Research Article ISSN 2689-1050

Chemical & Pharmaceutical Research

Healthcare in Crisis: Understanding the State of Puerto Rico's Medical System

Andrea Camila Marcano-Rodriguez*

Student at University of South Florida Tampa, Florida, United States.

***Correspondence:**
Andrea Marcano-Rodriguez, Student at University of South Florida Tampa, Florida, United States.

Received: 02 June 2025; **Accepted:** 09 July 2025; **Published:** 18 July 2025

Citation: Andrea Camila Marcano-Rodriguez. Healthcare in Crisis: Understanding the State of Puerto Rico's Medical System. Chem Pharm Res. 2025; 7(3): 1-6.

ABSTRACT

Puerto Rico's healthcare system exists in a state of crisis, shaped by decades of economic decline, colonial neglect, and systemic underfunding. This paper examines structural inequities, such as capped Medicaid funding, that have contributed to a fragile system unable to meet Puerto Ricans' needs even before Hurricane Maria, one of the deadliest hurricanes in U.S. history, devastated the island. Survivor accounts and health data reveal compounding failures, including infrastructure collapse, where complete power/water loss led to lethal treatment delays; mental health deterioration, with suicide rates skyrocketing post-disaster; workforce shortages, as low wages, unbearable working conditions, and insurer corruption drive medical professionals to the mainland. Without Medicare/Medicaid parity, infrastructure investment, appropriate disaster planning, and medical workforce support, recovery remains impossible—raising worries that the next disaster will yield even deadlier consequences.

Keywords
Hurricane, Mental health, Infrastructure.

Introduction
Puerto Rico's healthcare crisis cannot be discussed without understanding its broader economic collapse and colonial subjugation. Since 2006, the island has faced a prolonged recession triggered by the expiration of pharmaceutical patents, outsourcing of manufacturing to Asia, and the Great Recession [1]. By 2017, labor force participation drastically decreased to 40%, unemployment peaked, and over half of children lived in poverty, with 36% in extreme poverty [1]. This economic downfall, exacerbated by governmental fiscal mismanagement, set the stage for a healthcare system already on the brink of collapse when Hurricane Maria struck in September 2017.

After the storm, one hundred percent of the island lost drinking water and electricity, with this being the worst blackout in American history [2]. Hospitals, already struggling with pre-existing shortages, were further disadvantaged: 85% of cell towers failed [3], dialysis patients lost access to treatment, and electronic health records became inaccessible as facilities reverted to paper [3]. A Harvard study estimated 4,645 deaths with high uncertainty up to 8,500 due to lack of disaster-specific training for physicians, government underreporting, and inconsistent death certification [4]. This makes Maria the deadliest hurricane to strike Puerto Rico and one of the deadliest in United States history, exceeding Katrina death tolls. The federal response was inadequate for the amount of destruction the island faced. FEMA deployed only 500 personnel to Puerto Rico compared to 2,650 for Hurricane Irma in Florida [5], leaving survivors to drink from contaminated streams and live in mold-infested homes, fostering a large public health concern.

This catastrophe was not merely natural, but also political. Puerto Rico's colonial status has led to inappropriate infrastructure investments and exclusion of American citizens living on this territory from benefits like full Medicaid funding. These structural conditions have deepened the island's ongoing humanitarian challenges, including: an aging population with rampant chronic illness [6], a mental health system unable to keep up with post-disaster trauma [7], and a physician exodus driven by wages 50% lower than the mainland [8].

This paper examines how economic decline, infrastructural

neglect, and colonial policy converged to create Puerto Rico's healthcare catastrophe and why systemic reform is crucial. It also analyses the effect that these shortcomings have had on the island's population: from mistrust in the government to increased overdose risks.

A Crumbling Healthcare Infrastructure

There is a great disparity in the quality of care that Puerto Rican and U.S. residents receive, despite the fact that both are citizens and considered "equals" under the law. For instance, compared to Hispanic and white Medicare Advantage (MA) enrollees residing in the United States, those living in Puerto Rico received worse care in 10 of the 17 evaluated quality-of-care measures [9]. Certain therapies and treatments, such as bronchodilator therapy, were 21.3 to 23.8 points lower in enrollees in the territory than those in the U.S. [9]. This disparity has existed since before Hurricane Maria devastated the island. In fact, 72 of Puerto Rico's 78 municipalities are medically underserved [1].

