

CHERISH

Center for Health Economics of Treatment Interventions for Substance Use Disorder, HCV, and HIV



Newsletter - May 2020

COVID-19 Can Change the Way We Respond to the Opioid Crisis - for the Better

The Coronavirus (COVID-19) pandemic has brought unprecedented challenges in healthcare delivery to people who use drugs. However, it may also have provided impetus to precipitate innovative changes in providing opioid overdose prevention, syringe services, and medication for opioid use disorder (MOUD) to this vulnerable population. In a new Viewpoint in *Psychiatric Services*, CHERISH Research Affiliate **Yuhua Bao** from Weill Cornell Medicine, Arthur Robin Williams from Columbia University, and CHERISH Director **Bruce Schackman** outline changes in policies addressing the opioid crisis during COVID-19 and highlight the opportunity to continue them after the pandemic subsides.

Social distancing measures and resulting social isolation may exacerbate the risk of fatal overdose due to reduced access to in-person naloxone distribution through harm reduction services and more injection drug use in isolation. In order to adapt to social distancing measures, some syringe service programs have begun or increased delivering naloxone kits and sterile syringes to clients' homes and have relaxed policies that limit the number of syringes that can be exchanged.

SAMHSA has also provided blanket exceptions for extended take home for methadone and buprenorphine dispensed by opioid treatment programs, although adoption and implementation of these measures likely varies at the state and treatment program level.

The Viewpoint authors suggest that payment reforms must accompany the expansion of telemedicine and take-home dosing in order to ensure sustainability.

While the COVID-19 has pushed the limits of the healthcare system, it has also presented opportunities to implement innovative models of care delivery for people who use drugs. The natural experiments created by COVID-19 will enable researchers to evaluate adoption and health outcomes in order to determine which of these policy changes should be sustained long-term.

Engaging Health Economics and Health Services Researchers with Harm Reduction Policymakers and Advocates

When it comes to substance use disorder-related policies and funding, evidence is absolutely necessary though not sufficient. In a recent webinar with CHERISH Research Affiliates, Dr. Jules Netherland, Managing Director of the Drug Policy Alliance Department of Research and Academic Engagement, and Daniel Raymond, Deputy Director of Planning and Policy at the Harm Reduction Coalition, discussed the potential roles of health economics and health services researchers in harm reduction policymaking and advocacy, and opportunities and challenges for researcher engagement.



Jules Netherland and Daniel Raymond

In This Newsletter

- ▶ CHERISH publication and virtual seminar on COVID-19
- ▶ Select roundup of recent publications by CHERISH Investigators and Research Affiliates
- ▶ Announcement of our Cycle 6 Pilot Grant Recipients
- ▶ Information on our consultation services and resources for researchers
- ▶ Upcoming AHSR Virtual Conference 2020

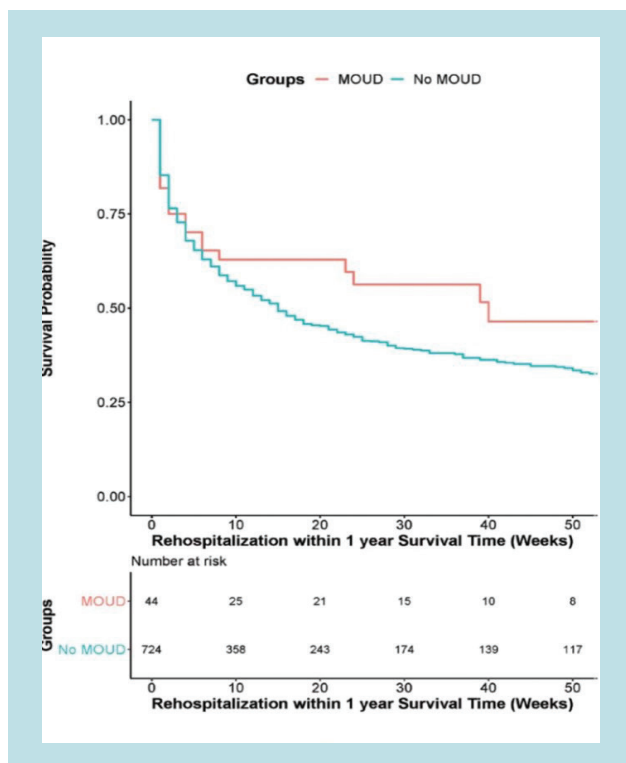
Congratulations Corner

- ▶ **Bruce Schackman, PhD** appointed to Executive Vice Chair of the Department of Population Health Sciences at Weill Cornell Medicine
- ▶ Welcome **Iván Montoya, MPH** to the CHERISH team at University of Miami

Overdose and Re-hospitalization Rates Following Endocarditis Are Lower for Patients Receiving Medications for Opioid Use Disorder

The proportion of hospital admissions for endocarditis attributable to injection drug use increased from 7% in 2000 to 12% in 2013. Endocarditis is an infection in the lining of the heart chambers and valves that can be contracted through shared injection equipment. Rates of endocarditis are disproportionately affecting young people who inject drugs (PWID), which has long term health consequences and affects future healthcare utilization. Endocarditis treatment often includes valve replacement and a lengthy course of antibiotics, which lead to costly long-term hospitalizations and may lead to prosthetic valve infections that require re-treatment. Among those who have been treated for endocarditis, estimates of reinfection range from 13% to 44% due to continued injection drug use. Treatment with medication for opioid use disorder (MOUD) such as methadone, buprenorphine or naltrexone can decrease the likelihood of continued injection drug use and reinfection. The treatment episode for endocarditis offers an opportunity to initiate MOUD prior to discharge to reduce the likelihood of reinfection and overdose.

