Prospectus to Develop

The Rutgers Addiction Research Center

at the Rutgers Brain Health Institute

Presented to Chancellor Brian Strom
National Opioid Epidemic

“Drug overdose is the leading cause of accidental death in the US, with 47,055 lethal drug overdoses in 2014. Opioid addiction is driving this epidemic, with 18,893 overdose deaths related to prescription pain relievers, and 10,574 overdose deaths related to heroin in 2014.”


Background

Opioids are a class of drugs that include the illicit drug heroin as well as the prescription pain relievers’ oxycodone, hydrocodone, codeine, morphine, fentanyl, and others. Opioids are chemically related and interact with opioid receptors on nerve cells in the brain and body to produce pleasurable effects and relieve pain. Opioid addiction is a primary, chronic and relapsing brain disease characterized by an individual pathologically pursuing reward (or relief of withdrawal) by taking the drug. The abuse of opioids such as heroin, morphine, and prescription pain relievers is a serious global problem that affects the health, social, and economic welfare of all societies.

Research, prevention, treatment, and effective responses to opioid overdoses are critical to fight the epidemic

Our nation is in the midst of an unprecedented opioid epidemic. More people died from drug overdoses in 2014 than in any year on record, and the majority of drug overdose deaths (more than six out of ten) involved an opioid. Since 1999, the rate of overdose deaths involving opioids—including prescription opioid pain relievers and heroin—nearly quadrupled, and over 165,000 people have died from prescription opioid overdoses. Prescription pain medication deaths remain far too high, and in 2014, the most recent year on record, there was a sharp increase in heroin-involved deaths and an increase in deaths involving synthetic opioids such as fentanyl.
National Opioid Epidemic

Approximately 1.9 million Americans met criteria for prescription painkiller-use disorder based on their use of prescription painkillers in the past year.

4.3 million Americans engaged in non-medical use of prescription painkillers in the last month.

1.4 million people used prescription painkillers non-medically for the first time in the past year.

50.5% of people who misused prescription painkillers got them from a friend or relative for free.

The average age for prescription painkiller first-time use was 21.2 in the past year.

Many young people who inject heroin report abuse of prescription opioids before starting to use heroin.

In addition to increasing the risk of overdose, the intravenous use of heroin places individuals at higher risk of diseases like HIV and hepatitis C.

It is estimated that 23% of individuals who use heroin develop opioid addiction.

Opiates, mainly heroin, account for 18% of the admissions for drug and alcohol treatment in the US.

The average age among people for first time heroin use was 28.

The costs of addiction are staggering. Aside from the direct damage to the health of the affected person, costs include damage to family member's lives, family health, school and work performance, and absenteeism. Despite extensive scientific progress over the last 40 years, we are still far from a cure. Enormous opportunities exist to integrate gains made across several fields (especially genetics and neuroscience), synergize multi-disciplinary efforts, and to translate bench science to the bedside in new personalized prevention and treatment approaches for our students and the public.
A NJ based Addiction Research Center: The Need

“A key to ending the opioid epidemic is to shift the way we think and talk about addiction, so that our attitudes reflect compassion and understanding. Addiction is not a moral failing or a character flaw. It is a chronic illness, one that can be treated effectively, but only if the people who are suffering feel free to come forward and ask for help.”

~U.S. Surgeon General Vivek H. Murthy at the NJ Opioid Forum, ‘Turn the Tide’ Tour, RWJBarnabas Health August 2016

Heroin deaths in New Jersey are up 160 percent since 2010, with more than 1,200 overdose-related deaths last year alone which is 3-times the national average. In 2015, more than 28,000 New Jerseyans sought treatment for heroin or opioid abuse, significantly outpacing previous year’s figures. The heroin death rate in five counties – Camden, Ocean, Cape May, Union, and Middlesex – significantly exceeds the number of treatment beds available per 100,000 people.