Environmental hazards have also contributed significantly to Puerto Rico's deteriorating healthcare system. Numerous studies have linked environmental exposures on the island to elevated rates of childhood asthma, increased incidence of adverse birth outcomes, and recurring outbreaks of vector-borne illnesses like Zika. Even before the storms, Puerto Rico violated federal drinking water standards regarding volatile organic compounds and disinfection byproducts. The island's limited landfill capacity and low recycling rates have led to a persistent waste-management crisis. Toxic waste sites are found in approximately 3.4 of every 1,000 square miles in Puerto Rico—more than twice the U.S. average of 1.4 [1]. This has contributed to outbreaks of diseases like dengue, which is primarily spread by the invasive mosquito *Aedes aegypti* [10]. These viruses pose major public health concerns, especially for pregnant women, whose children are at risk of neurodevelopmental delays and microcephaly [11].

After Hurricane Maria, environmental threats to public health became even more dire. With limited access to potable water, many residents resorted to drinking from streams, leaky water trucks, or condensation from air conditioners. Contact with contaminated water sources triggered outbreaks of leptospirosis, a bacterial disease commonly transmitted through floodwater and poor sanitation. Schools reported increased rates of gastrointestinal illness, along with spikes in conjunctivitis and influenza [1]. Meanwhile, mold, debris, and pests overtook homes, schools, and elder-care facilities. The lack of ventilation in elder-care homes, combined with heat and humidity, further contributed to illness in vulnerable populations [1].

The disparity in care is even more concerning given Puerto Rico's older and sicker population. Due to multiple factors, such as outmigration, the island has faced an increasingly aging population. 24.5% of residents in the island were 65 or older in 2019-2020, compared to 16.5% on the mainland [12]. Puerto Rico also has some of the highest rates of chronic illness among U.S. jurisdictions, including diabetes (16.7%), obesity (32.8%), asthma (18.1%), and cardiovascular disease (7.2%)—all exceeding national averages [6]. Yet, these elevated health needs are not matched with adequate healthcare coverage. Puerto Rico receives less federal support through programs like Medicare and Medicaid, which are underfunded compared to their mainland counterparts [5].

Although Puerto Ricans contribute to Medicare, they are excluded from key benefits like Supplemental Security Income (SSI) and low-income subsidies under Medicare Part D, leaving many to pay more out of pocket for essential medications [13]. Unlike residents of the mainland, Puerto Ricans must manually enroll in Medicare Part B, often missing critical coverage [13].

These institutional inequities make it difficult for older, low-income residents to access the care they need. Nearly half of Puerto Rico's 3.5 million residents rely on the public healthcare system, which is chronically underfunded (CMS, n.d.). Longstanding economic struggles—including a recession since 2006, expiring tax incentives, and mounting public debt—have only further limited access to care. Patient autonomy is also restricted under Puerto Rico's mandatory 100% managed care system, which does not allow patients to choose their own plans. This limits competition and individual freedom (CMS, n.d.). Although Hurricane Maria briefly brought an influx of federal aid and short-term healthcare jobs, these efforts failed to address deeper structural deficiencies in care.

Hospitals were already stretched thin before Hurricane Maria, but the storm amplified existing weaknesses. Out of the commonwealth's 70 hospitals, only three were fully operational three days after the hurricane [3]. Two months later, 40% still relied on backup generators [14], which frequently failed due to overuse and lack of maintenance. This disrupted basic services like lighting, air conditioning, and refrigeration for medications. In some cases, facilities went days without power. Medical appointments were canceled, and many patients were forced to travel long distances to receive care [1]. Twenty of the island's 92 Federally Qualified Health Centers (FQHCs) were either shut down or barely functional. Half operated without reliable electricity, clean water, digital medical records, or sufficient staff for months [1]. Power outages also jeopardized dialysis and proper insulin storage, endangering those with chronic conditions.

