

Vaccination as a Driver for Socio-economic Recovery in Barbados and the Eastern Caribbean

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OBJECTIVES OF THIS SERVICE

The COVID-19 outbreak has shocked the social and economic structures worldwide. Amid globalization, diseases spread rapidly and far, through international trade and travel. The dramatic numbers of deaths have been accompanied by collateral damage, mainly a sanitary and socio-economic crisis. The present situation is further aggravated by the infodemic, the mismanagement of national governments and an increasing mistrust in health institutions. This global health emergency has disproportionately affected Barbados and the Eastern Caribbean, where fragile health systems fight a critical socioeconomic context¹. However, in just 333 days the international community was able to develop the first dose of the COVID-19 vaccine. Today, efforts are being concentrated in order to produce and distribute the vaccines to low- and middle-income countries.

Worldwide, the epidemiological situation varies quickly, and as of the closing of this report, the international community deals with the expansion of the new COVID-19 variant, Omicron. Although we still do not have conclusive and definite data on this new variant, early research suggests that it is more contagious than previous ones, and possibly causes a less severe infection². Still, a significant increase in cases, even with a smaller percentage of hospitalisations, could cause an overload to the health system, which makes vaccination the best tool to control the current situation and those to come. Hence, the objective of this document is to assess the current situation in Barbados and the Eastern Caribbean regarding COVID-19 vaccination and its socioeconomic impact to identify good practices to boost vaccination rates and therefore, contribute to their economic recovery.

¹Vulnerability of Eastern Caribbean Countries. United Nations Barbados and the OECS. Available at: https://reliefweb.int/sites/reliefweb.int/files/resources/Vulnerability%20of%20EC_FS_4_5_20.pdf

² Omicron Variant: What You Need to Know. CDC. <https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html>



GENERAL SOCIOECONOMIC CONTEXT IN BARBADOS AND THE EASTERN CARIBBEAN

The region of Barbados and the Eastern Caribbean includes the islands of Anguilla, Antigua and Barbuda, Barbados, the British Virgin Islands, the Commonwealth of Dominica, Grenada, Montserrat, Saint Kitts and Nevis, Saint Lucia and Saint Vincent and the Grenadines. Though possessing diversity, these tropical islands are categorized as Small Island Developing States (SIDS) due to their socioeconomic similarities.

These islands have a life expectancy between 71 and 79 years old, with Barbados having the highest³. The region is highly dependent on tourism, which accounted in 2019 for 42% of the total export of the Caribbean. More specifically, the tourism sector accounted for 11% of the GDP, and the tourism economy 26%. Of the 20 most tourism-dependent small economies globally, 13 are in the Caribbean⁴. The region has high levels of informality, and the unemployment rates in 2019 remained unchanged from 2018 at 11.7%⁵. Prior to the pandemic, the official poverty rates in the Caribbean varied from 18% to 38% with an average of 24.5%⁶.

³Life expectancy at birth, total (years) - Barbados, Antigua and Barbuda, British Virgin Islands, Dominica, Grenada, St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines. The World Bank. Available at: <https://data.worldbank.org/indicator/SP.DYN.LE00.IN?end=2019&locations=BB-AG-VG-DM-GD-KN-LC-VC&start=1960&view=chart>

⁴Nanno Mulder. The impact of the COVID-19 pandemic on the tourism sector in Latin America and the Caribbean, and options for a sustainable and resilient recovery. CEPAL. Available at: https://repositorio.cepal.org/bitstream/handle/11362/46502/3/S2000751_en.pdf

⁵Dillon Alleyne, Sheldon McLean et al. Economic Survey of the Caribbean 2020. Facing the challenge of COVID-19. CEPAL. Available at: https://repositorio.cepal.org/bitstream/handle/11362/46714/1/S2000888_en.pdf

⁶Ariel McCaskie. Caribbean Region Quarterly Bulletin. The Pandemic Saga Continues. Inter-American Development Bank. Available at: <https://flagships.iadb.org/en/caribbean-region-quarterly-bulletin-2020-q2/oecs>

COVID-19 EVOLUTION (CASES AND DEATHS) AND SOCIOECONOMIC IMPACT

The interpretation of epidemiological data in the context of small population countries such as the ones in the Eastern Caribbean must be assessed very carefully, always bearing in mind that cases and deaths per 100,000 inhabitants (the standard unit for rates) tend to be very high despite the relatively small absolute numbers.

The evolution of the COVID-19 pandemic has been similar in the countries of the Caribbean Region, with the majority of cases and deaths being recorded in the last months of 2021. The trend has been similar for all Eastern Caribbean countries, with low cases and deaths until the third trimester of 2021, when a steady increase in confirmed infections started. For instance, at the end of 2020, Anguilla had seven confirmed cases. As of 30th November 2021, there have been 1,334 cases on the island, most since August 2021⁷. Similarly, in December 2020, Barbados had 266 cases of COVID-19 and seven deaths. With a wave that also started in August 2021, the country now accumulates almost 25,000 cases and 223 deaths⁸.

As of 30th November 2021, the 14-day incidence is 983.6 per 100,000 inhabitants in Barbados, 857.7 per 100,000 in Dominica and 206.7 per 100,000 in Saint Vincent and the Grenadines. The rest of the countries in the region have an incidence below 100 per 100,000 inhabitants⁹. Again, the number of new cases and deaths is relatively small, but the small population makes the incidence look more significant in comparison with other, more populated, countries. Still, a rise in COVID-19 cases, however small, is quite worrying for these states, given their limited ICU and hospital capacity.

The evolution of the pandemic has had a clear socioeconomic impact in Barbados and the Eastern Caribbean. Lockdown measures have hindered economic activity, while the Governments' ability to respond was decreased by the limited fiscal space. In July 2020, a survey found that 69% of CARICOM respondents had experienced job loss or income reduction since the start of the pandemic¹⁰. In 2020, total employment was reduced by 7 percentage points in the Caribbean. Poverty and extreme poverty rates are expected to rise to 37.3% and 15.5%, respectively. Inflation went from 0.70 on average in the region in 2019 to 2.31 in 2020¹¹.

Moreover, the region's main economic activity, tourism, was severely hindered by transport and travel restrictions, leading to a severe reduction in tourists' access and, by extension, in tourism-related services. The table below shows the drastic international tourism decline in the last year and a half¹².

Table 1: International Tourist Arrivals and Receipts

	International Tourists Arrivals YTD change with respect to 2019 (%)		International Tourists Receipts YTD change with respect to 2019 (%)	
	2020 (JAN-DEC)	2021 (JAN-JUL)	2020 (JAN-DEC)	2021 (JAN-JUN/JUL)
Anguilla	-73%	-80%	-71%	-83%
Antigua & Barbuda	-58%	-55%	-51%	-57%
Barbados	-57% (Jan-Jun)	-54%	-	-84%
British Virgin Islands	-73%	-89%	-	-
Dominica	-76%	-87%	-72%	-89%
Grenada	-73%	-84%	-72%	-84%
Montserrat	-56%	-90%	-49%	-91%
Saint Kitts & Nevis	-75%	-92%	-76%	-94%
Saint Lucia	-69%	-63%	-68%	-69%
St Vincent & the Grenadines	-69%	-88%	-63%	-90%

Source: Prepared by the authors on the basis of the UNWTO Tourism Dashboard.