NJ Gov. Chris Christie has been outspoken on the battle against drug addiction, focusing on prescription pain killer prescription policies, treatment, and recovery. Christie’s administration has instituted several initiatives to combat drug addiction including the use of Narcan (an opiate receptor blocker that revives overdose victims) as part of the Overdose Protection Act, the New Jersey Prescription Monitoring Program, continued expansion of Project Medicine Drop which allows consumers to dispose of unused and expired medications anonymously, new security requirements for prescription blanks, and making sure drug court and mandatory treatment facilities will have reached all 21 counties by 2017.

The need for research into opioid addiction, prevention, treatment, and public policy reform is obvious. An addiction research center in NJ would take advantage of the highly diverse population in the densely populated state and surrounding tri-state areas, explore collaborations with multiple regional bio-tech and pharmaceutical companies, and be among the first in the nation to bring together all the pieces needed to successfully find the biological and epidemiological causes of opioid addiction and provide effective ways to prevent, treat and cure this disorder. An addiction research center would also serve as an information repository providing resources and expertise on addiction prevention, research, treatment and policy development to the state, nation, and world.
Why Rutgers?

This is an exciting time for the university, with substantial developments at every turn. Together, they form a Rutgers of unprecedented size, excellence, capacity, and reach.

Large State-wide Internal Laboratory
With over 60,000 current students and employees, their families and friends, 1.7 million annual patient visits to our faculty practices, centers, clinics, and institutes, 350 clinical trials supported at any given time, and nearly 460,000 alumni, Rutgers has a unique and deep resource of age-specific populations to survey and monitor throughout the state and globally.

Rutgers Health
The creation of Rutgers Biomedical and Health Sciences (RBHS), which includes most of the former University of Medicine and Dentistry of New Jersey, has created the largest healthcare organization in New Jersey, and given Rutgers one of America’s largest, most comprehensive university-based centers for studying and improving human health and health care. Rutgers Health, the clinical arm of RBHS, is devoted to caring for all Rutgers’ patients and has the scale and scope for collaborating internationally, conducting world-changing research, and will be a valuable contributor to health care throughout New Jersey.
Why Rutgers?

Unique Resources
Besides the extensive research and medical expertise of Rutgers’ scientists and physicians, and its exceptional education programs, Rutgers has several unique resources to help study, treat, and change the course of opioid addiction in NJ.

- The Rutgers University Cell and DNA Repository (RUCDR) is the world’s largest university-based biorepository and serves as the federal biorepository for four NIH institutes, including the National Institute of Drug Abuse. RUCDR has paved the way world-wide for biobanking, bioprocessing, and analytics since 1999; this is a unique resource to support research aimed at understanding the genetic causes of addiction and for developing new treatments.

- The Center for Innovative Ventures of Emerging Technologies is Rutgers University’s technology innovations commercialization group which helps connect scientists with industry partners to move treatments and cures from the bench to bedside.

- The Center for State Health Policy informs, supports, and stimulates sound and creative state health policy in New Jersey and around the nation. The Center provides impartial policy analysis, research, training, facilitation, and consultation on important state health policy issues.

- University Behavioral Health Care (UBHC) is dedicated to providing excellent behavioral health services to the people of New Jersey. Services include inpatient and outpatient crisis and acute psychiatric services for children & families, adults, and geriatric populations. As part of UBHC, University Correctional Health Care (UCHC) provides mental health and sex offender specific treatment services to the inmates, residents, and parolees of the New Jersey Department of Corrections (NJDOC), the Juvenile Justice Commission (JJC), and the State Parole Board (SPB). Being able to provide prevention and recovery programs to diverse populations throughout NJ is an essential component in battling the opioid addiction epidemic.
The Rutgers Addiction Research Center (ARC) will build collaborations among scientists with the multidisciplinary expertise required to advance our understanding of the causes of opioid addiction. Housed within the Rutgers Brain Health Institute, ARC will be composed of faculty across all Rutgers schools and campuses with expertise in addiction prevention, research, treatment, education, and public policy; especially including Robert Wood Johnson Medical School (RWJMS), New Jersey Medical School (NJMS), School of Arts and Sciences, Center for Alcohol Studies, Center for Tobacco Studies, School of Public Health, School of Social Work, School of Nursing, University Behavioral Health Care, School of Pharmacy, and the Institute for Health, Health Care Policy and Aging Research.

