



HURRICANE DORIAN

Situation Report No. 13

13 September 2019 – 11:00 EDT

HIGHLIGHTS

- At the publication of this report, potential tropical storm Nine is currently stationary 304 km from Great Abaco. The National Hurricane Center calls for this system to become a tropical cyclone later today or Saturday. A tropical storm warning has been issued for Northwestern Bahamas expected to bring heavy rain and tropical force winds which might impact ongoing relief efforts.
- The Department of Social Services has established a registry of missing people. As of September 11th, officially about 2,500 individuals have been reported missing but that number is expected to lower once cross reference is done with individuals in shelters. According to media reports including from the New York Times and BBC, the number has lowered to 1,300 missing.
- A syndromic surveillance system is operational in hospitals and shelters. The Ministry of Health continues to strengthen epidemiological surveillance capacity with daily visits to shelters.
- The water on Abaco has been deemed not safe for potable or domestic use by the Water and Sanitation Corporation.
- Environmental conditions continue to be an issue. There is a significant risk of waterborne and vector-borne disease transmission due to the deteriorated sanitary conditions (i.e. floodwaters and potential sewage contamination) and the lack of access to safe water in the affected communities. Increase in mosquito and rodent vectors are expected in the medium term.



Figure 1: Images of destruction from Marsh Harbour post Hurricane Dorian. Top: a collapsed government port. Bottom: The Mudd neighborhood



AFFECTED

>76,000 people ¹



DEATHS

50 confirmed ³

DAMAGED



Health Facilities ²



MISSING

2,500 people ³



EVACUATED

5,500 to New
Providence ³

4,000
to the United States ⁵

1. UN News September 5

2. PAHO Bahamas Situation Report 13.

3. NEMA Daily Brief September 11

4. CDEMA Situation Report 11

5. International Medical Corps Sit Rep #8

SITUATION OVERVIEW

Hurricane Dorian reached Category 5 intensity on September 1, 2019 when it made landfall in Elbow Cay, Abaco at 12:40 EDT peaking with sustained winds of 185 mph. At 23:00 EDT Dorian made landfall in Grand Bahama with the same intensity. However, the ridge of high-pressure steering Dorian westward collapsed on September 2, causing Dorian to stall over Grand Bahama for about over two days. The hurricane had devastating effects, especially on the islands of Grand Bahama and Abaco, as they had prolonged exposure to extreme hurricane force winds, storm surges, flooding and intense rainfall. New Providence has also experienced some impacts from the hurricane. This disaster is considered the largest humanitarian crisis in the country caused by a Hurricane with over \$7 billion estimated in property damages, including thousands of destroyed dwellings.

As a result of massive flooding and damages to the water and sanitation and health infrastructure, water safety, sanitation, and hygiene are primary concerns. Therefore, there is a significant risk of waterborne and vector-borne disease transmission due to the deteriorated sanitary conditions and the lack of access to safe water in the affected communities. Increase in mosquito and rodent vectors are expected in the medium term with reports already of increased mosquito breeding in Abaco and Grand Bahama. Mosquito-borne diseases such as dengue, and malaria, and the rodent borne leptospirosis are of particular concern. Food and water have arrived in Marsh Harbor Town (Abaco), but hygiene and surveillance (early warning system) are critical issues to address. The capacity of the healthcare delivery system has been impacted by Hurricane Dorian in Abaco and Grand Bahama. Access to health services and medical care delivery capacity has been significantly hampered in the most affected areas. The operational status of health facilities in both islands is being assessed. Information regarding status and damages reported might change daily as assessments are underway.

BAHAMAS^{i,ii,iii,iv}

As of 11th September 2019, it is estimated that more than 76,000 persons are affected and at least 15,000 need assistance, as reported by the World Food Programme (WFP). Over 3,000 are estimated to be in shelters of which 2,043 are registered in 10 shelters in New Providence according to the Ministry of Health. Providing immediate and long-term shelter solutions for Internally Displaced persons (IDPs) remains a priority for the Bahamian government, as such, the number of shelters in Nassau have been increasing to receive new evacuees and relieve shelters at full capacity. The National Emergency Management Agency (NEMA) is seeking additional shelters and materials, as well as additional security.