These systemic failures have persisted. One study on end-of-life (EoL) care for cancer patients in Puerto Rico found that palliative care remains limited, forcing many patients to rely on emergency departments in their final days [15]. This indicates a lack of coordinated care and signals a broader breakdown in health system infrastructure. The public health crisis in Puerto Rico is not the result of a single disaster, but rather the culmination of years of neglect, underfunding, and unequal treatment. Without sustained investment, improved infrastructure, and long-term policy reforms, these inequities will continue to threaten the lives and dignity of Puerto Rican residents.

Psychological Wounds of a Collapsing System: The Mental Health Emergency in Puerto Rico

Before Hurricane Maria, Puerto Rico was already battling a mental health crisis, with a highly privatized system limiting the quality and access to services [16]. As of 2016, about 165,000 Puerto Ricans aged 18–64 suffered from serious mental illness—over 7% of the island's population [7]. In contrast, only 4.2% of adults in the U.S. mainland suffered from serious mental illness that same year. A 2016 survey of 10,000 Puerto Rican students in grades 7 to 12 revealed high rates of mental health challenges: ADHD (15.7%), major depression (13.4%), suicidal ideations (8.3%), and conduct disorders (6.9%) [17]. Mental illness was also widespread among adults. In a study of 678 adult caregivers, 76.6% of men and 44.2% of women reported experiencing at least one traumatic event. Repeated exposure to trauma—particularly violent incidents involving weapons—was linked to increased symptoms of PTSD and depression [18]. Puerto Rico's culture, political instability, poverty, and other chronic stressors have made its residents more vulnerable to psychological distress.

These issues worsened following Hurricanes Irma and Maria, a string of earthquakes (late 2019–2020), and the COVID-19 pandemic. Catastrophic events like Hurricane Maria can increase the incidence of mental illness by up to 40%, both by aggravating preexisting conditions and sparking new ones [19]. After the storm, symptoms of anxiety, depression, and PTSD became widespread—natural responses to systemic collapse and lack of government support. One emergency clinic reported that 90% of patients needed mental health screenings [1]. Suicides increased by 29% in 2017, rising from 196 in 2016 to 253 [1]. Calls to suicide prevention hotlines more than doubled, jumping from 2,046 in August 2017 to 4,548 in January 2018 in Bayamón, PR [5]. In 2018, the Behavioral Risk Factor Surveillance System recorded a considerable increase in poor mental health days among Puerto Ricans compared to 2016 [20].

The homeless population is especially vulnerable to mental health struggles. Studies estimate that between 12% and 30% of Puerto Rico's homeless population suffer from mental illness [19]. Conditions like anxiety, depression, and PTSD are significantly more prevalent among the homeless than the housed, underscoring how deeply economic insecurity and lack of support contribute to mental health disparities. Similarly, Puerto Rico's rapidly aging population faces its own set of mental health challenges. Individuals aged 60 and older are projected to make up nearly 40% of the island's population—compared to 22% on the mainland [1]. Among older Puerto Ricans, approximately 19.7% suffer from depression [7], and chronic illnesses such as diabetes and hypertension are strongly associated with mental health decline, particularly when multiple conditions are present [21]. Sensory impairments like poor vision, which are more common in older adults, are also linked to depression in this group [21].

Financial instability further compounds this crisis. Even before Hurricane Maria, 39.5% of Puerto Ricans aged 65 and older lived at or below the federal poverty line. In 2015, 80.2% of this group relied on Social Security as their primary income source [1]. These older adults are more vulnerable to neglect and financial exploitation, both of which can trigger anxiety and depression. The mass outmigration of younger adults has also taken a toll on the mental health of older Puerto Ricans, increasing feelings of abandonment and loneliness. Many live alone, especially in remote, mountainous areas where access to services is limited. Nearly 40% of seniors live alone, and the departure of family members following Maria has left them with even fewer perceived support systems. Repeated exposure to natural disasters, political dysfunction, and economic turmoil has created deep emotional exhaustion in this population, worsening the public mental health crisis.