ARC will be the only comprehensive addiction center in NJ with the capacity to impact the addiction epidemic through the diverse strengths of its members by integrating the following cutting edge approaches:

- Precision Medicine research and knowledge development that crosses multiple disciplines and addresses individual differences and needs in addiction treatment
- Treatment and care of individuals and families coping with addiction
- Public policy innovation and reform aimed at preventing development of drug use and at more effective avenues for addicts to obtain treatment.
- Training of tomorrow’s research, clinical, and criminal justice workforces in all aspects of addiction science.
**Precision Medicine Research**

ARC will take a Precision Medicine Approach to developing novel therapies for addiction treatment. This approach takes advantage of emerging knowledge in genetics and individual differences in disease progression based upon age, gender, and environmental factors, all of which are now known to play important roles in disease, including addiction. ARC will conduct clinical and basic research that examines the biological underpinnings of substance use and substance use disorders, as well as study the social, contextual, and policy factors that contribute to prevention, development, early intervention, treatment, and the recovery of substance abuse. Our faculty has substantial experience in neuroscience research for addiction and substance abuse disorders in animals and humans. This expertise will form the basis for creating an internationally renowned center for investigating mechanisms underlying addictive disorders.

- **Individual differences in addiction propensity** (genetics, gender, age, environment)
- **Novel approaches for addiction prevention**
- **Pharmaco-epidemiological studies to develop novel and personalized addiction treatments**
- **Co-Morbidity research** (alcohol, tobacco, mental illness, HIV, Hepatitis B/C, pain, PTSD (veterans))
Treatment Research Unit

To forge new ground in the fight against opioid addiction, ARC will play a vital role in moving scientific findings from bench to bedside. In order to do this, the creation of a Treatment Research Unit (TRU) is necessary.

Treatment Research is a critical field that investigates the effectiveness of different potential treatments across individuals suffering from addictive disorders. The TRU will tie together precision medicine research and clinical treatments by measuring treatment effectiveness as a function of genetics, age, gender, and environment relevant to each individual addict.

The ARC TRU will collaborate with clinical entities across Rutgers as well as with the developing Rutgers Health Network, an integrated network of Rutgers’ affiliated hospitals (i.e., RWJBarnabas), community clinics, medical groups, wellness centers, and other affiliates across NJ, to provide a wide range of inpatient and outpatient research programs for drug dependent patients.

Through the TRU, patients will benefit from substance abuse research while specialists advance knowledge and develop new therapies that are most effective for each of the many subsets of addiction patients.

The TRU will also support Rutgers’, local, and state-wide treatment and recovery programs.
Treatment and Recovery Programs

Rutgers currently provides NJ students and residents numerous prevention, treatment, and recovery programs. Treatment for substance abuse isn’t just about helping people stop using drugs. Treatment is also about helping people learn how to change their habits, lifestyles, and values so that they can effectively break the cycle of their addiction and return to a normal life. Treatment also provides people with the tools they need to manage their lives in a healthier, more constructive manner that does not involve using drugs.

Below is a list of Rutgers’ treatment and recovery programs provided to Rutgers students and NJ residents*:

- **The Wellness Center: New Jersey Medical School**
  The Wellness Center at University Hospital in Newark, NJ is set to open within the next year. It will provide clinical services, translating science from bench to bedside, as an addiction outpatient clinic. The Center is associated with the Veterans Affairs NJ Healthcare System and Integrity House, an inpatient/outpatient rehab center.

- **Rutgers Counseling, Alcohol and Other Drug Assistance Program & Psychiatric Services (CAPS)**
  CAPS within Rutgers Health Services provides numerous programs to college age students across the state. Programs include:
  
  - **Early Recovery Group** for those students who are just beginning their recovery from alcohol/drug addiction,
  
  - **Alcohol and Drug Education Group** which provides a service for those students who have been arrested for a drug or alcohol related offense (DWI, possession, underage drinking), and
  
  - **Rutgers Recovery House**, an on campus residence hall for students in recovery from addictions; a first of its kind on a college campus in the US which started in 1988. Students support each other’s sobriety while forming meaningful personal relationships based around friendship, sobriety, and their college experiences.