The death toll remains at 50 (42 on Grand Abaco and 8 on Grand Bahama) according to NEMA but mass casualty numbers are expected to rise significantly as more areas become accessible and search and rescue operations continue. An estimated total of 5,500 people were evacuated from Abaco and Grand Bahama into New Providence, of which 4,800 are registered to be in Nassau. International Medical Corps (IMC) reports 4,000 were evacuated to the United States while NEMA reported a significant decrease in the number of individuals presenting for evacuation. On the 11th of September, the Department of Social Services and NEMA established a registry of missing people; an initial estimate of 2,500 people have been reported missing. Media reports indicate that number has lowered to 1,300 as of Friday morning.

After a rapid assessment of the Rand Memorial Hospital (Grand Bahama), it was determined that the hospital did not have any major structural damages with minor repairs needed for the roof. The pharmacy is reported to be fully stocked with medical supplies and medicines and the city water and electricity is restored. However, a professional deep cleaning and decontamination is still needed. There is a high volume of relief activities and actors, the Bahamas Civil Aviation Authority approved over 900 flights to Abaco and Grand Bahama.

Abaco:

- Telecommunications are progressively being restored while electrical infrastructures remain extremely damaged.
- Four mainland Abaco clinics are reported operational by CDEMA with all emergency and ICU patients evacuated from Abaco
- Assessment of clinics in the Cays is needed

Grand Bahama:

- CDEMA reports communication capability has been re-established in Freeport and are partially operational in West Grand Bahama
- According to OCHA, satellite data suggest that 76-100% of buildings analyzed near High Rock are destroyed.
- Patients from Rand Memorial Hospital are being moved to Samaritan's Purse EMT hospital established nearby for treatment so that decontamination activities can continue.

HEALTH SITUATION

The Department of Environmental Health Services (DEHS) has conducted assessments for the environmental health and food safety among growing concerns about overcrowding at some shelters and certain environmental conditions. DEHS made recommendations on daily waste and trash management and food safety for shelters. The Ministry of Health conduct daily visits to shelters and screens incoming evacuees. Various Emergency Medical Teams in the country report main pathologies to include skin infections, exacerbated chronic conditions, puncture wounds and lacerations. In Treasure Cay, there were 4 reports of acute respiratory infections. In East Grand Bahama there have been reports of admissions for psychosocial support and skin disease. In Calvary Haitian Baptist Church, suspected scabies cases were reported among many rash cases. Anti-parasitic medicines for 430 people have been procured and diagnosis is being supported by PAHO and CDC.

Grand Bahama

Shelters in Grand Bahama reported one case of fever and respiratory symptoms (St. George's with 59 people). One case of skin infection was reported from Hawksbill Clinic likely due to exposure to floodwater, and one diarrheal case was reported from Eight Mile Rock Clinic on 11 September.

Abaco:

Heart to Heart International (EMT) reported information on area near Treasure Cay. They had outreach activities with first site at The Farm, and at second site at a church (info on exact location pending). Yesterday, they saw approximately 70 patients — 30 at the clinic and 20-25 at each outreach site. Majority patients presented with NCDs including untreated diabetes and hypertension. Few cases of uncomplicated diarrheas and bronchitis was reported. They were told that the vulnerable population in the area was 400 people, but they estimate 600 people. Well water was contaminated, and piped water was unavailable.

NEEDS

Preliminary needs include safe water, food, sanitary and hygiene measures. WASH supplies, shelter supplies, non-perishable food items, and first aid items are needed. As more information is received about how many people are staying in areas, surveillance systems need to be adjusted to cover also those left on the island. Due to the large number of displaced persons, life-saving medications for those with chronic conditions are needed. Furthermore, access to health services and medical care in the community has been identified as a need for the undocumented migrant population, as they might be hesitant to go to health care centres and shelters to access services and support. Debris removal, waste management, and identifying storage and management strategies on the islands remain a priority as well as in the shelters. Mental health and psychosocial support are also urgently needed.

