

Successfully Navigating The Covid-19 Pandemic in Puerto Rico

October 2020



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Why should you read this paper?

01 // The vital importance of protection, testing and contact tracing in order to bring your Business back to life on the island or operate your local government in the most efficient manner.

02 // Best practices and strategies for testing, contact tracing, social distancing, and protection during Covid-19.

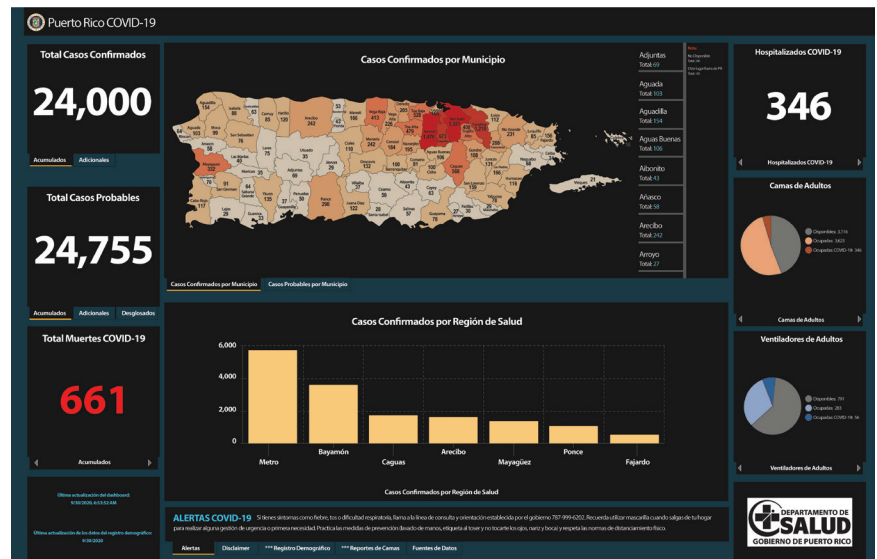
03 // Latest hard data on Covid-19's impact on the island

04 // Tracking and mitigating Covid-19 costs to business, government, and non-profits.

05 // Actionable measures that can be taken to protect your business during and after the pandemic

The real threat of covid-19 in sustaining Puerto Rico's social and economic growth

The number of cases in Puerto Rico have grown from 22 from March 2020 to 661 as of September 30, 2020.



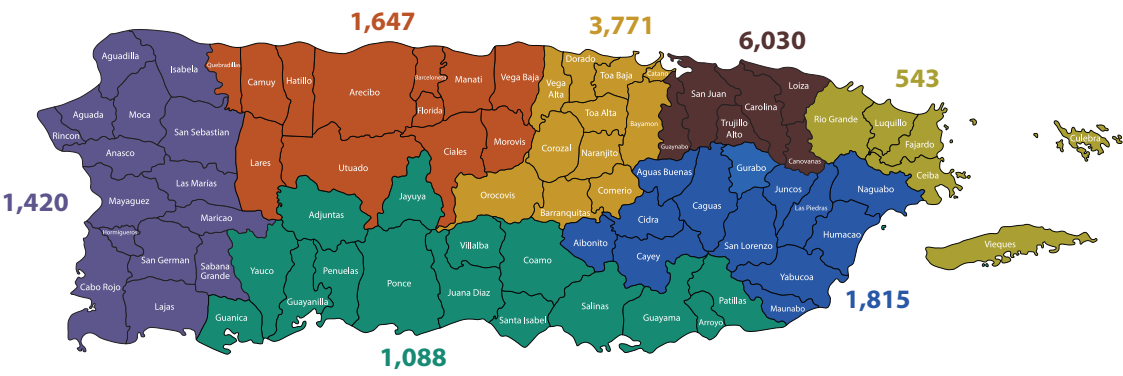
- The current pandemic threatens not only the lives of Puerto Ricans, but also the survival of businesses and the economy. This paper will identify and provide resources to recover faster, sooner and safer from Covid-19.
- PVMA Global Offers the following:
 - a. Project Management: We find money for you help you stay open safely.
 - b. Contact Tracing: Practice best practices during the pandemic.
- It is also important to stay up to date on federal, state, territory, local government, medical and business community recommendations and operational standards. Several countries around the world have implemented strategies that work. These best practices should be tools that every Puerto Rican understands and has knowledge of.

We are here!

For more than 25 years, staff at PVMA-USA and PVMA Global have provided health care consulting services to public and private hospitals regarding compliance billing for Medicare, Medicaid, and third-party insurers. As a result of our knowledge of regulatory billing requirements, our team has become several large municipalities and public sector agencies' trusted advisor for providing reimbursement services from FEMA after disasters; improving the quality of people's lives worldwide. Our dedicated, client-focused team has the expertise in public health surveillance, data collection methodology, and technical assistance needed to develop and manage complex contact tracing protocols.

The Data that makes the difference

The Puerto Rico Department of Health divides Puerto Rico into 7 regions each with its own epidemiologist and team.



- 01

As of September 1st, there were 15,584 confirmed coronavirus case and 435 recorded deaths.
- 02

The number of intubations related to COVID-19 is 51.
- 03

33,421 is the total of cases YTD for COVID-19 in Puerto Rico.
- 04

According to the statistics the percentage of fatality is 1.3% in the Island.

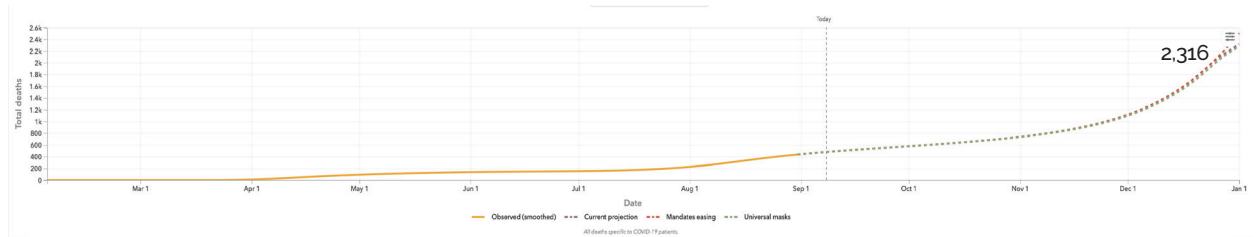
2019 Novel Coronavirus (COVID-19)
Cases in Puerto Rico (September 23, 2020)

Regions by the PR Dept. of Health	Municipalities	Confirmed Cases by Region
<div></div> Arecibo	Arecibo, Barceloneta, Camuy, Ciales, Florida, Hatillo, Lares, Manatí, Morovis, Quebradillas, Utuado, Vega Baja	2,064
<div></div> Bayamón	Barranquitas, Bayamón, Cataño, Comerío, Corozal, Dorado, Naranjito, Orocovis, Toa Alta, Toa Baja, Vega Alta	4,708
<div></div> Caguas	Aguas Buenas, Aibonito, Caguas, Cayey, Cidra, Gurabo, Humacao, Juncos, Las Piedras, Maunabo, Naguabo, San Lorenzo, Yabucoa	2,434
<div></div> Fajardo	Ceiba, Culebra, Fajardo, Luquillo, Río Grande, Vieques	662
<div></div> Mayagüez	Aguada, Aguadilla, Añasco, Cabo Rojo, Hormigueros, Isabela, Lajas, Las Marías, Maricao, Mayagüez, Moca, Rincón, Sabana Grande, San Germán, San Sebastián	1,621
<div></div> Metro	Canóvanas, Carolina, Guaynabo, Loíza, San Juan, Trujillo Alto	7,167
<div></div> Ponce	Adjuntas, Arroyo, Coamo, Guánica, Guayama, Guayanilla, Jayuya, Juana Díaz, Patillas, Peñuelas, Ponce, Salinas, Santa Isabel, Villalba, Yauco	1,323
TOTAL		19,979