*Not all programs listed
Treatment and Recovery Programs

- **University Behavioral Health Care (UBHC) and University Correctional Health Care (UCHC)**
  UBHC and UCHC provide community programs and inpatient/outpatient behavioral health services to New Jersey residents. Programs include:

  - **Specialized Addiction Treatment Services (STATS)** which offers specialized individual, group, and family counseling for individuals and their families with substance abuse and co-occurring disorders (mental illness) and

  - **Adult Substance Abuse Program (ASAP)** offered at the Middlesex County Adult Correctional Center is the first licensed drug and alcohol treatment facility with New Jersey's criminal justice system. ASAP offers services to inmates, residents, and parolees of the New Jersey Department of Corrections (NJDOC), the Juvenile Justice Commission (JJC), and the State Parole Board (SPB).

- **Psychological Clinic**
  The Psychological Clinic at the Graduate School of Applied and Professional Psychology (GSAPP), delivers outpatient psychotherapeutic and assessment services to children, adolescents, and adults. **PACT, Program for Addictions Consultation and Treatment**, is a specialty program which provides outpatient services to adults and older adolescents who have problems with alcohol or drugs, and to individuals concerned about the alcohol or drug use of a family member or loved one. PACT uses cognitive-behavioral techniques to help clients learn new ways of thinking, feeling, and acting, and often involves loved ones in the treatment to provide support.

- The **Center for Alcohol Studies**, the **Center for Tobacco Studies** at the School of Public Health, and the **Center for Gambling Studies** at the School of Social Work host additional peer-based recovery programs.
Public Health Research and Policy Reform
ARC will conduct monitoring and surveillance research through the School of Public Health, School of Pharmacy, School of Social Work, the Institute for Health, Health Care Policy and Aging Research, and the School of Criminal Justice. Utilizing these scientific findings, ARC will function as an advisory resource to formulate policies and develop consortia and programs to mitigate social and environmental factors that lead to a propensity to experiment with or continue to abuse dangerous drugs. Our faculty has considerable expertise in developing effective policies to mitigate substance use disorders and related medical conditions. This expertise will form the basis for an expanded group to focus on new policies to address the addiction crisis which will work with the Governor’s Council on Alcohol and Drug Abuse, NJ Division of Mental Health and Addiction Services, NJ Department of Health Services, the NJ Attorney General, Partnership for a Drug-Free New Jersey and other statewide drug prevention and policy programs.


Exceptional Training and Education

Education and training are important elements in the ARC plan to tackle addiction disease. ARC is committed to educating students, postdoctoral fellows, and faculty from all disciplines in addiction as a brain disease. This includes understanding addiction as a complex set of biological, behavioral, and social-context problems through scientific fellowships, lecture series, and certification programs. Programs dedicated to the prevention of opioid overdose, the importance of prescribed opioid surveillance, and effective prevention and rehabilitation practices are also essential to combating the opioid epidemic.

ARC will also disseminate evidence-based knowledge on addiction and related disorders to academic and professional communities and collaborate with community providers to encourage provider and patient involvement in education, prevention, treatment, and clinical research efforts.
**ARC Funding Needs**

ARC will rely on federal and state funding, investments from individuals, corporations, and private foundations to maintain the highest quality of drug addiction research, clinical care, and advocacy. Funding is needed to ensure that promising new ideas continue to be pursued as they emerge – providing a margin of excellence for addiction research, prevention, and treatment in this difficult time of public funding. Below are opportunities available for a range of donation levels.

**$15 million+**  
**Addiction Research Center Endowment:** An endowment to build the new Rutgers Addiction Research Center creates a lasting and prestigious legacy at Rutgers as a sustainable funding source to support the organization's ability to pursue addiction research, prevention, and treatment programs in perpetuity.