This economic impact has had consequences in everyday life for the region's population. The Caribbean COVID-19 Food Security and Livelihoods Survey found that 53% of respondents faced a disruption to their livelihoods, while food insecurity grew in the region. The closure of schools and the transition to online learning has cost the education sector in the Caribbean an estimated US\$ 92.5 million. In addition, as nutrition is closely linked with school attendance in these countries, alternative feeding programmes have been implemented across the region during school closures, with an estimated cost of US\$ 3.8 million.

In addition, the demand for social assistance and social insurance has increased. This has prompted governments in the Eastern Caribbean to create new social protection programmes or leverage existing ones to provide top-ups to existing beneficiaries or expand coverage to new ones who became vulnerable due to the pandemic. This social protection response has logically increased budgetary spending and could potentially lead to greater debt burdens or small budget surpluses¹³.

⁷Anguilla Situation. WHO. Available at: <https://covid19.who.int/region/amro/country/ai>

⁸Anguilla Situation. WHO. Available at: <https://covid19.who.int/region/amro/country/bb>

⁹COVID-19 Data Explorer. Our world in data. Available at: <https://ourworldindata.org/explorers/coronavirus-data-explorer?zoomToSelection=true&time=2020-03-01..latest&facet=none&pickerSort=asc&pickerMetric=location&Metric=Confirmed+cases&Interval=Biweekly&Relative+to+Population=true&Align+outbreaks=false&country=ATG~BRB~LCA~KNA~VCT~DMA~GRD>

¹⁰Caribbean COVID-19 Food Security & Livelihoods Impact Survey. CARICOM. Available at: https://docs.wfp.org/api/documents/WFP-0000118438/download/?_ga=2.160438836.845226398.1603185110-403782663.1600442247

¹¹Consumer Price Index. Eastern Caribbean Central Bank. Available at: <https://www.eccb-centralbank.org/p/consumer-price-index-2>

¹²UNWTO Tourism Data Dashboard. International Tourism and COVID-19. Available at: <https://www.unwto.org/es/unwto-tourism-dashboard>

¹³Sub-Regional Multisectoral Response Plan for the COVID-19 Pandemic. United Nations. Available at: <https://easterncaribbean.un.org/en/113505-sub-regional-multisectoral-response-plan-covid-19-pandemic>

VACCINATION HESITANCY FACTORS – GLOBAL

Since no vaccine has complete effectiveness, community-level immunity is essential. However, over the last six years, the anti-vaccine movement has increased its presence all over the world due, in part, to the rise of the far-right parties¹⁴. Today, COVID-19 has served as an impetus to further propel pre-existing vaccine hesitancy factors¹⁵. Particularly, the COVID-19 outbreak in the midst of the digital age and the subsequent narrative collapse from governments and traditional media has resulted in the infodemic¹⁶. Following the SAGE research, the main determinants of vaccine hesitancy can be grouped in the subsequent levels of analysis: (1) contextual influences; (2) individual and group influences; (3) COVID-19 disease-specific; and (4) COVID-19 vaccine-specific¹⁷.

Regarding contextual influences, three variables are associated with the refusal or delay of vaccination. First, demographic and socioeconomic variables, such as, being a female, having lower levels of education, being of younger age, and the loss of income during the pandemic¹⁸. Second, deep-seated distrust of the pharmaceutical industry, due to historical influences related to colonial violence continues to shape vaccine hesitancy¹⁹. For example, in a QResearch survey in England (December 2020), black Caribbean and African populations consistently present lower vaccine uptake²⁰. Third, religious beliefs also inform vaccine acceptance, as noted in a recent GeoPoll survey launched in March 2021 in six African countries²¹.

Regarding individual and group influences, three points need to be factored in. First, the personal attitude towards health and prevention. There is a relationship between not taking the flu shot and delaying the COVID-19 vaccine²². Second, the perceived risk-benefit also shapes the view on vaccination. According to a recent study, having children under legal age increases the probability of refusing to take the COVID-19 shot²³. Lastly, the absence of immunisation as a social norm decreases the chances of vaccination²⁴. This has been in some cases intensified by the false claims made by public figures and influential individuals²⁵.

Concerning COVID-19 disease-specific, four determinants were found to increase the refusal and delay of the vaccine²⁶. First, low confidence in the health service response is related to the virality of conspiracy theories²⁷. Secondly, wrong perception of the measures implemented by the government. According to a 2021 Afrobarometer survey, the delayed response of the governments caused distrust²⁸. Third, lack of trust in health authorities' information. For instance, the infodemic has weakened the legitimacy of the scientific community due to the publishing of reports without peer review. Fourth, low self-perceived risk of getting the COVID-19 infection. For example, in the Democratic Republic of the Congo and Côte d'Ivoire, people who knew someone with COVID-19 were 13% more likely to get vaccinated than those who did not²⁹.

Lastly, in relation to COVID-19 vaccine-specific, two variables should be taken into account. First, low confidence in the safety and efficiency of COVID-19 vaccines was associated with the refusal and delay of the vaccine. According to the CARPHA report, the number one concern was the side effects. It was exacerbated by the suspension of AstraZeneca in Europe. Secondly, the reliability of the supplier. In the case of Sinopharm, doubts about it being of inferior quality due to Chinese products' stigma cause reticence³⁰. It must be noted that both determinants were amplified due to some political actors spreading disinformation for economic interests³¹.

¹⁴Haelle, Tara. "Why the Anti-vaccine movement is getting stronger." *The New York Times*, 31 August 2021. Available at: <https://www.nytimes.com/2021/08/31/opinion/anti-vaccine-movement.html>

¹⁵Ibid.

¹⁶The WHO defines infodemic as over information, including false or misleading information, in digital and physical environments during a disease outbreak.

¹⁷"Report of the SAGE Working Group on Vaccine Hesitancy." *WHO*, October 2014. Available at: https://www.who.int/immunization/sage/meetings/2014/october/1_Report_WORKING_GROUP_vaccine_hesitancy_final.pdf

¹⁸Ibid.

¹⁹Carvalho, Camila and Amorim Matos, Souza. "Vaccine Hesitancy in the Global South: Towards a critical perspective on global health." *Global Public Health*, 2021. Available at: [10.1080/17441692.2021.1912138](https://doi.org/10.1080/17441692.2021.1912138)

²⁰BMJ. "COVID-19 vaccine hesitancy among ethnic minority groups." *The BMJ*, 2021. Available at: <https://doi.org/10.1136/bmj.n513>

²¹"The Ongoing Impacts of COVID-19 in Six African Nations". *Geopoll Report*, May 2021. Available at: <https://www.geopoll.com/blog/covid19-tracker-sub-saharan-africa-2021/>

²²Soares, Patricia. "Factors Associated with COVID-19 Vaccine Hesitancy." *MDPI* 9(3), 2021. Available at: <https://doi.org/10.3390/vaccines9030300>

²³Ibid.

²⁴"Report of the SAGE Working Group on Vaccine Hesitancy." *WHO*, October 2014. Available at: https://www.who.int/immunization/sage/meetings/2014/october/1_Report_WORKING_GROUP_vaccine_hesitancy_final.pdf

²⁵Evanega, Sarah. "Coronavirus Misinformation: Quantifying Sources and Themes in the COVID-19 'Infodemic.'" *The Cornell Alliance for Science*, 2020.

