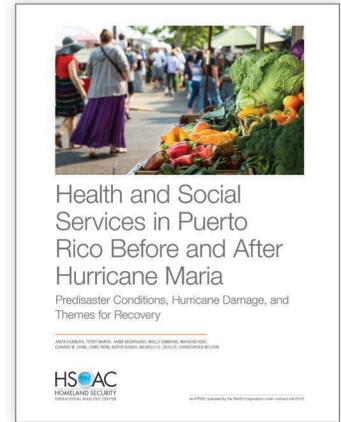


Health and Social Services in Puerto Rico Before and After Hurricane Maria: Predisaster Conditions, Hurricane Damage, and Themes for Recovery



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Hurricane Maria magnified problems in Puerto Rico's fragile system for delivering social, behavioral, and environmental health services, which were evidenced by chronic disease burdens, demographic transitions, and unmet health needs. The recovery plan outlines action strategies for building a robust health infrastructure, strengthening the health care workforce, expanding social service capacity, and investing in healthy communities.

RESEARCH QUESTIONS

- Why did the 2017 hurricanes have such a major health impact on Puerto Rico?
- How and why did economic conditions in Puerto Rico prehurricane exacerbate the response and recovery challenges posthurricane?
- How are population changes in Puerto Rico creating new vulnerabilities?
- How do shortages of health specialists and access issues pose functional challenges to the health care system?
- Where and how do recovery plans for health and social services spill over into or depend on other sectors, such as education and communications and information technology (IT)?
- What are the actions, costs, and possible funding mechanisms to build back Puerto Rico better?

KEY FINDINGS

- **Puerto Rico faced persistent economic and sociodemographic challenges prehurricane.** Before Hurricanes Irma and Maria, overall rates of chronic disease in Puerto Rico were higher than U.S. averages. Migration away from Puerto Rico has decreased the commonwealth's workforce and tax base. A lack of fiscal transparency and accountability hampered the government of Puerto Rico's ability to address these large challenges.
- **Health care facilities sustained major damage from the hurricanes.** Damage to buildings and electrical, water, and communications infrastructure closed clinical and diagnostic medical facilities—some for several months. Where facilities remained open, services were compromised by intermittent access to power and water, lack of access to client records, and limited staff. Strain on the health care network was amplified when hospital and health clinic use increased posthurricane.
- **Health impacts were wide-ranging in the wake of the hurricanes.** The presence of mold, debris, pests, and waterborne vectors produced unsafe living conditions in highly impacted areas. Increases in anxiety, depression, and posttraumatic stress disorder (PTSD) were widely reported. Gastrointestinal outbreaks at schools, increased incidences of conjunctivitis and influenza, and deaths from leptospirosis were reported.
- **Social services that could avert negative health outcomes were also disrupted.** Locating and identifying people after the storm were hampered by data access difficulties. Gaps in benefits and supportive services for distributing food and nutrition, medications, and supplies affected the population's health and well-being.

RECOMMENDATIONS

- Large efforts to build capacity and strengthen the backbone of the health care system would make Puerto Rico more resilient to future disasters. New technologies (e.g., solar-powered generators, mobile and telehealth systems) would ensure a more flexible and agile infrastructure for accessing clinical data and delivering care. Stronger primary care options (e.g., community health centers) with improved mental health services, better financing (e.g., Medicaid and Medicare payments), and integrating and digitizing health information would aid in postdisaster periods and improve the standard of care overall.
- The workforce for health can be strengthened with programs to incentivize, retain, and train health care providers and public health practitioners. Initiatives would include loan repayment programs, policies to allow nurse practitioners (NPs) and physician assistants (PAs) from other states to provide care, and training in public health surveillance and vital records data use.
- Supportive services for the most at-need populations—children, seniors, and those with chronic health conditions—must be strengthened. Flex-funding for nutrition assistance programs, waivers to regulations for emergency health and social service needs, public education on detecting child and senior abuse, enhanced food stockpiles for older adults, and hiring more child welfare investigators are recommended actions.
- Healthy communities support healthy people. Transportation, education, natural and cultural resources (e.g., parks, museums), and broadband communications are interconnected social and economic determinants that help to improve and protect the health and well-being of communities.
- A regionally integrated approach for emergency preparedness, improved systems for emergency medical stockpiles, and public information campaigns to engage communities in the recovery process are recommended.