01

COVID-19 deaths projection by January 1, 2021

SOURCE: <https://covid19.healthdata.org/puerto-rico?view=total-deaths&tab=trend>

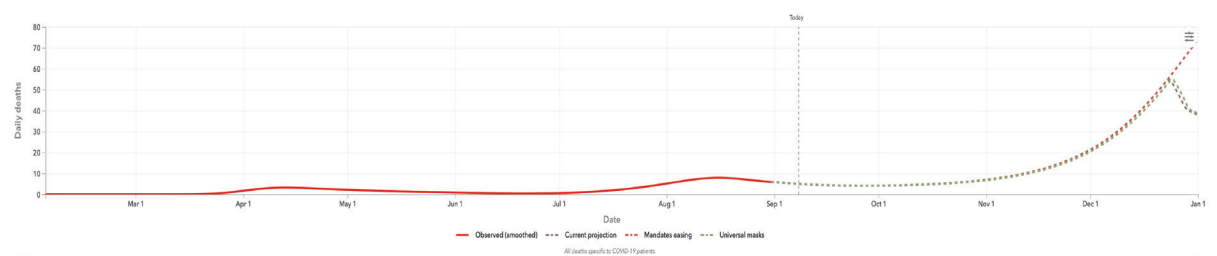


2,316 COVID-19 is the projection of deaths by January 1, 2021 according to the average of death and current scenario YTD in Puerto Rico.

02

COVID-19 daily deaths projection by January 1, 2021

SOURCE: <https://covid19.healthdata.org/puerto-rico?view=total-deaths&tab=trend>

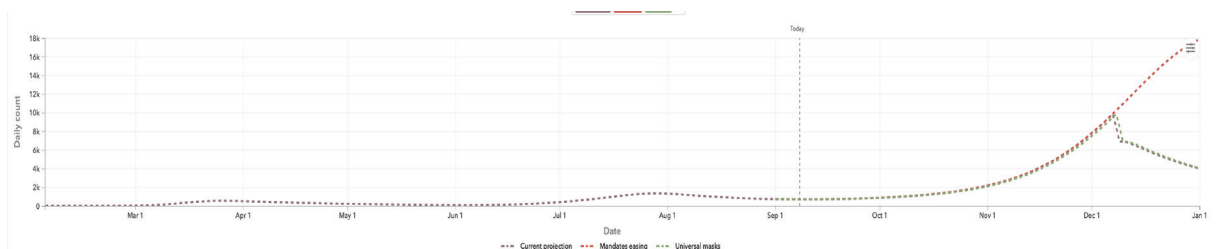


Daily deaths is the best indicator of the progression of the pandemic, although there is generally a 17-21 day lag between infection and deaths. The projection observes a peak of this average on January 2020.

03

COVID-19 infections and testing projection by January 1, 2021

SOURCE: <https://covid19.healthdata.org/puerto-rico?view=total-deaths&tab=trend>

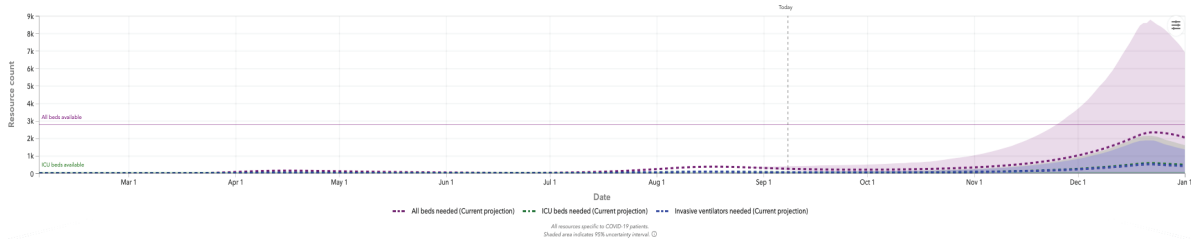


Estimated infections are the number of people we estimate are infected with COVID-19 each day, including those not tested.

04

COVID-19 hospital resource use by January 1, 2021

SOURCE: <https://covid19.healthdata.org/puerto-rico?view-total-deaths&tab-trend>

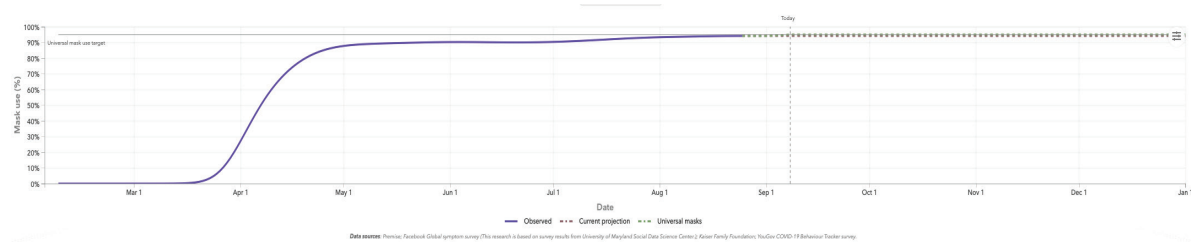


Hospital resource use indicates how equipped a location is to treat COVID-19 patients. The projections describe the following needs for Jan 1st, 2021: All beds, 2042; ICU beds, 485 and Invasive ventilators, 416.

05

COVID-19 mask use projection by January 1, 2021

SOURCE: <https://covid19.healthdata.org/puerto-rico?view-total-deaths&tab-trend>

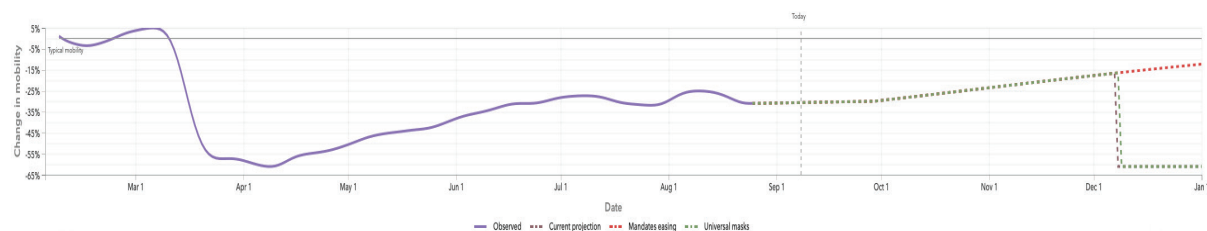


Mask Use represents the percentage of the population who say they always wear a mask in public. Mask use can reduce transmission by 30% or more.