²⁶Soares, Patricia. "Factors Associated with COVID-19 Vaccine Hesitancy." *MDPI* 9(3), 2021. Available at: <https://doi.org/10.3390/vaccines9030300>

²⁷Granger, Gemma Garrido. "Distrust towards Institutions Drives Denialism." *Ara in English*, August 14, 2021. Available at: https://en.ara.cat/society/distrust-towards-institutions-drives-denialism-coronavirus-covid-19-vaccines_130_4085426.html

²⁸Seydou, Aminatou. "Who wants COVID-19 vaccination? In 5 West African countries, hesitancy is high, trust low." *Afrobarometer* No. 432, March 2021. Available at: https://afrobarometer.org/sites/default/files/publications/Dispatches/ad432-covid-19_vaccine_hesitancy_high_trust_low_in_west_africa-afrobarometer-8march21.pdf

²⁹Desmon, Stephanie. "Stigma Related to COVID-19 May Thwart Prevention Efforts." *John Hopkins*, February 2021. Available at: <https://ccp.jhu.edu/2021/02/08/covid-stigma-prevention-ivory-coast/>

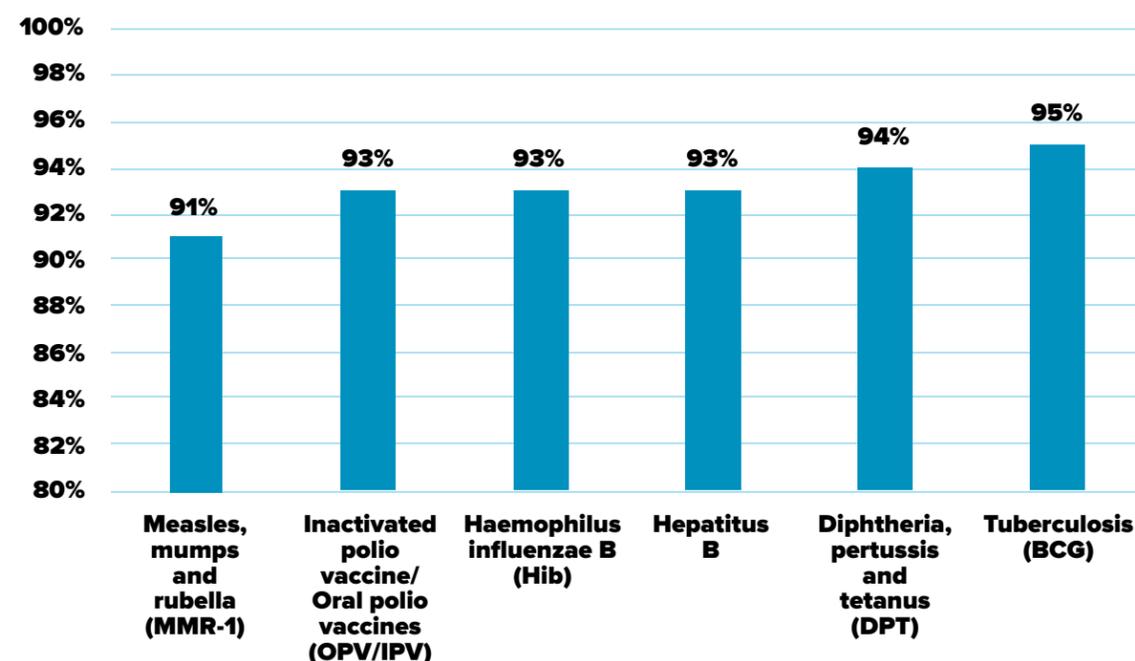
³⁰"Vaccine Hesitancy: Why Antiguans aren't taking the Sinopharm vaccine." *Loops News*, 23 August 2021. Available at: <https://caribbean.loopnews.com/content/vaccine-hesitancy-why-antiguans-arent-taking-sinopharm-vaccine>

³¹"Weaponized: How Rumors about Covid-19's Origins Led to a Narrative Arms Race." *Atlantic Council*, February 15, 2021. Available at: <https://www.atlanticcouncil.org/weaponized-covid19-narratives/>



VACCINATION COVERAGE, ACCEPTANCE STRATEGY AND IMPLEMENTATION IN BARBADOS AND THE EASTERN CARIBBEAN

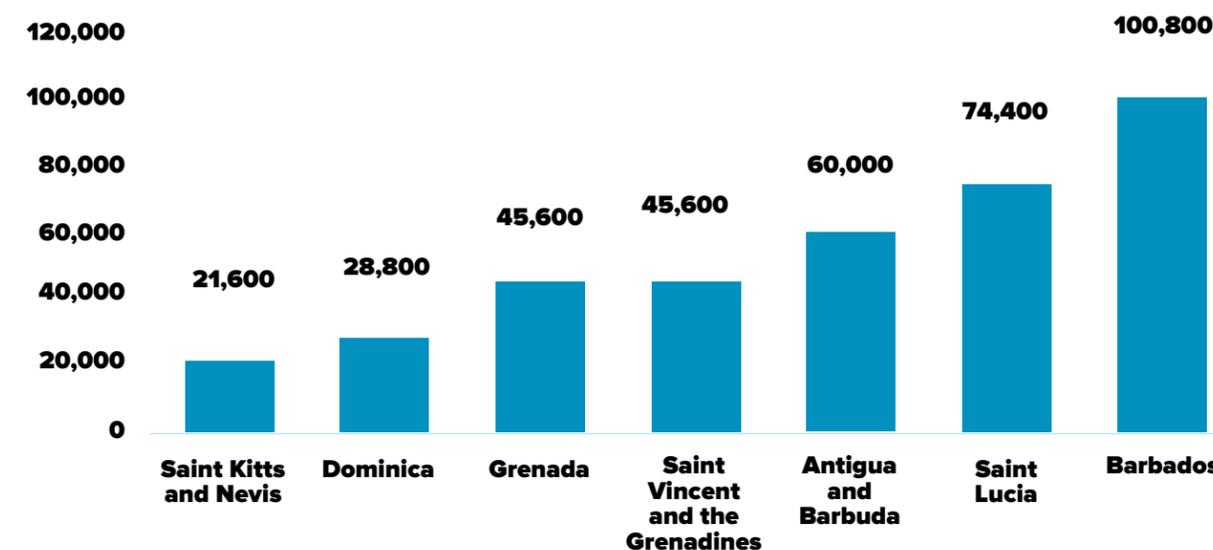
Graph 1: Vaccination Rates for primary immunizations in the Caribbean (2010)



Source: Prepared by the authors. Twenty-Eighth Meeting Of The Caribbean Epi Managers. PAHO. <https://www.paho.org/hq/dmdocuments/2017/Immunization-Caribbean-EPI-28-Mgrs-Mtg-2012-e.pdf>

Even though the fast development of several vaccines against the SARS-CoV-2 virus gave the world a possible way out of the pandemic, it also created a challenge for low and middle income countries, for whom access to vaccines was not evident. To help these countries achieve their vaccination goals, the COVID-19 Vaccine Global Access (COVAX) Facility was created. The COVAX represents a global multilateral collaboration intended to accelerate the development, production, and equitable access to COVID-19 vaccines. All the countries in the Eastern Caribbean region are part of the COVAX facility. As of 14 December 2021, the following nations of the region have received doses through COVAX.

