

Puerto Rican Syndemics: Opiates, Overdoses, HIV, and the Hepatitis C Virus in a Context of Ongoing Crises

Puerto Rico is undergoing serious political and socioeconomic crises. Before the recent political turmoil forcing the resignation of (now former) Governor Ricardo Rosselló, massive government debt had already led to unrest because of unpopular austerity measures (e.g., pension cuts, shrinking public education, and hospital closures). Additionally, a decades-long financial crisis had already triggered large-scale emigration from Puerto Rico (a colony of the United States) to the continental United States, a phenomenon that was significantly augmented by Hurricane Maria in 2017. Puerto Rico's vulnerability to natural disasters is compounded with its adverse political and socioeconomic conditions to create an exceptionally unstable public health environment.

Although 28 000 people who inject drugs (PWID) call Puerto Rico home,¹ the island hosts only five syringe services programs (SSPs), which are poorly funded, and only six methadone clinics, which are at capacity, to serve 5500 PWID. Because of limited services, needle sharing and cooker sharing are normative behaviors among PWID in Puerto Rico.² In fact, 48% of the 49 476 cumulative HIV/AIDS cases in Puerto Rico are PWID linked (42% injection drug use and 6% male-to-male sexual contact and injection drug use),³ and HIV prevalence among PWID in San Juan, the capital of Puerto Rico, is 13%.⁴

Puerto Rico also hosts one of the most hepatitis C virus (HCV)–vulnerable PWID populations of the United States and its territories. Hepatitis C prevalence among PWID in rural Puerto Rico is 79%, and it is as high as 90% in San Juan.⁵ Puerto Rico's Department of Corrections and Rehabilitation reports that there were 12 381 people incarcerated in 2015. Data gathered by the Department of Corrections and Rehabilitation from 12 074 of these individuals show that 11.17% suffered from substance use disorders while incarcerated.⁶ Injection drug use is rampant throughout Puerto Rico's prison system, and access to sterile injection supplies is nonexistent. Among PWID living with HIV in Puerto Rican prisons, many are coinfecting with HCV. And yet, because of its outdated abstinence requirement for patients to access HCV treatment, the Puerto Rican government continues to deny HCV treatment to its PWID. It is, then, no mystery why HCV has reached a ubiquitous presence on the island.

Although fentanyl-laced heroin and cocaine fueled the rise of fatal overdoses in post-Maria Puerto Rico, we lack scientific understanding of fentanyl production and distribution in Puerto Rico, and overdose surveillance is not being conducted. Although naloxone (an overdose antidote) is available over the counter, the impoverished circumstances of Puerto Rico's PWID population likely requires distributing naloxone free of

charge. Hence, it may be sound to provide SSPs (and prisons) with naloxone to expand access. Mirroring cities and states with large PWID populations in the United States, Puerto Rico's Department of Health could fund SSPs across the island. SSPs reduce HIV, HCV, and overdose risks more effectively than do faith-based and abstinence-only programs, which do receive funds from the local government.

By highlighting the overlapping (and interacting) epidemics (i.e., injection drug use, HIV, HCV, and opioid overdoses) fueling Puerto Rico's syndemic context, we seek to draw attention to structural determinants of disease and mortality that must be modified to save lives. Moreover, weak structural determinants of PWID's health cement their stigmatization and marginalization, which in turn affects timely uptake and adherence to HIV and HCV care, opioid agonist therapies, and overdose prevention. But we also seek to propose avenues for future research that are

aligned with Puerto Rico's syndemic context.

First, we know fentanyl is present in the island's drug supplies, but we do not understand its advent and evolution. Although conducting overdose surveillance can help uncover the extent of the problem and also intelligently allocate prevention resources, identifying the structural factors behind the introduction (and maintenance) of fentanyl in Puerto Rico after Hurricane Maria is necessary to build a grounded response to what may be a prolonged problem.

Second, future HIV and HCV research should aim to gauge Puerto Rico's contextual complexity and assess disease syndemics in tandem with the island's sustained political, socioeconomic, and environmental (hurricane-prone Caribbean) instability. For example, it remains a mystery why HIV prevalence among PWID is relatively low in San Juan (13%) and in rural Puerto Rico (6%)⁴ when paraphernalia sharing inside and outside prisons is normative. Studies that have compared continental US-born PWID with PWID in Puerto Rico consistently show higher injection risk behaviors among PWID in Puerto Rico and among migrant PWID from Puerto Rico in New York City; these studies typically ascribe

ABOUT THE AUTHORS

Camila Gelpi-Acosta is with the Center for Drug Use and HIV and HCV Research, New York University College of Global Public Health, New York, and the Department of Social Sciences, LaGuardia Community College, City University of New York (CUNY), Long Island City. Carlos E. Rodríguez-Díaz is with the Department of Prevention and Community Health, George Washington University-Milken Institute School of Public Health, Washington, DC. Yesenia Aponte-Meléndez is a PhD candidate at The New School for Social Research and a Project Director at the Graduate School of Public Health and Health Policy, CUNY. Roberto Abadie is with the Department of Sociology, University of Nebraska-Lincoln.

Correspondence should be sent to Camila Gelpi-Acosta, Associate Professor of Social Sciences at LaGuardia Community College, City University of New York, 31-10 Thomson Avenue, Long Island City, NY 11101 (e-mail: camilagelpi@gmail.com; cgelpi@lagcc.cuny.edu). Reprints can be ordered at <http://www.ajph.org> by clicking the "Reprints" link.