A recent study by CHERISH Research Affiliate **Joshua Barocas, MD** and colleagues at Boston Medical Center, Boston University, and Tufts Medical Center examined the rates of MOUD initiation among PWID following endocarditis treatment, and compared overdose and health outcomes among those who initiated MOUD and those who did not. This study examined treatment and health outcomes for 768 adults 18 years or older with opioid use disorder (OUD) who underwent endocarditis treatment between 2010- 2016 in the Market-scan commercial claims and encounters database. The study found that only approximately 6% of the individuals treated for endocarditis (44/768) initiated MOUD during the peri-hospitalization period or within 30 days of the index endocarditis hospitalization. Those who initiated MOUD were significantly younger than those who did not (average age of 25 and 40 years, respectively) and experienced fewer overdoses compared to those who did not (5.8 per 100 person years [PY] and 7.3 per 100 PY, respectively). They also experienced fewer episodes of opioid related re-hospitalizations during the one-year follow up (162.0 per 100 PY and 255.4 per 100 PY, respectively). In adjusted Cox proportional hazard models, however, the receipt of MOUD was not associated with either outcome. This may be attributed to low overall event occurrences or the lack of methadone treatment information in the claims database. Methadone was not reliably included in the data set and was not included in the analysis, because it was not covered by commercial insurance until late 2017. The study highlights a missed opportunity to engage PWID with endocarditis in MOUD care in order to reduce the risk of overdose, improve health outcomes, and reduce costly re-hospitalizations.



Dr. Barocas and colleagues conclude that there is a crucial need to improve low barrier access to MOUD, and early initiation of MOUD should be the standard of care for persons with OUD-related infections. An invited commentary by Ellen Eaton, MD, MSPH at the University of Alabama contextualizes these findings within the U.S. treatment system and insurance reimbursement structure. Dr. Eaton compares the financial support for the continuum of OUD care to that of HIV to illustrate how government funding influences treatment uptake and availability. People with OUD face several financial and physical barriers to accessing MOUD, such as waiting lists for treatment that are upwards of one year long and the low number of waived physicians that is not distributed across the country in a pattern consistent with the greatest need. In contrast, people living with HIV can be initiated on ART on the day of diagnosis and connected to additional services due to continued government support through Ryan White funding and other avenues. In order to implement same day MOUD to improve long term health outcomes and address the opioid overdose epidemic, Dr. Eaton emphasizes the need for comprehensive funding and support for MOUD.

Simulation Modeling Presents Opportunities To Support The Public Health Response To The Opioid Crisis In North America

Although there are several evidence-based cost-effective interventions for people with opioid use disorder (OUD), they are underutilized. Questions remain regarding intervention selection, and cost of service delivery. Simulation modeling offers an opportunity to support decision making to address the syndemic of opioid overdose, HIV, and hepatitis C (HCV). In an article recently published in the *International Journal of Drug Policy*, the OUD Modeling writing group described the benefits of using simulation models for OUD-related clinical and public health decision making and the different types of simulation models available.

The authors outlined several benefits of simulation modeling that allow researchers to study scenarios that would not be possible to study in the real world at the necessary pace required for decision making. Simulation models can translate results from small-scale trials to the population level. They can also be used to explore uncertainty regarding current knowledge in order to highlight important individual-level, and system-level factors that drive outcomes. In doing so, they can explore the health effect and costs of different intervention combinations over long periods of time that exceed what would be feasible during a clinical trial.

Model selection depends on the research question, whether the model needs to account for interactions between individuals, the time horizon, and the granularity of the data available. Various types of models can be used to address these questions, including Markov models, micro-simulation models, population-based compartmental models, and agent-based models. The authors provide examples of how model selection can be “fit to purpose.” CHERISH currently offers consultation services to provide guidance for building the appropriate model.

To maximize the impact of opioid models, the authors emphasize that substantial efforts will be required to collect, analyze, and synthesize the data needed to support model development. The authors encourage the modeling community to collaborate to share model code and pool resources to generate critical inferences; produce, adapt and cross-validate models; and effectively disseminate findings. They argue that the opioid crisis is unprecedented and the modeling community should recognize the need for a collaborative approach in order to respond as effectively as possible, while acknowledging the challenge to manage collaborations so that they produce timely results and address the questions of greatest relevance to policymakers at the local and regional level.