Graph 2: COVAX COVID-19 Vaccines Deliveries in Eastern Caribbean



Source: Prepared by the authors "Tracker COVAX Initiative" PAHO. <https://app.powerbi.com/view?r=eyJrIjoiaWJhA5ZDAxMmEYTIjNC00M2I0LWE5MjUtYUWQzZGQxNDc4OTIhIiwidCI6ImU2MTBINzIjLTIJYzAtNGUwZi04YTE0LTFlNGIxMDE1MTlmNyIsImMiOiR9>

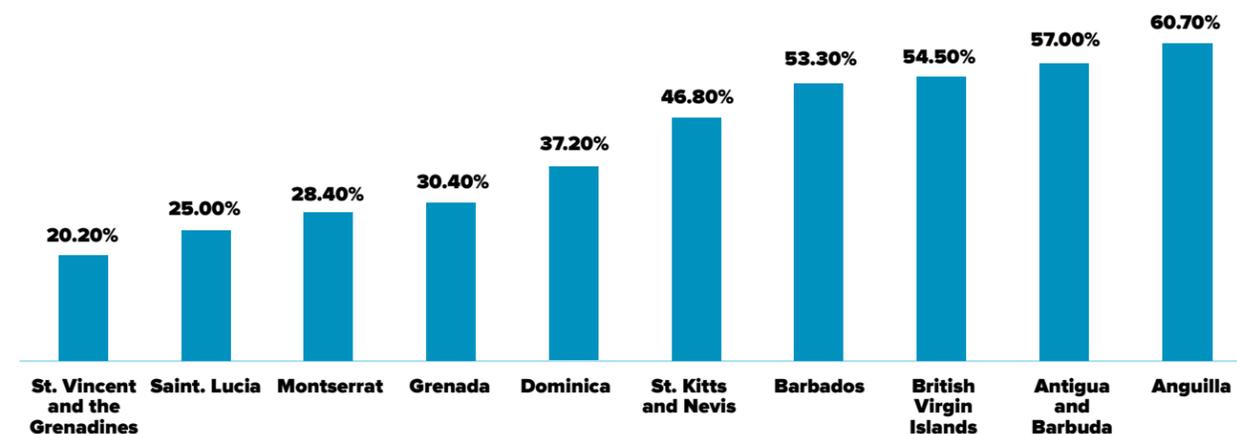
In January 2021, the United Nations published a Sub-Regional Multisectoral Response Plan for the COVID-19 Pandemic for Barbados and the Eastern Caribbean region, proposing initiatives based on the countries' needs³². It included a section on vaccine distribution and logistics, with specific recommendations and actions to prepare and ensure the infrastructure and key components of their National Deployment and Vaccination Plan for COVID-19 Vaccines were developed. These included:

- regulatory preparedness, establishing national coordinating committees for COVID-19 vaccines and national technical working groups or designing a demand plan including advocacy, communications;
- social mobilization, risk and safety community engagement;
- training to generate confidence, acceptance, and demand for COVID-19 vaccines.

³²Sub-Regional Multisectoral Response Plan for the COVID-19 Pandemic. United Nations. Available at: <https://easterncaribbean.un.org/en/113505-sub-regional-multisectoral-response-plan-covid-19-pandemic>

As of 26th November 2021, Graph 3 shows the vaccination rates (two doses) of the Eastern Caribbean region.

Graph 3: Two Doses of COVID-19 in the Eastern Caribbean Region



Source: Prepared by the authors using information from ECC COVID-19 Situation Update 145 - 26 Nov 2021. PAHO. <https://www.paho.org/en/documents/ecc-covid-19-situation-update-145-26-november-2021>

All the countries have vaccinated more than 20% of their population as of November 2021, and therefore meet the objective of COVAX, but still, these percentages are suboptimal for health objectives³³. Moreover, the differences between countries are worth noting. For instance, Anguilla has three times the vaccination rate of St. Vincent and the Grenadines.

It should be noted that high vaccination rates are especially important right now, as a means to navigate the global uncertainty created by new variants such as delta and omicron, as well as to prevent the appearance of new ones³⁴.

To promote vaccination, PAHO in collaboration with UNICEF has developed the subregion's National Behaviour Change Communication campaigns which aim to persuade people to get vaccinated³⁵. The governments of Antigua and Barbuda, Barbados, the British Virgin Islands and St. Vincent and the Grenadines have received direct support from the initiative. For example, the Ministry of Education of Barbados has developed a campaign promoting child and youth's vaccination in the framework of this initiative.

A possible obstacle for immunisation is vaccine hesitancy. In addition to the general factors previously discussed, there are specific characteristics of this phenomenon in the region. According to the Caribbean Public Health Agency (CARPHA) August 2021 survey, 15% of the respondents are delaying the intake, and 11% refuse the vaccine³⁶. The leading concern, cited by 38% of the participants, is over the vaccine's side-effects. The following major concerns are over the quick development of the vaccines and the respondent's lack of knowledge over it. This could explain the low vaccination acceptance on children, with only 38% acceptance. There are also some concerns about distrust of vaccine manufacturers and the preference for alternative remedies.

In addition, while demographic and socioeconomic variables do not impact the aforementioned worries, they play a role regarding vaccine hesitancy among healthcare workers. A PAHO study found that being of younger age and a nurse increased the likelihood of vaccine delay or refusal among healthcare workers³⁷. However, religious beliefs or lack of trust in the health system are not related to vaccine hesitancy.

Lastly, CARPHA and PAHO note that the infodemic is a key factor propagating vaccine hesitancy as participants thought they had a knowledge gap in regards to the vaccine. This is exemplified by the CARPHA and PAHO survey reporting some respondents thought they could get COVID-19 from the vaccine.

³³ ECC COVID-19 Situation Update 145 - 26 November 2021. PAHO. <https://www.paho.org/en/documents/ecc-covid-19-situation-update-145-26-november-2021>

³⁴ Clara Marin, Adelaida Sarukhan y Marta Rodó. Barcelona Institute for Global Health (ISGlobal). "COVID-19 and response strategy" series, no. 39. October 2021. <https://www.isglobal.org/en/-/vacuna-covid-que-consecuencias-tiene-una-tercera-dosis-en-la-salud-global>

³⁵ "Promoting COVID-19 Vaccine Uptake and Addressing Vaccine Hesitancy in Barbados and the Eastern Caribbean." *United Nations*. Available at: <https://easterncaribbean.un.org/en/159081-promoting-covid-19-vaccine-uptake-and-addressing-vaccine-hesitancy-barbados-and-eastern>

³⁶ CARPHA. "Covid-19 Vaccine Acceptance Among Active Social Media Users In The Caribbean." 27 August, 2021

³⁷ PAHO. "Concerns, Attitudes, and Intended Practices of Healthcare Workers to Covid-19 Vaccination in the Caribbean." 2021.

IMPACT OF VACCINATION

PERSONAL BENEFITS

Vaccination benefits are most typically linked to less risk of getting COVID-19 and its associated health risks. However, the impact of vaccines goes far beyond saving lives and improving health, it is an investment that brings about immediate and lifetime benefits. These many other personal benefits to vaccination can be classified into:

- **Economic benefits**

The economic output of every country, but specially, of economically constrained and tourist-dependent regions like the Caribbean, is highly dependent on the health of its citizens, and likewise on the health of their visitors.

Some of the reasons why vaccination will bring economic benefits to individuals and families in the region are:

- **Reopen business and return to the workplace**

According to the executive director of the Caribbean Export Development Agency, a survey carried out with the Caribbean Development Bank stated that around 50% of businesses across the region had to close or halt their operation last year and around 30% had to retrench staff. Mobility and gathering restrictions particularly affect those who cannot work remotely, such as accommodation and food services. This is the case of many workers in the Caribbean region. In 2020 only 23% of the enterprises in Barbados were operating remotely³⁸.