WASH: NEMA has stated that the provision of water to North Abaco and Marsh Harbour is a priority along with providing water to isolated communities. Currently, water is being produced using reverse osmosis and treatment, however water storage and transport to areas with limited access remain a challenge. As such, re-establishing electrical capacity and power to well fields in Abaco and Grand Bahama is needed.

Shelters: With an increasing number of people arriving in various shelters, many of which are already at capacity and overcrowded in Nassau, food safety, WASH, and general hygiene measures need to be strengthened. Promotion of hand washing practices and placement of hand sanitizers is needed. While syndromic surveillance systems are in place, health staff and medical supplies are still required in areas, including Haitian-creole to English interpreters. Ensuring access to health clinics and pharmacies from shelters, and characterization of the evacuee destinations is also needed so that health care services can be planned and monitored for ongoing surveillance.

Hospitals: A rapid assessment of Rand Memorial Hospital has been completed. Electricity has been restored and the city water supply is functioning. While the hospital clean-up has started, more in depth cleaning is needed to remove contamination. Additional assessment of other clinics on the impacted islands whose status are unknown is also needed. Internal infrastructure repair due to flooding is seen in multiple assessed clinics. Medicines and medical supplies need to be restocked and general cleaning and sanitation is required. Food, water, and electricity remain an issue for certain facilities in Abaco and Grand Bahama. The Ministry of Health have identified Cooper's Town Clinic (Abaco) to be of high priority to restore health services to Northern Abaco, it is currently operating on a generator and there is no water available. For more detailed information, on current assessments reported by PAHO, refer to the report of health facilities section in this report.

Health care workers: As most of the population on Abaco and Grand Bahama affected, including health care workers, there is an anticipated shortage of health personnel. Currently there is a rotation system with health care workers from New Providence providing support to the affected clinics in Abaco and Grand Bahama, however it is imperative to continue to support the health sector's response and care delivery capacity and facilitate rotation of health workers. These include surgeons, anaesthesiologists, pathologists, midwives, family physicians, psychiatrists, emergency and public health nurses. Additionally, providing adequate accommodation for medical personnel in the affected area is needed.

PRIORITY CONCERNS

- Restoring access to essential health services and continued medical care delivery
- Ensuring water quality in affected communities and in health facilities to restore access to safe water
- Mass casualty management including identification and storage of dead bodies.
- Restoring proper hygiene and sanitation and adequate waste management and vector control in affected communities and health facilities
- Ensuring quality donations and management of incoming supplies and donations as many are arriving directly to Freeport and Abaco.
- Increasing epidemiological surveillance to support early detection and timely management of disease outbreaks

RESPONSE ACTIONS

The Pan American Health Organization (PAHO) has pledged health sector infrastructure and public health support. PAHO is acting quickly with the support of the Ministry of Health to assess needs and damage assessments. A donor appeal was issued on

September 8th as a preliminary estimate to cover short-term healthcare, water and sanitation, epidemiological surveillance and vector needs in the most affected islands for the next 6 months. Furthermore, PAHO has set up a Bahamas Relief Fund to receive unrestricted and unearmarked funds from donors would like to support the Ministry of Health and its relief efforts.