06

COVID-19 social distancing projection by January 1, 2021

SOURCE: <https://covid19.healthdata.org/puerto-rico?view-total-deaths&tab-trend>



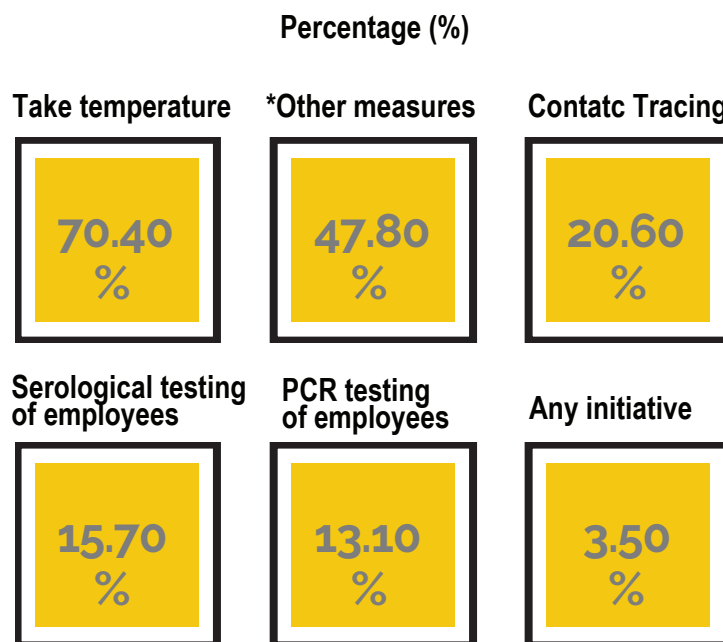
Reducing human contact (as measured by cell phone mobility data) can drive down infections so that mask use, testing, isolation, and contact tracing can work to contain the virus.

Data have shown significant increases in stress, anxiety, depression, and other mental health conditions, as well as major disruptions in employment, economics, housing, food security, and the education system. To meet this critical challenge, public health departments need expanded capacity in their contact tracing infrastructure, data capture tools, workforce, and coordination, as well as training and support through customized technology-based solutions.

Business Actions

Juan Carlos Agosto, president of the Puerto Rico Chamber of Commerce, acknowledged that business owners are concerned over the economic impact of even more restrictions to an already fragile economy. He said that right now the island doesn't have the federal benefits that were made available during the first months under lockdown. However, Puerto Rican's entrepreneurs are implementing several protocols in order to keep them on business amidst the pandemic crisis. Some business use more than one measure.

COVID-19 Active Initiatives in Business August 17, 2020 ** sample of 626 businesses



* Other measures could be conducting daily health checks, conducting a hazard assessment of the workplace, encouraging employees to wear cloth face coverings in the workplace, if appropriate, implementing policies and practices for social distancing in the workplace, improving the building ventilation system. COVID-19 Survey for Business" from the Puerto Rico Institute of Statistics.

Date of reference: August 17, 2020



“Puerto Ricans are starting to see the danger that the COVID-19 illness represents for their economic stability. That point is critical”

Juan Carlos Agosto, President of Puerto Rico Chamber of Commerce.



Economic challenges for Puerto Rico and the Caribbean



COVID-19, the Caribbean and what comes next

<https://theglobalamericans.org/2020/07/covid-19-the-caribbean-and-what-comes-next/>

Tourists Tote Dollars — And COVID — To U.S. Caribbean Islands

<https://khn.org/news/tourists-tote-dollars-and-covid-to-u-s-caribbean-islands/>

Caribbean: CORONAVIRUS (Covid-19) Impact on Business Aviation

<https://www.universalweather.com/blog/caribbean-coronavirus-covid-19-impact-on-business-aviation/>

According to Rockefeller Foundation the need for action is urgent. Social distancing measures have successfully slowed the epidemic's implacable march but have led more than 21 million people to lose their jobs. The monthly economic loss is projected to be between \$350 billion and \$400 billion, with the gross domestic product expected to decline by as much as 7 percent in 2020. Given that the Caribbean is the most tourism-dependent region in the world, it is essential to develop new protocols for entry, which had never been implemented before, once the virus spread was under control in each country.

Reopen your business safely during COVID-19 pandemic

Our Advisors are providing reimbursement services from FEMA after disasters and or related to COVID-19. We also have clear understanding and knowledge concerning the process for not duplicating reimbursement request (e.g. Medicare as Secondary Payer, documentation and CPT billing codes, etc.).

In addition, we have experience developing protocols and contact tracing initiatives to support contact tracing initiatives in colleges and universities, businesses and workplaces, nursing homes and schools. Also, we are committed to enhance workforce competences thru the deployment of trainings for professionals interested in becoming a contact tracer or case investigator, as well as those who already serve in these roles and are seeking to improve their knowledge.

PVMA'S Pragmatic steps to reopen our workplaces and our communities

I. Contact Tracing and Testing

- Launch contact tracing protocol according to the CDC's guidance Contact tracing and emergency response managements.
- o Perform contact tracing across employees, meetings, and offices.
- o Address possible barriers to employee health and productivity.
- o Shift management and employee wellness assessments.
- o Case studies from industry leaders around the world.

II. Create a unified protocol to re-open business based on 3 strategies

1. Alliances: Collaborate with academia on therapies and treatments, redraw regulations to ensure continued physical distancing at private businesses and schools, and help to develop new enforcement mechanisms to allow the state to pull back and reinstate stay-at-home orders.
2. Social distancing plan and technology: Businesses should begin to make plans that provide adequate social distancing within the workplace. And, they should also be prepared to prove that when regulatory restrictions are relieved. Innovative digital technologies can improve workforce monitoring and early detection of recurrent outbreaks.
3. Protect the health and welfare of customers and employees: Support the creation of guidelines for regularly monitoring employees' health for potential symptoms in compliance with applicable laws. Plan to pre-screen employees' temperatures and assess symptoms before they enter the work facility providing regulatory guidance. Create and implement protocols for disinfecting the workplace on a regular and systematic basis.

III. Financial Assistance for Providers During COVID-19 pandemic

On March 27, 2020, President Trump signed the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) into law. The law, which established new stimulus and aid programs, will provide more than \$2 trillion in emergency economic relief to individuals and businesses affected by the coronavirus crisis through numerous federal agencies. Our team provides reimbursement services that included, but not limited to:

- o Grant accounting
- o Financial Modeling and Reporting
- o Documentation Management
- o FEMA Project Worksheet Development
- o Financial Budgeting and Forecasting
- o Accounts Payable and Invoice Compliance
- o Federal Procurement Compliance
- o Contract Management and Performance
- o Vendor Management
- o Resource Management
- o Audit Preparation



The COVID-19 pandemic in Puerto Rico



P.R. Government Actions

Puerto Rico Governor Wanda Vazquez has signed Executive Order 2020-062 (EO) to extend most of the prior COVID-19 pandemic limitations and restrictions, institute important additional restrictions, set a mandatory Sunday lockdown, and require employers to notify the Puerto Rico Department of Health by email of any employee who is suspected of having COVID-19 or who has tested positive to COVID-19. The EO will be in effect from August 22, 2020, to September 11, 2020.

01

The new executive order, which came into effect on Saturday August 23, 2020 thru September 11, 2020; continues the months-old curfew from 10:00 p.m. to 5:00 a.m., applicable to both residents and visitors.