Despite the overwhelming demand for care, Puerto Rico's mental healthcare infrastructure is ill-equipped to meet residents' needs. The island has fewer mental health professionals per capita than any U.S. state or territory [7]. The hurricanes and subsequent earthquakes severely disrupted access to services, especially in rural areas [7]. 41% of Puerto Ricans reported difficulty reaching their providers after the earthquakes due to damaged infrastructure or displacement [22], particularly in mountainous or remote regions. For individuals with chronic or terminal conditions such as cancer, these disruptions were especially devastating. Delays in treatment like chemotherapy, radiation, and lab testing caused both physical decline and emotional strain. Many patients described feelings of hopelessness and anxiety about worsening prognoses, exacerbating the island's mental health emergency [22].

Though federal aid and community-led interventions were mobilized, significant gaps remain in the accessibility and quality of mental health services. The disparity between Puerto Rico and the mainland only deepened after the hurricanes, exposing the fragility of the island's mental health system. There is a critical window after disasters during which mental health care must be delivered. Meeting this window requires federal and local governments to coordinate responses, deploy resources quickly, and provide consistent support. Without this preparation, post-disaster surges in mental illness become inevitable. While complications such as poor coordination and limited resources may arise during emergency responses, many of these issues can be prevented through early planning and established protocols [23]. Investments in infrastructure, especially in mental health services for high-risk groups—and proactive screening for those with chronic conditions are essential steps toward building a system resilient enough to handle future crises.

Puerto Rico's Battle with Drugs and Public Health Implications

The opioid epidemic in the United States began in the late 1990s with the overprescription of opioids like OxyContin, heavily promoted by pharmaceutical companies [24]. By the 2010s, many users turned to heroin as prescription opioids became more restricted. In 2013, synthetic opioids like fentanyl—50 to 100 times stronger than heroin—flooded drug markets [24], leading to a sharp rise in overdose deaths. While Puerto Rico's descent into this crisis followed a different trajectory, it accelerated around the same time.

Due to its geographic location and status as a U.S. territory, Puerto Rico served as a major transshipment point for cocaine and heroin from South America to the U.S. mainland. Methadone, a treatment for opioid addiction, became widely used on the island in the early 2000s in response to rising substance abuse. Between 2000 and 2001, 10,835 users received intervention for substance abuse—88% of them men. Among male users, 23.4% were admitted for marijuana abuse, 23% for heroin, and 14.3% for cocaine. Among females, 20% received help for heroin misuse, 16.3% for marijuana, and nearly 10% for cocaine [25]. By 2003, high-purity heroin and crack cocaine—both strongly linked to violent crime, community instability, and overdose— were widely abused [25].

A 2014–2015 study found that 16.5% of more than 1,500 San Juan residents surveyed reported illegal or non-prescribed drug use in the past year. The most common users were men, young adults, and individuals lacking family support [26]. By 2017, just before Hurricane Maria, fentanyl-related overdoses surged, with over 600 cases and approximately 60 deaths—up from 200 overdoses and 8 deaths in 2016 [27]. Despite this spike, Puerto Rico failed to apply for a $7.8 million federal opioid response grant, leaving the island critically short of resources to address the crisis [27].

A study of 66 People Who Inject Drugs (PWID) from 2016 to 2019 found that self-reported overdoses rose from 10.6% to 24.2%, and the risk of overdose tripled. Weekly cannabis use increased from 24.2% to 42.4%, and benzodiazepine use from 25.8% to 42.4% [28]. These trends emerged in part due to shifts in drug policy during the War on Drugs, which funneled resources into enforcement and criminalization rather than prevention and treatment. This resulted in the disproportionate incarceration of low-income, rural drug users, often for nonviolent offenses [29]. The emphasis on punishment over harm reduction created dangerous gaps in treatment and slowed the development of effective public health responses.

Another study on rural PWID revealed that incarcerated users were often forced to quit heroin "cold turkey" in unsanitary conditions, increasing their risk for withdrawal complications and infections like HIV and hepatitis C [29]. After Hurricane Maria and the COVID-19 pandemic, access to naloxone (a medication that reverses opioid overdoses), syringe exchange programs, and opioid agonist treatment became even more limited in rural areas. These gaps contributed to higher overdose deaths and other preventable health consequences. The importance of naloxone education and access—especially amid the shift from heroin to fentanyl—has been emphasized repeatedly as a way to save lives [30].