An Incident Management System has been established in the country office. The PAHO's Disaster Response Team include 14 staff pre and post-deployment:

- Logistics (PHE Barbados)
- Infrastructure assessment (PHE Barbados)
- WASH (CPC Barbados)
- LLS/SUMA (PHE Barbados)
- EMT coordinator (PHE WDC)
- Civil and military coordination (PHE Barbados)
- Information management (PHE Barbados)
- Epidemiological surveillance (2 X PHE WDC)
- Communications and media (1 X PHE WDC)
- Incident Manager CPC Barbados)
- Coordination (CDE Panama)
- Health Services (HSS WDC)

Coordination: UN coordination system is on the ground and the Ministry of Health and PAHO are co-leading the Health Cluster. According to the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), there are over 200 humanitarian actors in the Bahamas, with operations focused on central and north Abaco, and Freeport, Grand Bahama. A coordination structure was agreed between international organizations and NEMA with the government leading and coordinating the response through the NEMA's Emergency Operations Center (EOC). International and national actors will be supporting the identified 14 different emergency support functions ranging from health to search and rescue. EOCs have been set up in Abaco and Grand Bahama to aid coordination. There are 10 international health partners in the Bahamas of which 7 are EMTs. PAHO continues to support the Ministry of Health.

Logistics: A Logistics Support System (LSS) has been set up by PAHO and operating at Odyssey Aviation, Nassau for incoming supplies. In collaboration with WFP and NEMA, PAHO will aid in streamlining the clearance and movement of incoming health and humanitarian relief for safe and fast distribution to the affected areas.

PAHO, through the UNHRD warehouse in Panama, has sent its first shipment of supplies to Nassau, including Aquatabs, Trauma Kits A+B, water bladders, and body bags. An additional shipment of the same supplies is being mobilized. PAHO's Revolving Fund has been informed and is taking action regarding the diphtheria and hepatitis A vaccines.

WASH and health infrastructure assessments continue to be carried out. A post-disaster assessment by the UN Economic Commission for Latin America and the Caribbean (ECLAC) will begin on the 22nd of September.

Risk Communication: PAHO is collaborating with the Ministry of Health to disseminate key messages on vector and water borne diseases

Surveillance: Daily syndromic and event-based surveillance have been established at shelters and hospitals. PAHO epidemiologists continue conducting field visits to assess risk of disease transmission and investigate rumors or signals.

Daily reports of the regular weekly syndromic surveillance system following the established case definitions should be given to the Ministry of Health from:

- All shelters in Grand Bahamas, New Providence, and Eleuthera
- All operational healthcare facilities in Grand Bahama and Abaco
- All EMTs working in the country
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Regular weekly syndromic surveillance:

- Clinics in New Providence and Eleuthera that treat evacuees from New Providence and Abaco

EMTs: A Medical Information and Coordination Cell (CICOM) has been set up within the Ministry of Health to coordinate the clinical care response to Hurricane Dorian. PAHO has deployed an EMT coordinator to join the CICOM in Nassau, and PAHO's EMT secretariat is supporting CICOM in verifying the registered EMTs and coordination with the health logisticians to support incoming teams and in-country transportation. The table below shows the operational status of the seven EMT teams.

Current status on EMTs^v:

Team	Operation Status	Location
Samaritan's Purse	Operational and providing support to Rand Hospital. Provided services to 123 outpatients and 11 new admissions. 12/40 are empty inpatient beds	Grand Bahama, near Rand Hospital
Heart to Heart International	Operational and assisting in distribution of water. Has a Haitian-creole translator. And attended 58 patients in 3 different sites	Treasure Cay, Assembly Church, The Farm
Team Rubicon	Deployed and operational in South Abaco	South Abaco, Fox TOWN
Humanity First	Provided service to 12 outpatients	Coopers Town
International Medical Corps	Provided service to 23 outpatients and administered 64 tetanus shots.	East Grand Bahama
New York city Medics	Operational	North Eleuthera
AmeriCares	Team Deployed to shelter and provided service to 50 outpatients	Nassau, New Providence

REPORTS ON HEALTH CARE FACILITIES *indicate update information as of September 11th, 2019. ⁱⁱ:

District	Service	Operational status	Status Update	Needs
Grand Bahama	Rand Memorial Hospital*	Partially operational	<ul style="list-style-type: none"> Rapid assessment completed There is electricity and backup generators City water supply is functioning Emergency room services are functional Patients are being gradually transferred to the field hospital 	<ul style="list-style-type: none"> A further detailed assessment of physical infrastructure is needed Professional in-depth cleaning Clinical management coordination with Samaritan Purse and other EMTs is needed Support in supply management Updated Emergency operational plan
	Eight Mile Rock	Operational	<ul style="list-style-type: none"> Generator is working Facility is fully staffed 	Internal infrastructure repairs needed as a result of flooding
	High Rock	Destroyed	<ul style="list-style-type: none"> Reports indicate that the clinic has been completely destroyed 	New facility needed
	Free Town	Unknown	<ul style="list-style-type: none"> Assessment is still pending 	
	McLean	Unknown	<ul style="list-style-type: none"> Assessment is still pending 	
	Pelican Point Clinic*	Destroyed		
	Freeport Community Clinic	Operational	<ul style="list-style-type: none"> Water damage patients with special needs have been transferred to private and public health care facilities 	Internal repairs needed as a result of flooding
	East Sunrise Clinic (Private)	Operational	<ul style="list-style-type: none"> Identified for surgical services Main maternity clinic in Grand Bahama 	
	Hawksbill Clinic	Operational	<ul style="list-style-type: none"> Structure intact Generator restored 	Internal repairs needed as a result of flooding
	Pearce Plaza Specialty Clinic	Operational	<ul style="list-style-type: none"> Structure is fully intact Moderate water damage Is used as an outpatient clinic Providing pharmacy services 	General and medical cleaning; Internal repairs needed as a result of flooding
	West End Clinic	Operational –	<ul style="list-style-type: none"> The physical structure is intact Water and electricity working. 	Repair to the residences for the nurse and physician
	Okyanos (Private)	Operational	<ul style="list-style-type: none"> Water and power needed. Once restored can offer relief medical services to the surrounding area. 	

	Sweeting's Cay	Unknown	<ul style="list-style-type: none"> No information available 	
	Grand Cay			Need for medical staff
District	Service	Operational status	Status Update	Needs
Abaco	Marsh Harbour Clinic	Operational	<ul style="list-style-type: none"> All external lighting down Treatment plant destroyed Pump failed – 1 functioning for potable water system 	<ul style="list-style-type: none"> Assessment of medical equipment Medicine and medical supplies need to be replenished (antibiotics and tetanus vaccines) General Cleaning and Sanitization required
	Cooper's Town Clinic	Operational	<ul style="list-style-type: none"> MoH reported structural damage to the roof. No water available Power disruption, generator in place with 5 days worth of fuel 	
	Fox Town Clinic*	Operational	<ul style="list-style-type: none"> PAHO preliminary assessment states that the structure is standing There is drinking water, medical supplies and a generator. medical staff in rotation 	Food Supplies to clinic Fuel for generator and generator needed
	Green Turtle Cay Clinic	Unknown	<ul style="list-style-type: none"> No report 	
	Hope Town Clinic	Non-operational	<ul style="list-style-type: none"> Reports of major damage to clinic Power disruption 	Assessment needed
	Man o war Cay Clinic	Unknown	<ul style="list-style-type: none"> Some damage reported Power disruption 	
	Moore's Island Clinic	Operational	<ul style="list-style-type: none"> No major damage reported. The structure is intact No water available Running on generator 	Require food and water Health Staff on rotation is needed
	Sandy Point Clinic	Operational	<ul style="list-style-type: none"> Power disruption, no generator 	Health Staff on rotation need
	Treasure Cay Clinic (Private)	Unknown	<ul style="list-style-type: none"> Population is small due to evacuations 	Supplies needed
	Crossing Rock Clinic	N/A	<ul style="list-style-type: none"> Was damaged in a previous hurricane 	
	Spring City (Satellite Clinic)	Unknown	<ul style="list-style-type: none"> 	

ⁱ CDEMA Situation Report #12

ⁱⁱ USAID Fact sheet #7

ⁱⁱⁱ Rapid Assessment Rand Memorial Hospital - PAHO

^{iv} PAHO Country Office Situation Report 13, September 11

^v CICOM Daily Update on activity for September 11