Cycle 6 Pilot Grant Recipients



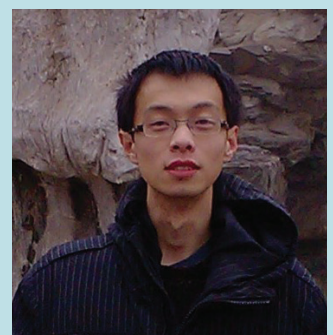
Ali Jalali, PhD

Ali Jalali, PhD is a Postdoctoral Research Associate in the Department of Population Health Sciences at Weill Cornell Medical College. Dr. Jalali's project is, “Prenatal Opioid Exposure, Neonatal Abstinence/ Opioid Withdrawal Syndrome: Healthcare Utilization, Costs, and Economic Burden.” Dr. Jalali's CHERISH sponsor is **Sean Murphy, PhD** at Weill Cornell, Director of the CHERISH Consultation Services.



Austin Kilaru, MD

Austin Kilaru, MD, MSHP is a Fellow in the National Clinicians Scholars Program and Clinical Instructor in the Department of Emergency Medicine at the University of Pennsylvania. Dr. Kilaru's project is, “Sustained Treatment with Buprenorphine Following Emergency Department Encounters for Opioid-Related Illness.” Dr. Kilaru's CHERISH sponsor is **Zack Meisel, MD, MPH, MSHP** at the University of Pennsylvania, Co-director of the CHERISH Dissemination & Policy Core.



Hao Zhang, PhD

Hao Zhang, PhD is a Postdoctoral Research Associate in the Department of Population Health Sciences at Weill Cornell Medical College. Dr. Zhang's project is, “Uncontrolled pain and access to opioid prescriptions in the emergency departments among patients with metastatic bone cancer and sickle cell disease.” Dr. Zhang's CHERISH sponsor is **Yuhua Bao, PhD** at Weill Cornell.

Virtual Seminar: Battling the Opioid Crisis During COVID-19

The University of Pennsylvania Leonard Davis Institute hosted a virtual seminar on May 8th entitled, "Battling the Opioid Crisis During COVID-19." Moderator Dr. Jeanmarie Perrone spoke with **Drs. Colleen Barry**, Yngvild Olsen, CHERISH Policy Advisory Board member **Joshua Sharfstein** and CHERISH investigator **Zachary Meisel**. Dr. Perrone began the discussion by describing the unique challenges in housing, mental health and isolation for people who use drugs, which make them



Zachary Meisel, MD, MPH, MSHP leading panel

at higher risk for COVID morbidity and mortality. As the Medical Director of a substance use disorder treatment program, Dr. Olsen reflected on the challenges in providing medication for opioid use disorder (MOUD), and patient support during COVID. She explained that MOUD telemedicine policies have created a "digital divide," possibly increasing disparities due to the unequal distribution of telemedicine services. Dr. Barry emphasized that previous MOUD policies were grounded in stigma, and that changes in regulatory barriers may present the unparalleled opportunity to expand treatment and advance "a much more integrated financial system across the country for substance use treatment."

Dr. Meisel cautioned that despite progress in MOUD treatment policies, people with opioid-related overdoses may be avoiding acute care due to COVID concerns, and described the 40% decrease in emergency department admissions and 22% reduction in recovery specialist consultations. Dr. Sharfstein explained that the COVID-related changes in MOUD policies highlight the limits of fee-for-service medicine, and present an opportunity to create substance use disorder performance incentives similar to those that exist for other chronic health conditions. The panelists agreed on the need for studies to examine implementation, adoption, costs and consequences of MOUD policy changes, and how the pandemic is ameliorating or widening disparities in substance use disorder care. To read more about the seminar and to watch the recording: <https://ldi.upenn.edu/news/covid-19-meets-opioid-crisis-creating-disruptions-and-opportunities>.

AHSR Virtual Conference 2020

Due to the impact of COVID-19, the Addiction Health Services Research (AHSR) conference in 2020 will be held virtually. The AHSR planning committee designed and adapted the conference programming to foster a sense of connection, and plans to:

- Broadcast virtual plenary talks on October 15th and 16th
- Host virtual poster sessions (poster submissions accepted through June 1st)
- Coordinate virtual poster slams and awards for early career researchers
- Facilitate a virtual mentoring program to connect early and established researchers

AHSR 2020 VIRTUAL

Additionally, they will offer monthly virtual workshop series beginning in November 2020 leading up to the conference the following year in Providence, Rhode Island in October 2021. The AHSR 2020 activities will be offered at no cost, and participants will be required to register. For more information see: <https://www.ahsrconference.org/>

Consultation Service

We have health economic evaluation expertise in:

- Budget impact and costing
- Cost-benefit
- Qualitative data collection
- Cost-effectiveness
- Quality of life
- Statistical analysis / econometrics

We have health economic modeling expertise in:

- Markov modeling
- Discrete event simulation
- Agent-based modeling
- Monte Carlo simulation
- Compartmental modeling
- Longitudinal data

To learn more about CHERISH consultation services for researchers:

www.cherishresearch.org/consultation