The drug crisis in Puerto Rico poses a wide range of public health risks beyond overdoses. The widespread use of heroin and cocaine contributes to homelessness, addiction, and psychiatric issues such as depression, PTSD, and trauma—especially in medically underserved areas [25]. Longstanding issues with alcohol and tobacco use also continue to fuel chronic conditions across the population [31]. The stigma surrounding drug use only deepens these challenges. Many drug users report mistreatment in healthcare settings, which further discourages them from seeking care and exacerbates health disparities [32].

Despite the growing crisis, Puerto Rico allocated only 6.2% of its total expenditures (approximately $900 million) toward substance abuse-related programs. These included mental health services, child and family assistance, and education initiatives [25]. While these programs exist, the persistence and worsening of the drug problem on the island demonstrate that federal action must go beyond partial funding. A comprehensive, long-term harm-reduction and treatment strategy is needed to confront this deeply rooted public health emergency.

Exodus of Care: The Medical Professional Shortage in Puerto Rico

Despite the urgent need for healthcare services, more and more professionals are leaving Puerto Rico, leaving the population with nowhere to turn. In fact, the number of psychiatrists dropped from 500 to 300 after Hurricane Maria [33], leaving a population already prone to mental illness without the specialists to care for them. One of the biggest motivators for physician outmigration is the overwhelming workload. In Puerto Rico's long-underserved healthcare system, the burden has fallen on the few remaining doctors and nurses, with little new talent entering the field. As more professionals leave, those who stay must care for overwhelming numbers of patients—many of whom are elderly and/or suffer from poorly managed chronic conditions like hypertension and diabetes. Puerto Rico has only one Emergency Department for every 14,786 people [34]. This leads to longer hours, fewer resources, and minimal relief, as the commonwealth relies on this shrinking workforce to provide even the most basic medical services. Physicians have struggled to keep up, leading to 13-hour delays in emergency rooms and 6–12 month wait times to see pediatric neurologists [34]. Moreover, 66% of primary care physicians on the island are over the age of 55, compared with 43% on the U.S. mainland [35]. This pressure fuels burnout, which then motivates even more physicians to leave. The result is a vicious cycle that contributes to the further collapse of an already strained system.

Corruption has also driven many physicians away. Insurance companies are often structured to serve political interests rather than patient care. During Governor Pedro Rosselló's administration (1993–2001), Puerto Rico's healthcare system was privatized, creating new opportunities for corruption tied to political favoritism [8]. One physician described being pressured to make regular political donations to remain in good standing with insurance providers. Without these contributions, his practice risked being excluded from insurer coverage [8]. This kind of corruption, embedded deeply into the system, forced many doctors to choose between betraying their morals or losing their livelihoods.

Another major reason healthcare professionals are leaving Puerto

Rico is the island's flawed compensation structure and difficult economic conditions. Despite being overworked and serving populations with high rates of chronic illness, Puerto Rican physicians earn significantly less than their mainland counterparts. Family practitioners in Puerto Rico earn an average of $82,700 per year, compared to $155,400 in the lowest-paying U.S. state—and in many cases, doctors in the mainland earn two to three times more than those in the commonwealth. In addition to low baseline wages, Medicare reimbursement in Puerto Rico is 70% less than on the mainland. One physician reported earning $50 for a Pap smear in the U.S. mainland, while Puerto Rican doctors earn just $25 for the same procedure, despite having the same overhead costs [8].

At the same time, the cost of living in Puerto Rico remains high. Most goods are imported and come with elevated prices; the island has an 11.5% sales tax, and utilities like electricity and water are exceptionally expensive. Physicians must not only contend with low wages and high living expenses, but also delays in payments from insurance companies and burdensome student debt [8]. With three out of four medical schools on the island being private, medical students face even more expensive loan repayments [8].

A survey of 130 ophthalmologists—60% of those practicing on the island—found that insurance and billing issues, including prior authorizations, denied claims, and contract cancellations, were the primary reasons they would consider leaving Puerto Rico [36]. One-third of participants had also reported considering leaving since 2017 [36], highlighting that these problems are not recent developments, but part of a longstanding trend in physician dissatisfaction and outmigration. Even in the face of dire need, U.S. based insurance companies retain significant control over Puerto Rico's healthcare system, even going so far as to deny the hiring of new physicians [25].

