treatment (up to 6 months)

N = 59 patients entering methadone treatment at UMATC between 8/21/19-2/11/20 (unpublished data, Belcher, Bennett)
Specific Aim 1 (SA1): Assess feasibility and acceptance

Specific Aim 2 (SA2): Measure the impact on methadone treatment retention and depression

Ketamine infusions (0.5 mg/kg over 40 min x 6)

Study Contact Day

Screening, Consent, Baseline Assessments

3- and 10-day Post-Regimen Assessments

3- and 6-month Retention
Translating Big Data to Personalized Medicine

Maryland Psychiatric Research Center (MPRC)

Peter Kochunov, PhD
Translating Big Data Neuroimaging Findings In Neuro-Psychiatric Illnesses to Individual.

Toward Big Data Informed Personalized Medicine Decisions

Peter Kochunov
Critical Summary: State of Psychiatric Science

- Diagnosis is based on clinical feature: many are shared across disorders.
- Unexplainable heterogeneity in the individual presentations
  - Age and type of onset
  - Signs and symptoms
  - Course of illness and treatment response
- Most science is performed within Diagnostic Silos
- No objective postmortem or antemortem tests to rule out.
- Complex polygenic inheritance pattern: shared across disorders
- Complex genetic and environmental risk factors: shared across disorders
- Paucity of adequate animal models
- Can we translate Reproducable Big Data findings to improve the state of psychiatric science?
Reproducibility is the key to the translation
Example: Candidate Gene vs. PRS

• COMT was a hot target for schizophrenia research in 2000s.
• COMT is a protein that degrades cathechololmins and maintains the homeostasis of dopamine
• Val158met variant is functional
• A 22q11 CNV/deletion
  – Raises the risk of schizophrenia-like symptoms ~30 times
• Over 700 publications on the topic of schizophrenia and bipolar disorder
GWAS vs. Candidate Genes

- PGC findings in N=150K subjects in Schizophrenia

COMT Val158met
Relative Risks
(0.99–1.01, p=0.8)
The Era of Big Data and Personalized Risks

A neural net can recognize a photo of a cat based on empirical knowledge through training

Can we develop approaches that link genome and imaging date with personalized risk?
Data-driven Individual Vulnerability Estimations

– Entry variable: Imaging scans of the brain
– Support variable: Patterns of brain deficits obtained from large and inclusive world-wide studies to remove variances associated with site, individual heterogeneity, treatment heterogeneity, localized differences, etc
– Output variable: Similarity to the expected patterns
Brain effects in Schizophrenia, MDD, BD and other illnesses from large N-studies are replicable in independent cohorts.

ENIGMA Schizophrenia Cohen's $d$ effect size

\[ r = 0.985 \]

COCORO Schizophrenia Cohen's $d$ effect size

\[ r = 0.955 \]

ENIGMA effect sizes in two cohorts. Kochunov and Hong 2019 JAMA psychiatry
RO1 MH123163/EB015611 Projects

• Derive agreement indices between the regional brain patterns and Large-N indices from SSD/BD/MDD
• Compare linear vs Machine Learning/AI indices
• Provide these indices for Human Connectome Project

Cortical  Subcortical  DTI
Future Goals

- Research
- Education
- Clinical
- Departmental
Actively recruiting:
  ○ 1-2 translational clinical investigators
  ○ 1 basic science investigator
  ○ Maryland Psychiatric Research Center (MPRC) Director

Formulating plans to relocate MPRC to the Downtown Campus (DTC)

Continuing growth in translational research programs: stress, mood, & addictions

Strengthen relationships with Substance Use in Pregnancy (SUP) programs in Anatomy & Neurobiology

Expanding collaborations: UMCP, UMBC, Dept. of Radiology, Dept. of Anatomy & Neurobiology

Moving to #17 on the Blue Ridge Report

Center for Advanced Research Training & Innovation (CARTI)
Continuing virtual recruitment across all programs
Conducting groundwork to stand up a geriatric/neurocognitive fellowship
Continue recruiting for our Physician Scientist Training Program (PSTP)
Actively recruiting:
- 2 clinical faculty educators - 12 West DTC unit
- Medical Director - PA practice

Conducting a practice redesign to improve PA Faculty support

Designing & integrating research initiatives & practices into our clinical programs

Continuing our partnership with GBRIS/State/HSCRC to enhance crisis response & care in mental health

Slated for January: single point of entry for adult ambulatory programs

Under consideration: mother/baby or mother/family wellness program
Establishing our new normal
Defining ongoing DE&I priorities & action plans at every level
Moving from "I" to "We"
  ○ Strengthening a culture of voice
  ○ Maximizing our Departmental Intelligence
Department of Psychiatry
State of the Department

Thank you for a wonderful year!