02

Mandatory lockdown on Sundays, except to go to a hospital, supermarkets, pharmacies, hardware stores, delivery or pickup of food, and other services authorized in the EO.

03

Sitting areas in restaurants are closed on Sundays, only carry-out, delivery, or drive through allowed.

04

Gyms, bars, clubs, casinos, and others that the governor deemed are prone to cause "agglomerations" still closed for business.

05

Common areas in hotels, apartment buildings, and housing complexes - such as pools and gyms - must also be closed.

06

Beaches must only be used for physical or sports activities, including surfing, walking, jogging, swimming, among others. People will not be allowed to use these spaces for leisure or to bring seats and portable mini fridges.

07

Some establishments that receive the public (such as banks, restaurants, and malls) must limit their capacity below (or not to exceed) 25 percent. These establishments must make sure that clients maintain a distance between six and nine feet.

08

Religious/worship services must operate under a 25 percent of capability and following a protocol.

09

No selling, dispensing, or consumption of alcohol after 7:00 p.m. Total prohibition on alcohol on Sundays.

10

Any patient who has tested positive for COVID-19 must notify the local tracing agency and, if no local tracing agency has been adopted, the person must notify the Department of Health.

11

Although private and public schools are allowed to open to prepare the areas for the school semester, no in-person classes are allowed. In addition, schools must enforce use of masks, frequent hand sanitizing, and social distancing of between six and nine feet.

12

Outdoor exercises are allowed, but not in groups.

13

The EO expressly instructs employers to provide the information to the following email address: covidpatronos@salud.pr.gov. Furthermore, the Department of Health has adopted a form for completion by employers when reporting suspected or confirmed cases of COVID-19 in their workplace. Among the recommendations in the guidelines, the Department of Health advises employers to consider the following:

- o Actively encourage sick employees to stay at home.
- o Employees with symptoms related to COVID-19 should notify their supervisor and stay home.
- o Sick employees should not return to work until they meet the criteria for suspending isolation.
- o If employees appear to have symptoms related to COVID-19 or become ill at the workplace, they should be immediately separated from other employees and sent home.
- o An employee who is well living with a family member who is positive for COVID-19 must notify their supervisor and remain in quarantine until they meet the criteria to end the quarantine.

14

The Department of Education (DE) announced that the upcoming semester will begin with online classes on August 17 and, then classrooms would open on September 17 in a hybrid model and conditioned on the level of COVID-19 infections.

15

Passengers must provide a negative result to a molecular (PCR) test administered within 72 hours or less before arriving Puerto Rico. Those who cannot present this result, whether they are tourists or residents, will remain in isolation for 14 days, unless during that period they perform the diagnostic test and obtain the negative result. The information requested will be registered into the Sara Alert™ electronic system. Sara Alert™ is a standards-based, open source tool that automates the process of public health monitoring and reporting of individuals exposed to or infected with COVID-19 or any infectious disease. <https://saraalert.org/>



**“We remain focused on the dissemination
of the protection message to prevent the
spread of COVID-19 and promote the health
and safeness in the island”**

**Dr. Lorenzo González
Puerto Rico Health Secretary**



PUERTO RICO'S COVID-19 RESPONSE

Coronavirus

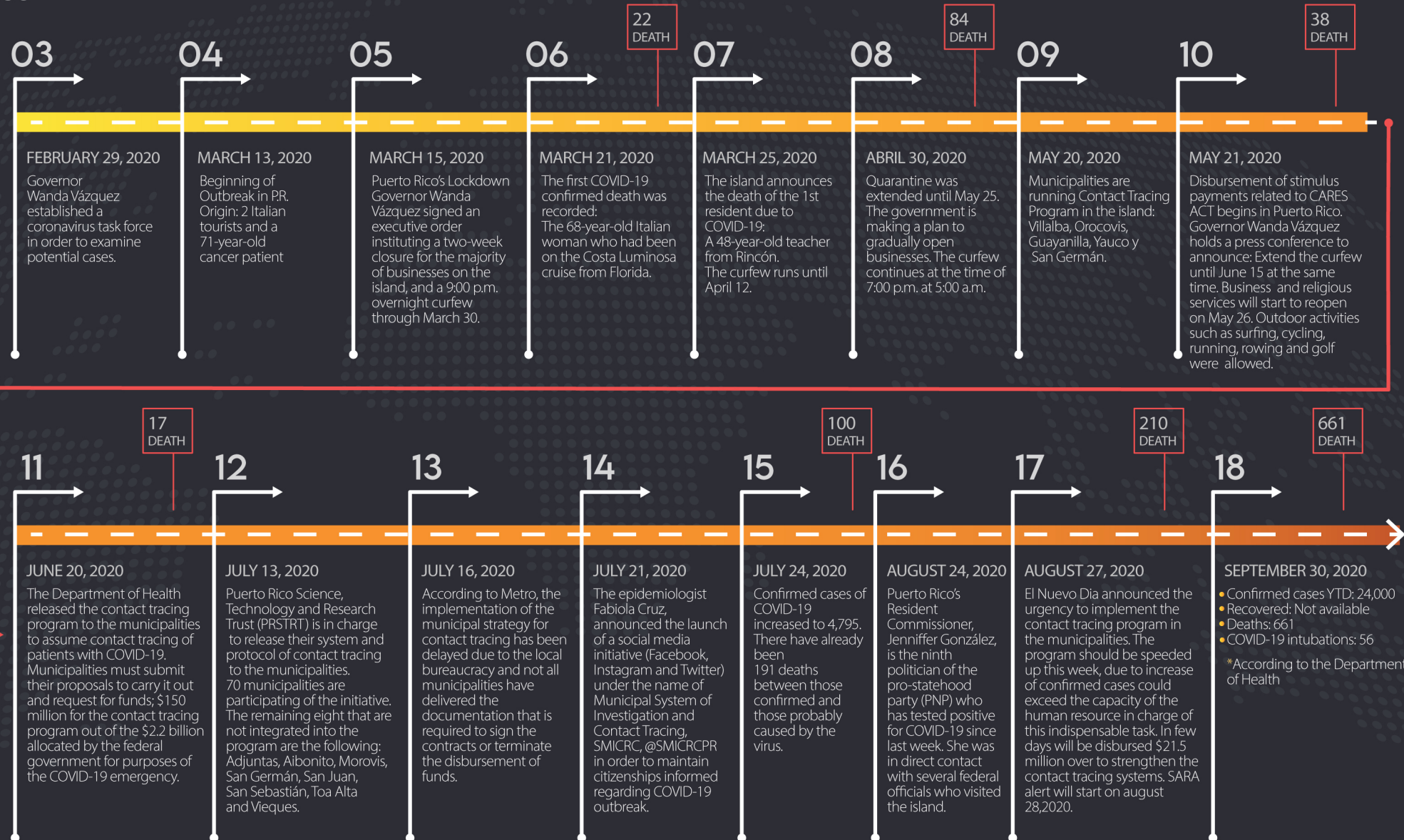


December 1, 2019
Wuhan, China
01 First case

02 January 30, 2020
Puerto Rico

Luis Muñoz Marín International Airport becomes one of twenty airports in the United States where travelers undergo additional screening.