**$5-10 million**  
**Faculty Recruitment and Support:** A continuing focus will be on the need to recruit the best and brightest minds, and purchase or develop the technology necessary to advance their work. These funds will help recruit and retain outstanding professors, associate professors, and assistant professors in addiction research, treatment, and prevention. These funds would be used toward ARC-wide salaries and research/program start up support.

**Treatment Research Unit:** The addition of this TRU component to the ARC would be a crucial, new element to move from bench to bedside, linking precision medicine research with clinical treatments by measuring treatment effectiveness as a function of genetics, age, gender, and environment relevant to each individual addict. This will involve a wide range of inpatient and outpatient research programs for drug dependent patients. Through the TRU, patients benefit from substance abuse research while specialists advance knowledge and develop new therapies.
$3 Million
Endowed ARC Director: An endowed chair in addiction research will be important to recruit a senior addiction scientist who has made outstanding contributions to addiction research or treatment, and who could provide leadership and direction for development of a robust ARC. This Director would facilitate and oversee development of novel applications of basic through clinical addiction science, public policy reform and community outreach to lead the Rutgers Addiction Research Center. The ideal candidate would bring with them substantial federal and state funding and maintain a robust research program of their own, to lead by example.

$1 Million
Pilot Grant Funding: Seed money for innovative pilot projects able to generate new data to support applications to future large scale federal and state funding agencies (NIH, NIDA, DOD, NIAAA, etc.)

Fellowships: To support post-doc, MD, and PhD trainees while they obtain the interdisciplinary training not currently supported by conventional disciplinary sources of funding.

Symposia, workshops, and external communications: Communication is a critical element in any scientific enterprise, and is particularly important for a new interdisciplinary center with large ambitions such as the ARC in an institution the size of Rutgers. 1) Scientific Communications: An annual international symposium, as well as multiple regional and Rutgers-wide workshops each year, will ensure that research within the ARC is well disseminated and that ideas among the best and brightest addiction researchers in the world are fully discussed and integrated into ongoing developments across multiple fields of science relevant to the addiction problem. 2) Public Communications: ARC will disseminate information to the public online and in print form twice a year. In addition, an annual lay-lecture series given by leading addiction experts will be established to engage the public and provide the latest info on prevention, treatment, policy, etc., and also increase visibility for addiction work being done at Rutgers.

These are just a few examples of funding needs to create the Addiction Research Center at Rutgers University. The Rutgers University Foundation is pleased to discuss options that would be most meaningful to you.
Projected Return on Investment

Initial private philanthropy to create the Rutgers Addiction Research Center will provide essential funds to create robust multi-disciplinary addiction research, treatment, and education programs that will strategically position Rutgers scientists as leaders in addiction research and medicine. ARC sustainability will be a direct outcome of these initial funds, providing necessary preliminary research findings and program outcomes to apply for state and federal (National Institutes of Health, National Institutes on Drug Abuse, United Stated Department of Defense, National Institute on Alcohol Abuse and Alcoholism, etc.) center, multi-investigator research, teaching, and program grant awards. In addition, building partnerships with biotech/pharma companies to discover new diagnostics and treatments, and partnering with other research institutions, hospitals, rehabilitation centers, and advocacy groups will result in new and continuing financial support for ARC sustainability and expansion.

More importantly, your support will help our dedicated scientists understand and advance the scientific basis for the disease of addiction, and thereby develop new ways to prevent and treat drug addiction, changing the lives of millions of people and their families who suffer from the significant physical and societal problems associated with this disease.

A GIFT TO CREATE THE ADDICTION RESEARCH CENTER WILL BE A POWERFUL AND SUSTAINING INVESTMENT ALLOWING LEADING RESEARCH SCIENTISTS AND PHYSICIANS AT RUTGERS UNIVERSITY TO RESEARCH THE CAUSES, TREATMENT, AND PREVENTION OF ADDICTION, CREATE EDUCATIONAL AND TREATMENT PROGRAMS, AND REFORM PUBLIC POLICY THAT WILL BENEFIT MILLIONS OF PEOPLE GLOBALLY.