Conclusion

Puerto Rico's healthcare system remains in crisis, burdened by political corruption, chronic underfunding, physician outmigration, and years of institutional neglect. While monetary aid has occasionally been distributed, history has shown that funding alone is not enough. Hospitals continue to operate with limited resources, critical infrastructure remains vulnerable to natural disasters, and entire communities, especially those in rural areas, are left without consistent and quality access to care. Mental health and substance use challenges are rising, yet services remain limited and underprioritized. The loss of healthcare professionals, many of whom leave for better pay and working conditions on the mainland, has only deepened the gaps in care across the island. True progress will require more than temporary solutions—it demands comprehensive policy reform, serious investment in resilient infrastructure, and competitive wages that incentivize healthcare professionals to stay. Continued research is also essential to uncover overlooked issues and elevate the voices of Puerto Rican communities that have long been ignored. Without bold and sustained action, Puerto Rico's healthcare system will remain what it is today: a case study in institutional failure.

References

1. Chandra A, Marsh T, Madrigano J, et al. Health and Social Services in Puerto Rico before and after Hurricane Maria: Predisaster Conditions, Hurricane Damage, and Themes for Recovery. Rand Health Q. 2021; 9: 10.
2. Padilla MT, Rosado N. Tossed to the wind: Stories of Hurricane Maria Survivors. University Press of Florida. 2020.
3. Rios CC, Ling EJ, Rivera Gutierrez R, et al. Puerto Rico Health System Resilience after Hurricane Maria: Implications for Disaster Preparedness in the covid-19 ERA. Front. Commun. 2021; 5.
4. Méndez-Tejeda R. An Analysis of the Deaths Reported by Hurricane Maria: A Mini Review. Journal of Scientific Research and Reports. 2019; 24: 1-6.
5. Lerman S. ¿qué sistema de salud? broken health care in Puerto Rico. Medical Anthropology. 2018; 38: 210-223.
6. Mattei J, Tamez M, O'Neill J, et al. Chronic Diseases and Associated Risk Factors Among Adults in Puerto Rico After Hurricane Maria. JAMA network open. 2022; 5: e2139986.
7. Rivera FI, Belligoni S, Arroyo Rodriguez V, et al. Compound Crises: A Review of the Impact of Emergencies and Disasters on Mental Health Services in Puerto Rico. Int. J. Environ Res Public Health. 2024; 21: 127.
8. Varas Díaz N, Rodríguez Madera S, Padilla M, et al. On leaving: Coloniality and physician migration in Puerto Rico. Soc Sci Med. 2023; 325: 115888.
9. Colón HM, Sánchez-Cesareo M. Disparities in health care in Puerto Rico compared with the United States. JAMA Intern Med. 2016; 176: 794.
10. Barrera R, Ruiz J, Adams LE, et al. Historical Hot Spots of Dengue and Zika Viruses to Guide Targeted Vector Control in San Juan, Puerto Rico (2010-2022). Am. J. Trop. Med. Hyg. 2024; 110: 731-737.
11. Alvarado Domenech LI, Rivera Amill V, Appleton AA, et al. Early childhood neurodevelopmental outcomes in children with prenatal zika virus exposure: A cohort study in Puerto Rico. The Journal of Pediatrics. 2022; 247: 38-45.
12. Matos-Moreno A, Santos-Lozada AR, Mehta N, et al. Migration is the driving force of rapid aging in Puerto Rico: A research brief. Population Research and Policy Review. 2021; 41: 801-810.
13. Cintrón MT. How Medicare leaves Puerto Ricans behind. STAT. 2024.
14. Joseph SR, Voyles C, Williams KD, et al. Colonial Neglect and the Right to Health in Puerto Rico After Hurricane Maria. Am J Public Health. 2020; 110: 1512-1518.
15. Ramos Fernández MR, Ortiz Ortiz KJ, Torres Cintrón CR, et al. Patterns of end-of-life care as measured by emergency room visits among cancer patients in Puerto Rico. American Journal of Hospice and Palliative Medicine. 2021; 39: 72-78.
16. Negroni LK, Medina CK, Rivera Díaz M, et al. Perceptions of mental health and utilization of mental health services in Puerto Rico. Social Work in Mental Health. 2019; 18: 149-169.