TIMELINE



PUERTO RICO AND COVID-19

The Covid-19 pandemic is a worldwide public health emergency of once in a century proportion. COVID-19 is basically; Pneumonia caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection emerged in Wuhan City, Hubei Province, China in last quarter 2019. By Feb. 11, 2020, the World Health Organization (WHO) officially named the disease resulting from infection with SARS-CoV-2 as coronavirus disease 2019 (COVID-19). COVID-19 represents a spectrum of clinical manifestations that typically include fever, dry cough, and fatigue, often with pulmonary involvement. SARS-CoV-2 is highly contagious and most individuals within the population at large are susceptible to infection. The virus is said to be five times deadlier than the flu and highly contagious.



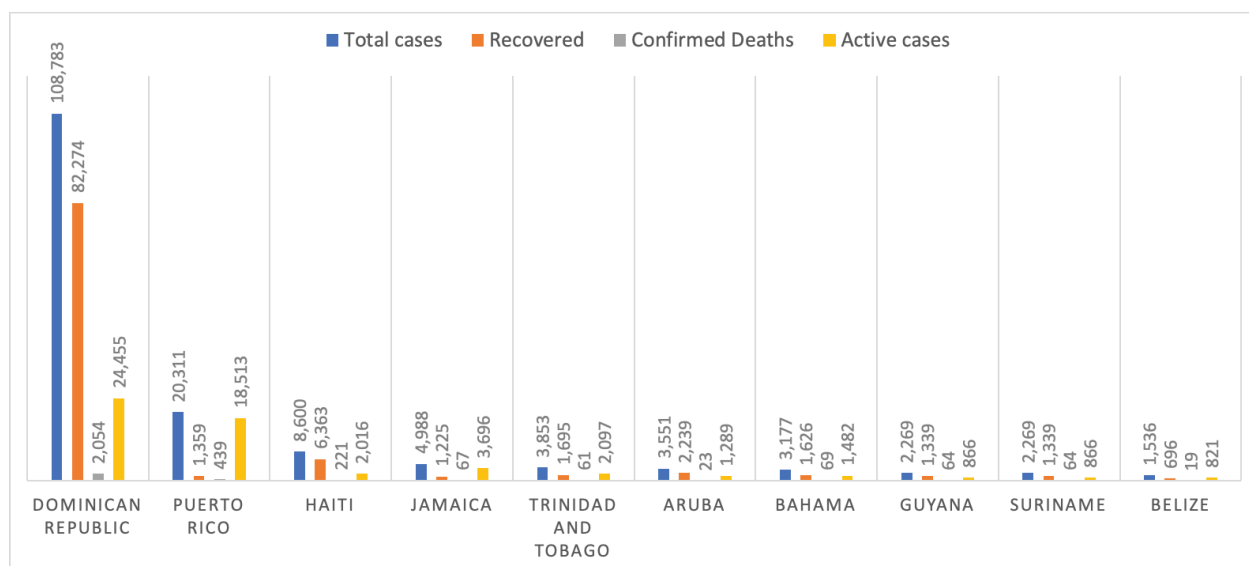
THE CARIBBEAN OVERVIEW

Since the first confirmed case of COVID-19 in the Caribbean on 1st March 2020, many Caribbean countries governments has been implementing public health measures and restrictions to counter the pandemic. However, in the Caribbean, the Dominican Republic and Puerto Rico lead in cases for the novel coronavirus, as the virus has more than 24,455 infections so far has claimed 2,054 lives. Puerto Rico follows the Dominican Republic with 18,513 infections and 439 confirmed fatalities. It is worthy to not here that the mortality rate of the Dominican Republic is five times that of Puerto Rico.

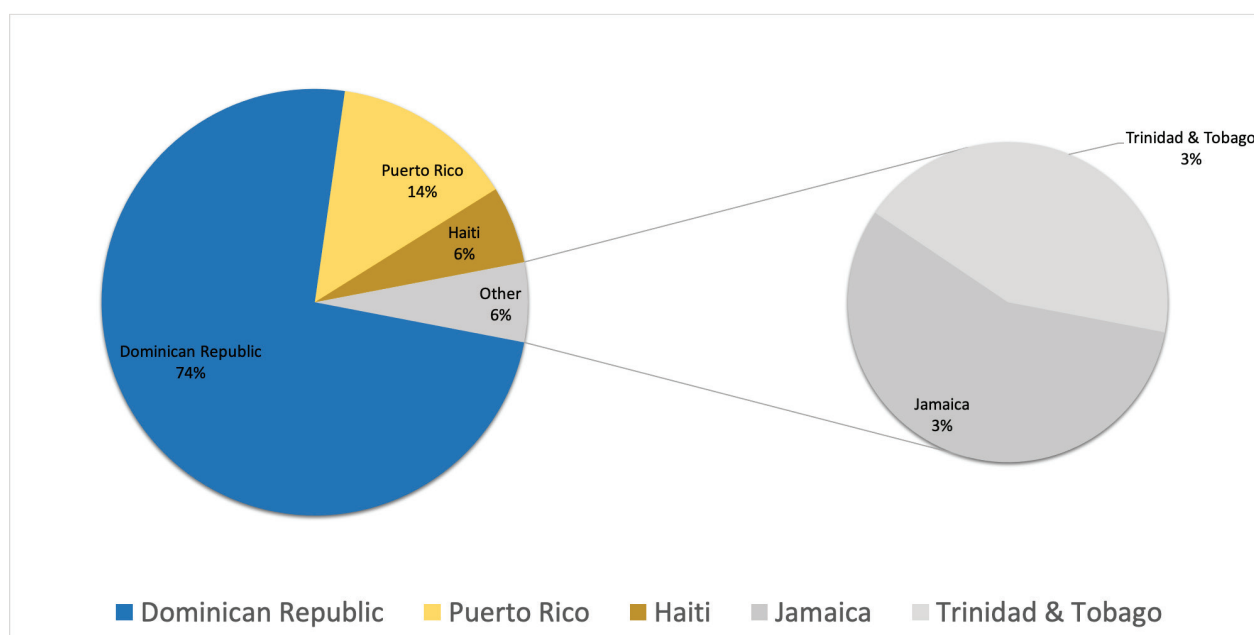
Caribbean Outbreak Dashboard (Sept. 21,2020)