Evidence shows that progress in vaccination has emerged as a critical factor for labour market recovery. The International Labor Organization states that “for every 14 persons fully vaccinated in the second quarter of 2021, 1 full-time equivalent job was added to the global labour market”³⁹. Evidence from the ILO shows that higher vaccination rates are associated with less stringent workplace restrictions. This is so because they increase the physical safety of many workers, and therefore businesses might reopen and individuals able to return or to find work.

- **Cost savings associated with treatments and healthcare costs**

Vaccines have been demonstrated to be highly effective in protecting against symptomatic COVID-19, and critically against hospitalization and death. Thus, if individuals are vaccinated, they will most certainly spend less money through fewer medical tests, procedures and treatments related to COVID-19 which can be an additional and unexpected burden for the income of many families. For instance, as one can see in the table on page 18, the costs of private testing can be expensive⁴⁰.

³⁸The impact of COVID-19 on surveyed enterprises in Barbados. Available at: https://www.ilo.org/wcmsp5/groups/public/-americas/-ro-lima/-ro-port_of_spain/documents/publication/wcms_756559.pdf

³⁹ILO Monitor: COVID-19 and the world of work. Eighth edition Updated estimates and analysis. 27 October 2021.

Available at: https://www.ilo.org/wcmsp5/groups/public/-dgreports/-dcomm/documents/briefingnote/wcms_824092.pdf

⁴⁰US Embassy in Barbados, the Eastern Caribbean and the OECS. U.S. Citizen Services. COVID-19 Information. Available at: <https://bb.usembassy.gov/u-s-citizen-services/covid-19-information/>

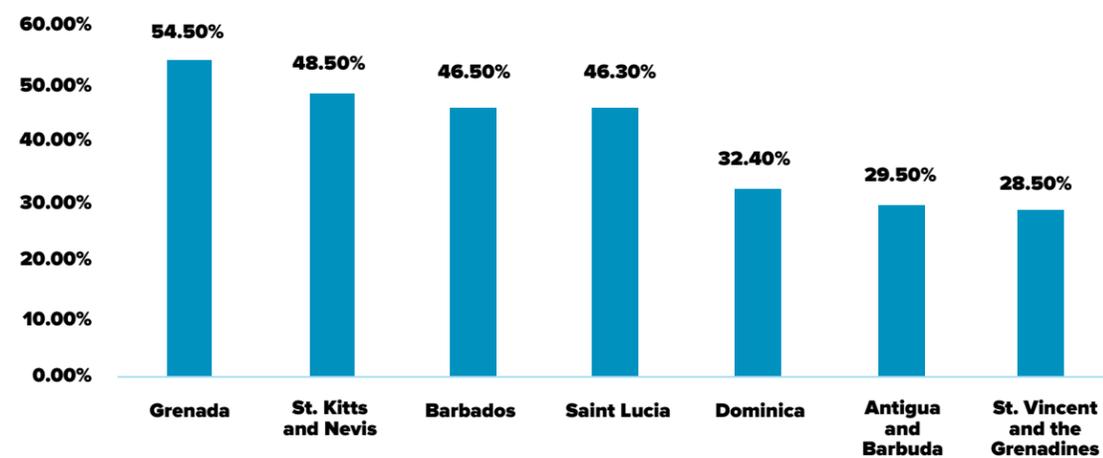
Table 2: Costs of testing for COVID-19⁴¹

	PCR	Antigen
Anguilla	100 USD	
Antigua & Barbuda	200 USD	96 USD
Barbados	109-298 USD	50 USD
British Virgin Islands	70 USD	
Dominica	40 USD	
Grenada	50 - 305 USD	
Montserrat	110 USD	
Saint Kitts & Nevis	150 USD	
Saint Lucia	100 USD	
St Vincent & the Grenadines	40 - 100 USD	

Source: Prepared by the authors. US Embassy in Barbados, the Eastern Caribbean and the OECS

The following graph presents the available figures of out-of-pocket payments of total health expenditures of the Eastern Caribbean Countries (ECCS) in 2018⁴²:

Graph 4: Out-of-pocket payments as a % of health spending



Source: Prepared by the authors on the basis of WHO Global Health Expenditure database.

⁴¹Information provided in currencies other than US dollars were converted to dollars and rounded to the nearest unit using the 13th December 2021 exchange rate. The cost for each type of test was only provided in some cases.

⁴²World Health Organization Global Health Expenditure database. Health Expenditure Profile. Available at: https://apps.who.int/nha/database/country_profile/Index/en

Being unvaccinated not only imposes the cost of being more likely to need this sort of treatment or test, but also, many insurance companies have ended waivers on out-of-pocket costs for non-vaccinated people.

- **Productivity gains**

The impact of the COVID-19 pandemic has resulted in unprecedented and volatile developments in global labour productivity. Vaccinations prevent productivity loss through illness and absenteeism, as there are fewer chances that individuals or someone in their family gets sick.

The productivity loss is higher for a disease such as COVID-19 due to the quarantine requirements if someone has been in close contact with an infected person. Vaccinated people not only have less risk of getting sick, but in some countries it also prevents you from having to quarantine.

- **Human capital**

The pandemic is posing a serious risk to human capital through the disruption in the provision of essential primary health, education and community services. Extended school closure is resulting in a short-term impact on learning, but in the medium and long term this will translate into a reduction in economic participation and in even higher rates of unemployment among youth.

- **Social relationships and travelling benefits**

Social isolation and social distancing have been two of the most characteristic features of the pandemic and the motivator for many to become vaccinated to reunite with family and friends. And as more people get vaccinated it is only natural for the unprotected to feel left out in social activities. There are several examples of how not being vaccinated might exclude people from assisting in certain leisure activities either because of the regulations or because of the personal preferences of people.

The Harris Poll COVID-19 Tracker from November 2021⁴³ reveals the following information: 54% of respondents would be hesitant to spend holidays with unvaccinated family members or friends; and 28% of the respondents would ask family members/friends to provide proof of vaccination when attending a gathering/event (e.g., wedding, party, vacation), this percentage rose to 34% among vaccinated respondents.

Another activity in which being vaccinated has become an advantage is traveling. When it comes to traveling, vaccination has become one of the requisites to enter countries without paying a pre-departure test or/and quarantining when arriving at the destination. Besides that, in many places globally, having a vaccine certificate is a requisite to enter theatres, museums or restaurants.

OTHER HEALTH BENEFITS

- **Mental health improvement**

In a recent survey conducted by the U.S. Census Bureau and the National Center for Health Statistics between January 2021 to May 2021, 30% of people who had at least one vaccine shot reported being stressed, compared with 43.2% of those not vaccinated⁴⁴. One of the main factors of reduced stress is that the fear/remorse of spreading the virus reduces.

- **Avoiding other health issues**

Vaccinated people tend to be more likely to accept and seek necessary health care than people who are not vaccinated (44.7% compared to 30.5% avoided or delayed care in the US)⁴⁵.

⁴³The Harris Poll COVID-19 Tracker. Harris Poll COVID-19 Survey Wave 91. Available at: <https://theharrispoll.com/wp-content/uploads/2021/11/Data-Tables-Wave-91.pdf>

⁴⁴Centre for American Progress. (Jul 2021). The Economic Benefits of Vaccinations. Available at: <https://americanprogress.org/article/economic-benefits-vaccinations/>

⁴⁵Ibid.