This editorial was accepted November 16, 2019.

doi: 10.2105/AJPH.2019.305487

these findings to the lack of disease-prevention services, such as opioid agonist therapies and SSPs in Puerto Rico.² These low HIV prevalence numbers among PWID in Puerto Rico may stem from PWID's everyday practices helping prevent HIV infection despite sustained injection paraphernalia sharing. In a context of increasing poverty, identifying these practices and understanding how they are maintained despite all the contextual disincentives to remain HIV safe may help save lives through their systematic dissemination.

A recent editorial in *AJPH* addressed the negative impact that the US law Puerto Rico Oversight, Management, and Economic Stability Act (2016) has over the economy and health of Puerto Ricans.⁷ It is also true that the Puerto Rican government could still significantly improve its efforts to prevent disease, death, and the structurally forced

US-bound migration of PWID searching for services they lack in Puerto Rico.² Science has conclusively shown that SSPs and opioid agonist therapies save lives (and governmental resources) by preventing infections. To save lives, the Puerto Rican government must start supporting evidence-based interventions: opioid agonist therapies, SSPs and the distribution of naloxone through SSPs, methadone clinics and prisons. Finally, the scientific community concurs that it is no longer medically sound to deny HCV treatment to PWID. We do not need more research on the efficacy of these interventions. They work. The data are conclusive. The political inertia costs lives. *AJPH*

Camila Gelpí-Acosta, PhD

Carlos E. Rodríguez-Díaz,
PhD

Yesenia Aponte-Meléndez, MA
Roberto Abadie, PhD

Electric Scooters: Case Reports Indicate a Growing Public Health Concern

With the introduction of rideshare electric “dockless” scooters in 2017 by Bird Rides, Inc, a new type of affordable transportation became available to the public. Often seen along the sidewalks and street corners of downtown metropolitan areas, these devices are strategically designed for the heavily congested, urban population centers. Patrons download an application on their smartphone, enter billing information, and then link the account to any available electric scooter. Although commercially available models exist with a top speed of 50 miles per hour and

a range of 75 miles, electric scooters from Bird and Lime travel at a top speed of 15 miles per hour and have a range between 15 and 20 miles. On completion, the rider leaves the scooter along the sidewalk, where it waits for the next interested patron. Some of the appealing aspects of these devices include low cost, ease of accessibility, and the ability to bypass the often standstill traffic conditions by using the bike lanes, surface street, and sidewalk.

Over the past two years, market demand has grown, with multiple companies (e.g., Bird,

CONTRIBUTORS

The authors contributed equally to this article.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

REFERENCES

- Degenhardt L, Peacock A, Colledge S, et al. Global prevalence of injecting drug use and sociodemographic characteristics and prevalence of HIV, HBV, and HCV in people who inject drugs: a multistage systematic review. *Lancet Glob Health*. 2017;5(12):e1192–e1207.
- Gelpí-Acosta C, Guarino H, Benoit E, Deren S, Pouget ER, Rodríguez A. Injection risk norms and practices among migrant Puerto Rican people who inject drugs in New York City: the limits of acculturation theory. *Int J Drug Policy*. 2019;69:60–69.
- Puerto Rico Department of Health. Puerto Rico HIV/AIDS surveillance summary: cumulative HIV/AIDS cases diagnosed as of February 28, 2019. 2019. Available at: <http://www.salud.gov.pr/Estadisticas-Registros-y-Publicaciones/Estadisticas%20VIH/Estad%20C3%ADstic%20Generales/2019/Febrero%202019/Puerto%20Rico%20HIVAIDS%20Surveillance%20Summary.pdf>. Accessed November 23, 2019.

4. Thrash C, Welch-Lazoritz M, Gauthier G, et al. Rural and urban injection drug use in Puerto Rico: network implications for human immunodeficiency virus and hepatitis C virus infection. *J Ethn Subst Abuse*. 2018;17(2):199–222.

5. Abadie R, Welch-Lazoritz M, Gelpí-Acosta C, Reyes JC, Dombrowski K. Understanding differences in HIV and HCV prevalence according to differentiated risk behaviors in a sample of PWID in rural Puerto Rico. *Harm Reduct J*. 2016;13:10.

6. Martínez-Guzmán DA. Perfil de la Población Confinada, año 2015 [Profile of the Incarcerated Population, 2015]. 2015. Available at: http://ac.gobierno.pr/correccion/wp-content/uploads/2015/12/perfil_poblacion_confinado2015.pdf. Accessed November 23, 2019.

7. Rodríguez-Díaz CE. Maria in Puerto Rico: natural disaster in a colonial archipelago. *Am J Public Health*. 2018;108(1):30–32.

ankle sprains to major injuries including open fractures, traumatic brain injuries, and even death.^{2–4}

RECENT CATASTROPHIC INJURIES

Cedars-Sinai serves a large trauma catchment area in west Los Angeles, California, which represents ground zero for the introduction of electric scooters partly because of the high pedestrian traffic, tourist activity,

Lime, Spin, Uber, and Lyft) entering the industry. Electric scooters and their derivative will become a \$42 billion industry by 2030.¹ However, in parallel with their growing popularity has been an awareness of their safety hazards. Reports across the United States cite various types of injuries, from skin abrasions and

ABOUT THE AUTHORS

Peyton L. Nisson and Ray Chu are with the Department of Neurosurgery, Cedars-Sinai, Los Angeles, CA. Eric Ley is with the Department of Surgery, Cedars-Sinai.

Correspondence should be sent to Ray Chu, MD, Associate Professor, Department of Neurosurgery, Cedars-Sinai, 127 S San Vicente Blvd, Advanced Health Sciences Pavilion, A6600, Los Angeles, CA 90048 (e-mail: ray.chu@cshs.org). Reprints can be ordered at <http://www.ajph.org> by clicking the “Reprints” link.

This editorial was accepted November 16, 2019.

doi: 10.2105/AJPH.2019.305499