	Total cases	Recovered	Confirmed Deaths	Active cases	Mortality rate	Population	Pandemic Ratio
Haiti	8,600	6,363	221	2,016	2.6%	11,402,528	0.08%
Dominican Republic	108,783	82,274	2,054	24,455	1.9%	10,847,910	1.00%
Puerto Rico	20,311	1,359	439	18,513	2.2%	3,193,694	0.64%
Jamaica	4,988	1,225	67	3,696	1.3%	2,961,167	0.17%
Trinidad and Tobago	3,853	1,695	61	2,097	1.6%	1,394,973	0.28%
Aruba	3,551	2,239	23	1,289	0.6%	105,845	3.35%
Bahama	3,177	1,626	69	1,482	2.2%	385,640	0.82%
Guyana	2,269	1,339	64	866	2.8%	779,004	0.29%
Suriname	2,269	1,339	64	866	2.8%	575,991	0.39%
Belize	1,536	696	19	821	1.2%	383,071	0.40%
Guadeloupe	1363	837	20	506	1.5%	395,700	0.34%
US Virgin Islands	1,269	?	19	?	1.5%	106,977	1.19%
Martinique	1,122	98	18	1,006	1.6%	376,480	0.30%
Turks and Caicos	668	573	5	90	0.7%	37,665	1.77%
Sint Maarten	584	488	20	76	3.4%	40,654	1.44%
Saint Martin	584	488	20	76	3.4%	37,264	1.57%
Cauracao	268	96	1	171	0.4%	159,849	0.17%
Cayman Islands	208	204	1	3	0.5%	64,174	0.32%
Barbados	185	172	7	6	3.8%	286,641	0.06%
Antigua and Barbuda	95	91	3	1	3.2%	96,286	0.10%
British Virgin Islands	69	48	1	20	1.4%	29,802	0.23%
Saint Vincent and the Grenadines	64	64	0	0	0.0%	110,210	0.06%
Saint Lucia	27	26	0	1	0.0%	181,889	0.01%
Dominica	25	21	0	4	0.0%	71,625	0.03%
Grenada	24	24	0	0	0.0%	111,454	0.02%
Saint Kitts and Nevis	17	17	0	0	0.0%	52,441	0.03%
Total	165,909	103,402	3,196	58,061	1.93%	34,159,132	0.49%

Caribbean Outbreak Dashboard - Top 10 (Sept. 21,2020)

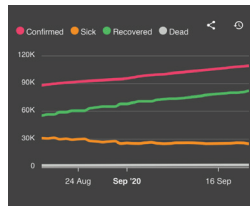
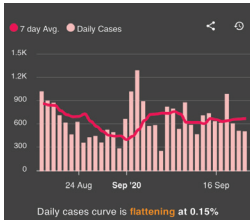


Top five caribbean countries -COVID-19 outbreak (Sept. 21,2020)

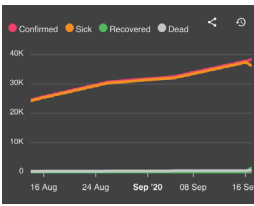
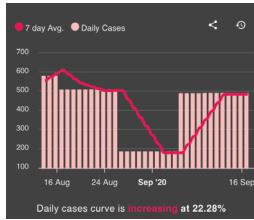


Top 5 islands case growth trends (Sept. 21,2020)

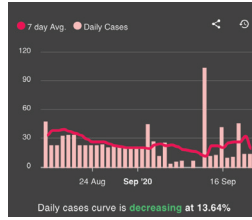
Dominican Republic



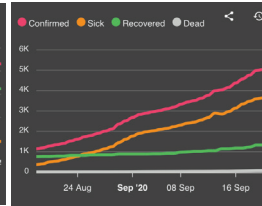
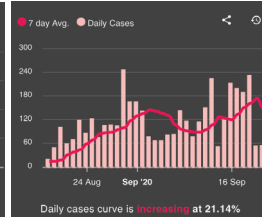
Puerto Rico



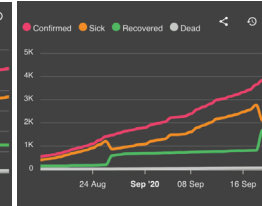
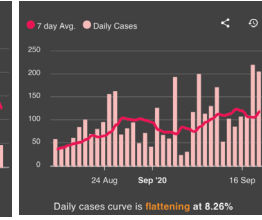
Haiti



Jamaica

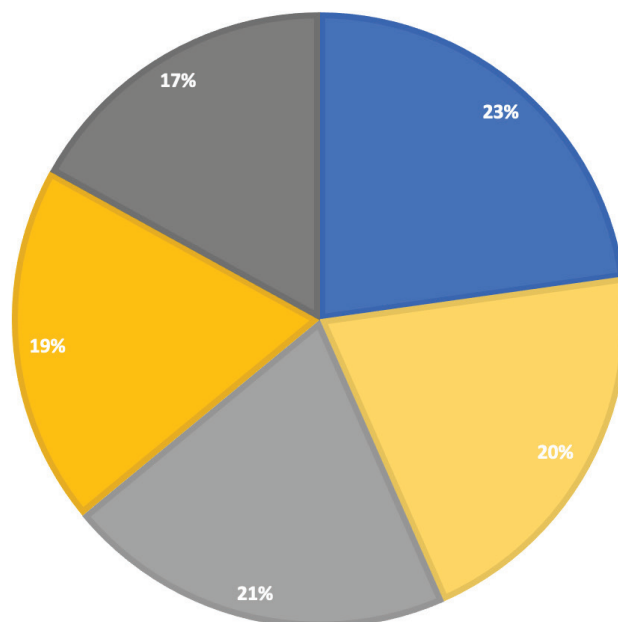


Trinidad & Tobago



Islands with the highest mortality rate and share (Sept. 21,2020)

Barbados Sint Maarten Saint Martin Antigua & Barbuda Guyana



There are also other factors that can increase your risk for severe illness, such as having underlain medical conditions. The current population of Caribbean is 43,575,081 as of Friday, September 18, 2020, based on the latest United Nations estimates. Today, 8.5 percent of people worldwide (617 million) are aged 65 and over and this percentage is projected to jump to nearly 17% of the world's population by 2050 (1.6 billion). Populations of the Caribbean are exceeding this rate, with a projected 20% of the region estimated to be over 65-years old by 2050.

As detriment, elderly residents of Puerto Rico are seven times more likely to live in poverty. Over 16% of Puerto Rico's population are elderly, 40% of them live at or below the poverty level. A high percentage compared to elderly on the mainland suffer from poor health conditions.

People who are 60 and older appear to be especially vulnerable to the virus, while children appear to be less susceptible to it. Adults younger than 60 often have been affected by COVID-19, too, but they generally have been less likely than older people to die from it. According to a recent report by the Pew Research Centre, The Latin America and Caribbean region is expected to have the oldest population of any world region by 2100, a reversal from the 20th century.

In Latin America, one-in-four people are younger than 15

% of people who are ____ years old in selected countries and territories in Latin America

	0-14 years	15-59	60+	MEDIAN AGE
Puerto Rico	16%	57%	28%	45 YRS
Chile	19	63	17	35
Brazil	21	65	14	34
Argentina	24	60	16	33
Colombia	22	65	13	31
Peru	25	63	13	31
Venezuela	27	61	12	30
Mexico	26	63	11	29
Haiti	32	60	8	24
Guatemala	33	59	7	23
Latin America	24	63	13	31
World	25	61	13	31

Source: Pew Research Center
<https://www.pewresearch.org/fact-tank/2020/04/22/populations-skew-older-in-some-of-the-countries-hit-hard-by-covid-19/#latin-america-caribbean>

Regions that could be most affected by the spread of the virus

1. When the first case of COVID-19 was confirmed in Puerto Rico on March 13, Puerto Rico was still recovering from several major natural disasters, including Hurricane Maria and the 2019–20 Puerto Rico earthquakes. Also, as measured by median age, the oldest populations in Latin America and the Caribbean are in Puerto Rico (45) and
2. Martinique (47) – territories under the jurisdictions of the U.S. and France, respectively.
3. Jamaica's Health and Wellness Minister has revealed that persons aged 60 and older represented 11.7% of the country's population. The local health authorities have been under pressure for a field hospital because of the current surge in coronavirus cases and resultant burdening of the system. In fact, the U.S. delivered to Jamaica a multimillion-dollar field hospital to help COVID-19 fight.