Benefits on tourism, agriculture and productive and manufacture sector

Tourism

Tourism is one of the sectors most affected by the COVID-19 pandemic that is having, and will have more long-lasting effects. Tourism is not recovering as fast as other sectors have because of the traveling restrictions existing in many countries and also due to the personal resistance to travel. The following table includes available data country profiles on tourism and travel for 2019 and 2020⁴⁶:

Table 3: Travel and Tourism ECCS

	Travel and Tourism to GDP (% total GDP)		Travel and Tourism Jobs (% total employment)	
	2019	2020	2019	2020
Anguilla	43.4%	15.7%	51.1%	37.7%
Antigua & Barbuda	40.5%	23.3%	90.4%	75.1%
Barbados	29.6%	17.9%	37.2%	34.4%
British Virgin Islands	38.6%	13.4%	68.8%	50.7%
Dominica	32.6%	13.5%	35.9%	30.1%
Grenada	40.7%	16.6%	42.0%	30.5%
Montserrat	-	-	-	-
Saint Kitts & Nevis	52.0%	22.0%	58.6%	41.6%
Saint Lucia	68.1%	28.7%	79.7%	59.6%
St. Vincent & the Grenadines	41.7%	16.4%	44.8%	38.2%

Source: Prepared by the authors on the basis of World Travel & Tourism Council

Tourism-dependent countries will likely feel the negative impacts of the crisis for much longer than other economies. As mentioned before, some of the countries in the world that are most reliant on tourism can be found in the Caribbean. However, vaccines represent a promising opportunity. The UNWTO panel of experts states rapid and widespread vaccination roll-out is the most important factor to achieve an effective recovery of international tourism⁴⁷. In general, countries with the highest vaccination rates have less stringent entry restrictions in place and other countries tend to pose less restrictions to travel to those destinations.

To illustrate how vaccination rates affect tourism, the traffic light system in the UK, one important source market for many Caribbean countries, is analyzed in relation to COVID-19 vaccination rates. The system included a green, amber and red list of countries with each colour meaning different rules around testing and quarantine and thus, defined which were the countries in which tourism was allowed. The system was established in May 2021 and was revised 5 times, modifying the list of countries accordingly till October 2021, when it was replaced by a red list of countries. The table in the next page shows four groups of countries:

- the green group represented by a sample of countries which were always in the green-list;
- the light-green group which is a sample of countries which went from being in the amber-list to the green-list (the day in which they went to the green list is highlighted in green);
- the light-red group which amasses some of the countries which were originally in the amber-list and were later placed in the red-list (the day in which they went to the red list is highlighted in red); and
- the red group which are the countries which have always stayed in the red-list until October or November.

The table includes the percentage of people fully vaccinated in each country in the day closest to the system's review⁴⁸.

⁴⁶World Travel & Tourism Council. Economic Impact Reports. Available at: <https://wtcc.org/Research/Economic-Impact>

⁴⁷UNWTO. (4 October 2021). Vaccines and reopen borders driving tourism's recovery. Available at: <https://www.unwto.org/news/vaccines-and-reopen-borders-driving-tourism-s-recovery>

⁴⁸Available data on vaccination (people fully vaccinated per hundred) closest to the date of the assessments presented in the columns. The countries presented are a random selection of middle- or high-income countries with data available in each of the categories, including the date in which they were reassigned to another list. There are less countries in green and light green categories as the number of countries in the green-list started with a considerable small number of countries.

Table 4: UK traffic light system and vaccinations rates

	Vaccination rate								Change in vacc. rate
	17 May	8 June	30 June	19 July	8 Aug	22 Sep	11 Oct	1 Nov	Nov-May
Australia	1.59	2.13	6.33	11.27	18.04	39.49	51.23	64.68	63.09
Brunei	1.31	2.58	3.33	4.71	9.38	38.48	47.93	58.96	57.65
Iceland	18.93	27.65	55.97	73.44	77.07	79.94	80.73	81.16	62.23
New Zealand	2.9	5.43	8.9	12.06	16.05	33.17	47.65	62.09	59.19
Singapore	26.41	34.62	38.4	51.2	70.82	82.19	84.52	86.25	59.84
Israel	55	55.46	55.78	56.61	58.22	60.38	61.28	61.74	6.74
MEAN	17.69	21.31	28.12	34.88	41.60	55.61	62.22	69.15	51.46
Malta	28.61	47.13	63.14	69.57	76.76	81.2	82.12	83.05	54.44
Hong Kong	10.64	14.99	19.6	26.99	35.57	53.2	56.86	58.65	48.01
Croatia	7.79	14.47	26.58	32.76	37.18	40.02	42.57	44.05	36.26
Norway	11.13	22.64	28.75	30.99	36.08	65.8	67.64	68.52	57.39
Canada	3.83	8.5	30.87	50.56	61.56	69.84	72.13	74.39	70.56
Lithuania	17	27	39.14	44.17	48.6	60.04	62.4	64.12	47.12
MEAN	13.17	22.46	34.68	42.51	49.29	61.68	63.95	65.46	52.30
Trinidad & Tobago	0.08	0.25	6.34	12.37	16.26	33.5	39.04	42.9	42.82
Costa Rica	10.31	13.36	15.78	16.16	16.79	38.99	46.62	54.45	44.14
Dominican Republic	7.49	14.28	26.41	34.51	39.89	44.28	45.54	48.72	41.23
Indonesia	3.29	4.11	4.87	5.93	8.6	16.82	20.84	26.94	23.65
Cuba	0	1.89	11.07	18.67	24.93	42.35	56.16	64.74	64.74
Georgia	0.37	1.29	2.51	3.44	4.95	18.61	22.1	23.78	23.41
Mexico	8.18	11.02	15.02	16.66	20.83	32.79	37.22	46.54	38.36
Thailand	1.17	2.05	4.03	4.97	6.38	22.73	33.45	44.19	43.02
Montenegro	5.4	17.03	22.02	23.25	25.18	32.87	35.8	38.76	33.36
MEAN	4.03	7.25	12.01	15.11	18.20	31.44	37.42	43.45	39.41
Bolivia	2.41	3.45	5.85	8.28	15.19	26.06	29.29	32.63	30.22
Cape Verde	0.47	0.48	1.08	2.72	3.86	21.33	29.57	38.64	38.17
Colombia	5.63	6.9	13.45	20.43	25.79	31.9	36.7	41.74	36.11
Ecuador	2.37	5.47	8.12	11.2	20.1	54.97	55.9	57.67	55.30
Guyana	0.35	9.54	13.76	16.23	17.98	22.66	27.84	30.91	30.56
Paraguay	0.55	1.52	2.31	3.71	10.51	25.63	27.68	32.71	32.16
Peru	2.65	4.87	9.63	12.42	19.32	29.9	41.05	46.98	44.33
Philippines	0.65	1.51	2.37	4.24	10.46	17.13	21.04	24.71	24.06
Suriname	0.35	3.66	6.07	8.18	12.06	27.74	30.44	34.11	33.76
MEAN	1.71	4.16	6.96	9.71	15.03	28.59	33.28	37.79	36.07

Source: Prepared by the authors on the basis of Our world in data and UK Data informing international travel traffic-list risk assessments.

The data presented shows that in general, countries which have had a higher vaccination rate and faster vaccine deployment have remained in the green list or achieved to enter the green list. However, those countries with a lower percentage of people vaccinated and a slow rate of vaccination uptake have not emerged from the red-list or have entered the red-list during the period. This is not a random relationship as, on the one hand, vaccination was included as a criterion within the risk assessments and also, other criteria (transmission risk, number of variants etc.) are correlated with the level of vaccination.