17. Moscoso Alvarez MR, Rodríguez-Figueroa L, Reves-Pulliza JC, et al. Adolescentes De Puerto Rico: Una Mirada A Su Salud Mental Y Su Asociación Con El Entorno Familiar Y Escolar. Revista Puertorriqueña de Psicologia. 2016; 27: 320-332.
18. Overstreet C, Berenz EC, Sheerin C, et al. Potentially traumatic events, posttraumatic stress disorder, and depression among adults in Puerto Rico. Frontiers in Psychology. 2016; 7: 469.
19. Vega A, Carl Y, Molina Perez X, et al. Mental health assessment and risk characterization in Puerto Rico's homeless post-hurricane Maria. Journal of Poverty. 2024; 28: 528-548.
20. Cortés YI, Lassalle PP, Perreira KM. Health Care Access and Health Indicators in Puerto Rico Pre- and Post- Hurricane Maria: Behavioral Risk Factor Surveillance System (2015-2019). J Immigr Minor Health. 2023; 25: 247-254.
21. Rostant O, Poggi R. Depressive profiles among older Puerto Rican adults. P R Health Sci J. 2023; 42: 80-86.
22. Peña-Vargas C, Toro-Morales Y, Valentin P, et al. Impact of Seismic Activity on Access to Health Care in Hispanic/Latino Cancer Patients from Puerto Rico. Int. J. Environ. Res. Public Health. 2022; 19: 4246.
23. Alto ME, Nicasio AV, Stewart R, et al. Provision of mental health services immediately following a natural disaster: Experiences after Hurricane Maria in Puerto Rico. Journal of emergency management. 2021; 19: 167-175.
24. https://govfacts.org/federal/cdc/the-opioid-crisis-prevention-treatment-and-recovery
25. https://www.healthcarefinancenews.com/news/low-government-reimbursement-rates-crushing-national-debt-fuels-physician-shortage-puerto-rico
26. Caetano R, Vaeth PAC, Canino G. Illegal drug use and its correlates in San Juan, Puerto Rico. Drug and Alcohol Dependence. 2048; 185: 356-359.
27. Coto D. Growing opioid crisis adds to Puerto Rico's problems. PBS. 2019.
28. Abadie R, Cano M, Habecker P, et al. Substance use, injection risk behaviors, and fentanyl-related overdose risk among a sample of PWID post-Hurricane Maria. Harm Reduction Journal. 2022; 19: 129.
29. Abadie R, Gelpi-Acosta C, Davila C, et al. "It ruined my life": The effects of the war on drugs on people who inject drugs (PWID) in rural Puerto Rico. International Journal of Drug Policy. 2018; 51: 121-127.
30. Burgos Barreto G. Opioid use and overdose patterns in Puerto Rico in 2020-2022: A retrospective descriptive study. IJCSRR. 2024; 7: 462-472.
31. Del Valle-Colón CDD, Torres-Rodríguez J, Carrasquillo-Rivera M, et al. Critical overview of current drug abuse in Puerto Rico based on Governmental Data. Puerto Rico Health Sciences Journal. 2024; 43: 177-185.
32. Contreras VR, Madera S, Padilla M. Silenced stories of illicit drug use in the aftermath of Hurricane Maria in Puerto Rico: Experiences of healthcare providers, policymakers, and patients. Critical Public Health. 2023; 33: 618-632.
33. Moran M. Psychiatrists collaborate with Puerto Rican communities after storm. Psychiatric News. 2017; 52: 1-1.
34. Weikel K, Juarez L, Irizarry CM. PAs in Puerto Rico: How asociados médicos are persevering through restrictive practice laws. JAAPA. 2022; 35: 59-61.
35. Wilkinson E, Killeen D, Pérez López GJ, et al. A Shrinking Primary Care Workforce in Puerto Rico. Am Fam Physician. 2020; 101: 13-14.
36. Al-Attar L, Ocasio Diaz RA, Ponce AN, et al. How physician-insurance contracting contributes to the Medical Exodus and access to Ophthalmic Care in Puerto Rico. Epidemiologia. 2024; 5: 715-727.