4. 17% of the population of Barbados is aged 55 and over and nearly 11% is 65 or older.
5. The Dominican Republic is leading the Caribbean in COVID-19 infections, leaving the healthcare system strained and hospitals on the verge of overflow.
6. According to the World Bank, Sint Maarten still rebuilding and recovering from hurricanes Irma and Maria in September 2017. The devastation caused damages and losses of up to US\$1.38 billion, or around 260% of its gross domestic product, impacting houses, public buildings, the airport, hotels, and firms engaged in the tourism sector. The COVID-19 pandemic has been a major unexpected economic blow for the island.

What are the Caribbean islands doing to contain the pandemic?

Governments has been implementing public health measures and restrictions in order to stop the spread of the virus: curfews, essential travel allowed only, mandatory wearing a face mask, contact tracing, lockdowns, airports closing and others.

Some media announced that Grenada's government decided for a full lockdown, according to Health Minister Nickolas Steele. Trinidad and Tobago's Prime Minister Keith Rowley said the population is "at war" against the "invisible enemy." The island implemented restrictions that includes all in-house dining closing: restaurants, bars, food courts and malls. Also, measures contain closing of beaches, places of worship, gyms, all contact sports, waterparks, casinos and members clubs and cinemas.

Meanwhile, Antigua was forced to change its COVID-19 testing requirement for visitors after 39 of them tested positive and health officials informed infected tourists, they needed to be placed under a 14-day mandatory quarantine. Some visitors threatened to sue and immediately booked return flights back to the United States.

The government of Dominican Republic implemented a protocol for visitors, including taking the body temperature and the establishment of quarantine to all passengers from other countries. Instruction in the public system turned into virtual. Events and gatherings which includes public shows, cultural, artistic, and sporting events, activities in bars and discos, proselytizing events, government inaugurations, etc. were suspended. A curfew was established between 8:00 p.m. and 6:00 a.m., then extended from 5:00 p.m. to 6:00 a.m.

On the other hand, wearing a covering face mask in Dominican Republic, Barbados and Jamaica is mandatory. In U.S. Virgin Islands anyone patronizing any business is required to wear a mask; children two and younger, along with individuals with acute respiratory issues are exempt. Also, The Collective Prevention Services of Saint Maarten is monitoring people in home isolation and will continue to actively execute its contact tracing measures.

What industries have been affected the most?

According to the Report Impact of COVID-19 on the Caribbean Tourism Industry and Food Service Sector prepared by United States Department of Agriculture, the Caribbean's economy has been significantly impacted as a result of COVID-19 pandemic. According to the report, the top affected sectors are the following:

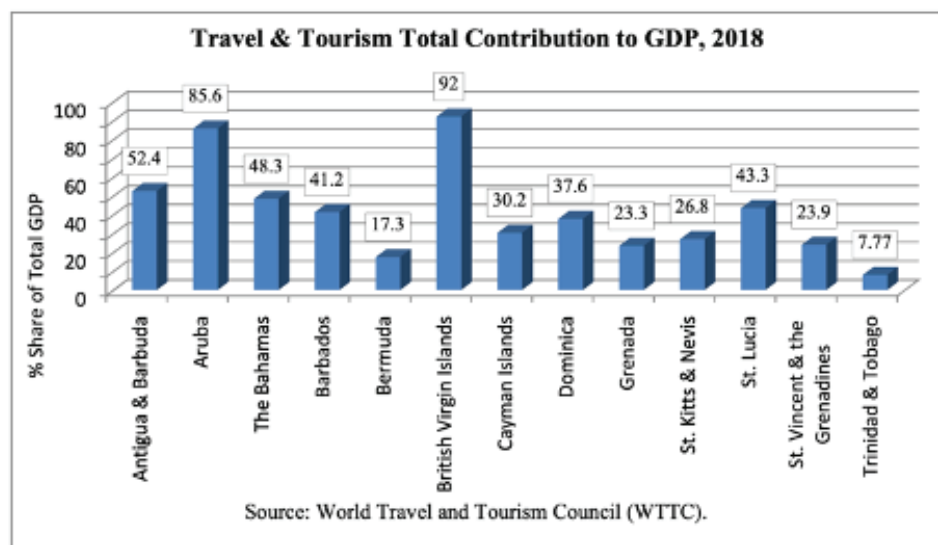
- o Tourism Industry
- o Hotel/restaurant Industry
- o Food Service Sector
- o Airline / Cruise Ship Services

Tourism Industry and Food Service Sector

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The report previously described informs that Tourism is the main contributor to GDP in the vast majority of the region's small island economies. For example, in Aruba and Sint Maarten, more than 90 percent of jobs are reportedly directly or indirectly linked to tourism. The only exception is Trinidad and Tobago, where the economy is based on oil and petrochemicals. While international business, financial services, oil refining, light manufacturing, agriculture and other economic activities do take place on some islands, tourism is generally the largest contributor to GDP.

However, without regular commercial airline service or cruise ship sailings to bring tourists to the region, and island practically the entire Caribbean hotel sector was forced to shut down.



- o **Food industry:** Cruise ships play an important role yet often understated role in the Caribbean food service sector. This resulted in an immediate drop in demand for food imports destined for the food service sector, and importers and distributors that exclusively serviced this sector also scaled back or closed due to lack of business.
- o **Foreign exchange earnings:** Tourism is also one of the primary sources of foreign exchange earnings for most islands. The dollars generated from tourists for their accommodations, meals, transportation, island tours and activities, and shopping help to fuel local economies and generate revenues from air and seaport taxes and fees, hotel taxes, sales taxes, etc. Tourism is also a key source of employment.
- o **Agriculture industry:** The Caribbean's hotel, tourism and food service sectors fuel demand for imports of U.S. food and agricultural products. In 2019, the Caribbean imported nearly \$2 billion in consumer-oriented products, of which approximately 54 percent (\$1.1 billion) was sourced from the United States.

BEST PRACTICES WORLDWIDE

I. Here are the best countries that are fighting the pandemic of coronavirus and how they did it.

Countries around the world are implementing severe restrictions on their populations against the spread of SARS-CoV-2 that causes the coronavirus disease 2019 (COVID-19). Many countries have closed their borders, implemented strict controls on internal travel and ordered people to stay in their homes. However, there are the best countries that are fighting the pandemic of coronavirus and how they did it.

New Zealand

- Mandatory quarantine for all visitors.
- Lockdown: Only primary commerce was allowed to be opened; social interaction was limited to within households.
- Massive educational and awareness campaign via high technology systems to deliver frequent communication directly to the population.
- The country ramped up its testing capacity.
- Contact tracing: Following the WHO advice around mass testing and robust contact-tracing.
- Use NZ COVID Tracer, a Ministry of Health app that supports fast and effective contact tracing by creating a digital diary of the places visited. The app also keeps people informed of the risk.

Insights focuses on Caribbean Islands

Education Awareness, Massive Testing,
Contact Tracing supported by High Technology

Taiwan

- Stop cruise ships docking at ports.
- Strict punishments for anyone not adhering to home quarantine rules who had been in at-risk areas
- Ramping up the production of face masks, and establish penalties for people who spread misinformation about the virus.
- Held daily medical briefings very early on, so people knew what was happening.
- Create large datasets for analysis. All hospitals, clinics and pharmacies were given access to this information for each patient.
- Geo-fence: Rolled out an electronic fence, which uses mobile phone location-tracking to ensure people who are quarantined stay in their homes.
- Use Metabiota®, a health technology system implemented to establish strong border controls and travel restrictions.