This example illustrates how vaccination rate in the destination country might determine tourism flows with two main conclusions:

- A lower vaccination rate in the country of destination determines the tourism flows due to more stringent restrictions in the source market.
- A slower pace of vaccination in the country of destination determines the tourism flows due to more stringent restrictions in the source market.

Other sectors: Agriculture and Productive and Manufacturing Sectors

The indirect effects of tourism on other sectors of the economy are also significant. Due to the linkages with other economic sectors, a drop in tourism is translated into a drop of agricultural, manufacturing and other services demands.

Moreover, product shortages and supply disruptions are causing an increase in retail prices, combined with reduced incomes, resulting in a cut in the quantity and quality of food consumption. Besides this reduction, vaccination rates are also related to food security in the region. Workers in the agriculture sector are particularly vulnerable since CARICOM has a population of aging farmers⁴⁹. And thus, if the workforce of farmers and fishers are affected by COVID-19 food security would be at risk.

Similar to agricultural products, and even to a greater extent, reduced incomes and uncertainty have led to a drop in consumption and change in consumption patterns, affecting consumer durable segments (cars, furniture, household appliances, housing appliances, housing, or clothing) while others have suffered less (cleaning products or telecommunications).

IMPACT OF VACCINATION ON EMPLOYMENT AND EDUCATION

Economic Recovery and Employment

Vaccine uptake is playing a critical role in economic recovery. The IMF has considered vaccination rollout as one of the key factors in their growth revision for 2021 and 2022, with slow deployment of vaccines in some countries being the main factor weighing on the recovery⁵⁰. In other words, the World Economic Outlook October 2021 has positively revised the economic prospects of countries which are quickly achieving widespread vaccination. The table below shows that, in general, countries in the ECCS with higher vaccination rates presented a positive change in their economic outlook compared with those with smaller rates.

⁴⁹Caricom Today (27th September 2021) Get vaccinated - Minister Saboto Ceaser urges Region's farmers, fishers. Available at: <https://today.caricom.org/2021/09/20/get-vaccinated-minister-saboto-caesar-urges-regions-farmers-fishers/>

⁵⁰International Monetary Fund (Oct 2021). World Economic Outlook (WEO). Available at: <https://www.imf.org/en/Publications/WEO/Issues/2021/10/12/world-economic-outlook-october-2021>

Table 5: Revision of IMF Economic Outlook and People fully vaccinated

	GDP 2021 (% change)			Outlook April 2021
	Outlook April 2021	Outlook October 2021	Change in outlook	
Antigua & Barbuda	-2.99	0.97	3.95	57.0%
Barbados	4.10	3.30	-0.8	53.3%
Dominica	0.39	3.37	3.75	37.2%
Grenada	-1.53	2.68	4.21	30.4%
Saint Kitts & Nevis	-2.00	-1.03	0.98	46.8%
Saint Lucia	3.14	3.48	0.33	25.0%
St. Vincent & the Grenadines	-0.10	-6.07	-5.98	20.2%

Source: Prepared by the authors employing data from the IMF World Economic Outlook databases and the ECC COVID-19 Situation Update 145 - 26 Nov 2021. PAHO.

One of the reasons for this is that vaccination is playing an important role in improving the employment rate, which was affected in most countries globally due to the pandemic. The following analysis aims to illustrate how vaccination rate and employment are related.

The percentage of vaccination is a powerful determinant of the number of COVID-19 cases in a country. However, it is worth mentioning that the correlation is not linear, meaning that until a certain level of people are fully vaccinated, the average cases do not fall. Table 6 was constructed taking the information available for each country for a specific vaccination rate and doing an average per country and then an average of all the countries⁵¹.

Table 6: People fully vaccinated and average number of cases per million

1 to 5% of vaccinated		20 to 25% of vaccinated		40 to 45% of vaccinated		70 to 75% of vaccinated	
Countries	Average cases per million	Countries	Average cases per million	Countries	Average cases per million	Countries	Average cases per million
MEAN	155.9	MEAN	172.0	MEAN	207.6	MEAN	120.6

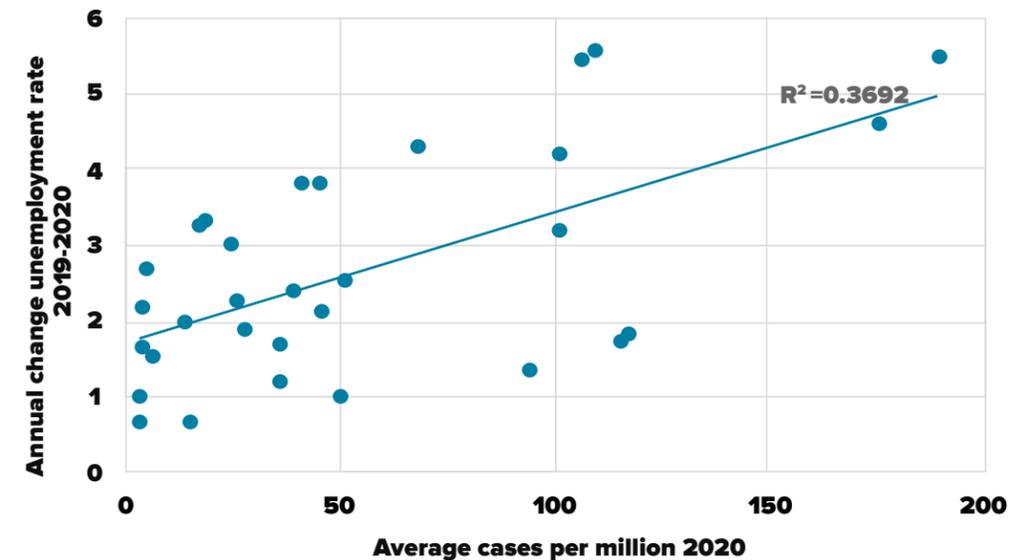
Source: Prepared by the authors using data from "Our world in data".

However, this data should be taken with caution, as due to limited testing, specifically in some countries, the number of cases is lower than the actual number of infections. This is precisely the case with fewer resources, which correspond to those with the lowest vaccination rates. However, the middle vaccination rates (20-25% and 40 to 45%) still present a growing tendency. Thus, there is evidence that cases decline only when a certain level of vaccination is achieved.

Regarding the impact of COVID-19 on employment, in 2020, the countries which saw their unemployment rates increase to a greater extent in the Americas were those that, on average, had more cases per million. Thus, in the countries where COVID-19 incidence has been higher, employment rates have been more severely affected in the region.

⁵¹The complete table can be found in the Appendix.

Graph 5: Change in unemployment vs. average cases per million in North, Central and South America and the Caribbean



Source: Prepared by the authors combining data on unemployment from the World Bank and on COVID-19 from Our worlds in data.

Therefore, when combining both analyses the main conclusion is that there should be a correlation between vaccination rates and employment recovery in future data because reaching a high percentage of vaccination will mean there will be less COVID-19 cases and thus less unemployment.

Education

According to UNESCO the impact of school closures due to the COVID-19 pandemic was most severe in seven Caribbean islands which include Barbados and Grenada⁵². In the Caribbean there are students who are still affected by partial or full school closures, and those who are currently fully open have had long periods of closures in different times over the past years⁵³.