Insights focuses on Caribbean Islands

Implementation of Penalties, High Technology for Tracking, Border Protection

South Korea's

- Track and trace was employed very early on, after the government realised many of the cases were coming from one woman who had attended a local church.
- South Korea built hundreds of innovative, high-capacity screening clinics and worked closely with the private sector to ensure an adequate supply of tests. As the outbreak escalated, approximately 600 testing centers were established to screen people efficiently and outside of the health system, with testing capacity reaching 15,000 to 20,000 tests per day.
- Trace and track contacts with unusual thoroughness. Epidemiological intelligence officers were deployed for these tracing efforts and empowered to use a wide variety of data sources, including credit card transactions and closed-captioned television footage.

Insights focuses on Caribbean Islands

Rapid Detection, High-Capacity Screening Clinics, Innovative Trace and Tracking System

Finland

- Implement an early lockdown, and also take advantage of its prime minister's understanding of communicating with the younger generations.
- Awareness messages into social-media friendly formats were sent to 1500 well-known influencers, who distributed it amongst their platforms however they chose.
- Random anti-body testing was rolled out earlier than most countries in Europe.
- Contact tracing app named 'Corona Blinker'. Users who receive an alert for exposure will not be revealed to authorities but should rather contact healthcare officials in order to get tested for COVID-19.

- Travelers restrictions: A certificate of a negative COVID-19 test taken less than 72 hours prior to arrival would be required for those arriving from higher incidence countries or regions. Persons arriving in the country may be placed in quarantine. Quarantined persons could end their quarantine upon receiving a negative result from a second COVID-19 test taken 72 hours after entry at the earliest
- Build temporary hospitals to increase capacity and addressed shortages of personal protective equipment through centralized

Insights focuses on Caribbean Islands

Awareness campaign for younger generations, Random anti-body testing, Contact Tracing supported by High Technology, Travelers Restrictions

II. Implementation and management of contact tracing for COVID-19.

• Hiring of manual tracers and using technology: Contact tracing is a crucial public health tool. Puerto Rico should use independent Contact Tracing professionals to support the healthcare system which would act as a check and balance to report exact data to stop the spread of the virus. A public private partnership is especially needed in these high-risk times. Trained medical workers get in touch with those who have received a diagnosis and collect data about their movements and contacts. A patient may have been in contact with 100 other people recently, which means 100 follow-ups by phone or in person to track down everyone at risk of exposure. Depending on the data and science, tracers may then request isolation and tests. It's labor-intensive work that must be done early and daily.

o **New York:** New York is working with New Jersey and Connecticut at a regional level and hopes to tap the talents of thousands of medical students.

o **California:** San Francisco was one of the first local governments in the nation to begin building its contact tracing team, which could ramp up to 150 people monitoring a city of 880,000.

o **China:** Contact tracing has become part of China's strategy to prevent another Covid-19 outbreak. Tracing aims to inform anyone who has come in contact with an infected person quickly, so they can be tested or self-quarantine. Tracing has been used in the past, but the issue is becoming more fraught with today's advanced technology.

A recent report from the Johns Hopkins Center for Health Security said as many as 100,000 workers may be needed to make manual contact tracing efforts effective across the country.

III. Massive testing and data reporting

• Coronavirus testing in the U.S. has struggled to reach the levels needed, with a particular problem in accelerating the pace of testing. According to Eric C. Schneider in a commentary in the May 15 issue of The New England Journal of Medicine, without sufficient testing, there was a tragic data gap undermining the U.S. pandemic response.

- The lack of data on case numbers has made it challenging to model the path of the pandemic, and, as a result, it has been difficult to anticipate where emergency medical services, hospital beds and ventilators are most needed.

- On-campus COVID-19 testing: The University of Illinois is implementing measures to still 'learning safe': According to a press article from BBC published the last September 10, 2020, The University of Illinois' Urbana-Champaign campus has one of the most aggressive COVID-19 testing protocols among institutions of higher education in the country, as it aims to keep students on campus during the pandemic this fall. The campus press release informs that "samples will then be assessed using an innovative process developed by our own COVID-19 SHIELD: Target, Test, Tell team. Unlike conventional nasal testing, saliva samples are collected non-invasively, without healthcare workers and with minimal use of PPE. The lab has received federal Clinical Laboratory Improvement Amendments (CLIA) certification".

The sample collection only takes a few minutes and typical test results are expected within five hours but can take up to 24 hours. Testing is just one part of UIUC's approach to halt the virus in its tracks. Along with measures such as wearing masks, social distancing and contact tracing, it offers a mix of face-to-face, hybrid and online courses to more than 52,000 undergraduate and graduate students. Its goal is to contact a positive case within 30 minutes and connect them with support. The initiative has a health focus approach. If faculty, staff and students receive a negative result at least every four days, they get a checkmark in the app and can enter campus buildings with their school ID. But if someone tested positive, they must continue with isolation.

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credit:WLS

Since, college towns becoming epicenters for coronavirus, 15,000 or 17,000 tests has been administered in one day in University of Illinois' Urbana-Champaign - more tests than most universities with on-campus learning have completed since the start of the pandemic.

Source:<https://abcnews.go.com/Politics/colleges-forced-reckon-rising-covid-19-cases/story?id=73006761>

According to the IDB group (<https://www.iadb.org>):

- o Latin American and the Caribbean (LAC) represents 28.24% of cases reported worldwide (8,276,436 cases reported in LAC since February 26, 2020).
- o 258,884 cases were reported worldwide on September 15, 2020. This represents an upward trend compared to the previous 7 days average.
- o 46,182 cases were reported in LAC on September 15, 2020. That represents an increase of 28% compared to the totals reported 7 days ago.
- o The total population in Puerto Rico was estimated at 3.2 million people in 2019, according to the latest census figures and projections from Trading Economics. Puerto Rico had already been losing health care professionals and medical students to the mainland US before Hurricane Maria. That number, however, increased rapidly following the natural disaster, as more than 130,000 people left the island in the past three years. As a result of the population decreasing trend, by 2018, the island had lost about 15 percent of its medical specialists, according to data provided to Vox by Puerto Rico's College of Physicians and Surgeons, leaving the island with only about 9,500 to serve the entire population of about 3.2 million (Kim, 2020).



**Anthony S. Fauci, To prevent future surges,
Americans need to become more unified
about following public health guidance and
take sequential steps to return to schools and
businesses.**

What is next?

Together, we are stronger! This action plan benefits from and builds on prior proposals, current efforts, and the broad participation of experts from so many fields. Enacting it will require strong leadership and collaboration: across states, cities, and federal government, and from businesses, nonprofits, universities, community groups, and individuals.

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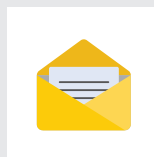
providing professional services to
prevent the spread of COVID-19
in community-based settings



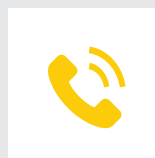
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Contact Tracing Puerto Rico