⁵²Blackman, S.N.J. (Aug 2021) The impact of Covid-19 on education equity: A view from Barbados and Jamaica. Nature Public Health Emergency Collection. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8381129/>

⁵³UNESCO. COVID-19. Education: From disruption to recovery. Available at: <https://en.unesco.org/covid19/educationresponse/#schoolclosures>

Table 7: School status in ECCS (fully open, partially open and closed)

	Duration of full school closures (weeks)	Duration of partial school closures (weeks)	Current status (last available data - October)
Anguilla	7	12	Fully open
Antigua & Barbuda	25	29	Fully open
Barbados	20	23	Fully open
British Virgin Islands	9	42	Closed due to COVID-19
Dominica	19	0	Closed due to COVID-19
Grenada	16	45	Closed due to COVID-19
Montserrat	35	3	Fully open
Saint Kitts & Nevis	17	4	Partially open
Saint Lucia	35	24	Partially open
St. Vincent & the Grenadines	22	22	Partially open

Source: UNESCO. COVID-19 impact on education.

According to UNICEF, children experiencing school closures are not only falling behind on their education, they are also missing out on school meals, having increased chances of feeling isolated and anxious as well as being exposed to abuse and violence⁵⁴. In this regard, there is also a widening gap between students with and without access to technology and educational resources.

The surge of COVID-19 infections has motivated countries to close schools or partially close them for periods of time. As presented in section 3 a) the widespread use of vaccines is linked with a fall in the number of cases. Thus, vaccination will most likely reduce the risk of schools being closed due to COVID-19.



⁵⁴UNICEF (15 September 2021) Schools still closed for nearly 77 million students 18 months into pandemic. Available at: <https://www.unicef.org/press-releases/schools-still-closed-nearly-77-million-students-18-months-pandemic-unicef>

SUCCESS FACTORS AND BEST PRACTICES: COMMUNICATION (CONTENT AND DISSEMINATION) AND OTHER MEASURES

Some countries have opted for a more prescriptive approach to vaccine acceptance, either by giving incentives or imposing sanctions⁵⁵. However, according to relevant literature on vaccine acceptance, multisectional approaches are more effective than single component strategies⁵⁶. In other words, cooperation between multiple stakeholders generates an overarching communication strategy that targets context-specific determinants and produces the best response. As noted by the WHO, for these multi-component strategies to be effective, the subsequent success factors should be followed: be community-led, be data-driven, be collaborative, and reinforce capacity and local solutions⁵⁷. In this section, the success factors will be paired with best practices upheld by governments. Although these practices are usually single component policies, they can provide lessons on how a multi-component strategy could be generated.

Regarding community-led responses, by involving community members, two goals can be achieved. First, it helps discredit false rumours on the COVID-19 vaccine by locally ensuring health education⁵⁸. Second, it increases vaccine acceptance due to the promotion of community ownership of the vaccine intervention⁵⁹. Multiple case studies exist in different countries (Figure 1).

FIGURE 1: RELIGIOUS LEADERS

In Nigeria, religious people are the most reluctant to accept vaccines due to conspiracy theories in the community. Hence, both Christian and Muslim religious leaders are becoming the leading voices by raising awareness on the safety and effectiveness of vaccine during vigil service⁶⁰. In the Sahel region, similar initiatives are taking place⁶¹. Islamic religious leaders are using proverbs and religious reference to create an appropriate narrative that endorses medical norms such as social distancing.

Community Resource Persons: In Pakistan, Community Resource Persons -mainly female caregivers- provide information on child immunization to reduce fear and misconception through house-to-house sessions and radio programs⁶².

⁵⁵Beaumont, Peter. "Dinero, vacaciones o imposición: las estrategias de los diferentes líderes mundiales para aumentar la vacunación". *eIDiario.es*, 2 August 2021. Available at: https://www.eldiario.es/internacional/theguardian/dinero-vacaciones-imposicion-estrategias-diferentes-lideres-mundiales-aumentar-vacunacion_1_8190925.html

⁵⁶Report of the SAGE Working Group on Vaccine Hesitancy." *WHO*, October 2014. Available at: https://www.who.int/immunization/sage/meetings/2014/october/1_Report_WORKING_GROUP_vaccine_hesitancy_final.pdf

⁵⁷"COVID-19 Global Risk Communication and Community Engagement Strategy - interim guidance." *WHO*, Dec 2020 - May 2021. Available at: <https://www.who.int/publications/item/covid-19-global-risk-communication-and-community-engagement-strategy>

⁵⁸Afolabi, Aanuoluwapo A., and Ilesanmi, Olayinka S. "Dealing with vaccine hesitancy in Africa: the prospective COVID-19 vaccine context." *The Pan African Medical Journal* 38 (3), Jan 2021. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7825371/>

⁵⁹Ibid.

⁶⁰Dumo, Eric. "Religious leaders join chorus of support for vaccination in Nigeria". *GAVI*, 27 October 2021. Available at: <https://www.gavi.org/vaccineswork/religious-leaders-join-chorus-support-vaccination-nigeria>

⁶¹"COVID-19 Global Risk Communication and Community Engagement Strategy - interim guidance." *WHO*, December 2020 - May 2021. Available at: <https://www.who.int/publications/item/covid-19-global-risk-communication-and-community-engagement-strategy>

⁶²"Community Engagement for Demand Generation on Childhood Immunization". *Civil Society Human and Institutional Development Programme*, 13 Nov 2020.

Concerning data-driven approaches, it is considered necessary to generate evidence in order to ensure context-specific policy responses. The most relevant policy is community feedback. This is because two-way communication ensures accountability and stronger engagement at the national-level⁶³. According to WHO, 35 out of 64 priority countries have established feedback mechanisms⁶⁴. Another effective method is providing education to improve communities' capacity-building. There are a wide variety of initiatives (Figure 2).

FIGURE 2: COMMUNITY FEEDBACK

Every two weeks, the Africa regional Risk Communication and Community Engagement (RCCE) subgroup produces a report addressing the community feedback, either rumors or trends⁶⁵. Also, in Kenya's refugee camps, a 12-person committee collects feedback from the community to provide health reports⁶⁶.

Education: The RCCE subgroup also coaches and develops webinars in relation to community mobilization and operational decisions⁶⁷.

In relation to being collaborative, there is a call to strengthen global, regional, national and subnational coordination. The coordination will enhance the national response as it will respond to local needs and be supported by regional or international guidelines. There are multiple initiatives with local or global projections (Figure 3).

FIGURE 3: LOCAL

The National Federation of Health Organizations in Côte d'Ivoire (FENOS-CI) is working with a health center in Kenya to improve Côte d'Ivoire's administration of resources after the withdrawal of GAVI⁶⁸. The interstate alliance coordinates with a local NGO, CRESARCI, to promote immunization at a subnational-level.

Regional: the Caribbean Public Health Agency (CARPHA) has completed a survey among social media users on vaccine acceptance in order to identify communication barriers and increase the regional response to COVID-19⁶⁹.

International: the World Bank is helping the Côte d'Ivoire government to promote community mobilization and follow-up communication about the vaccine⁷⁰.

Fourthly, it is necessary to reinforce capacity and local solutions to manage the pandemic and minimize its socio-economic impacts. Integrating the COVID-19 vaccine into the existing healthcare service increases the chance of vaccine uptake while preventing the wastage of resources⁷¹. The main policies are the promotion of technical support and the sharing of best practices. A variety of initiatives have taken place (Figure 4).

FIGURE 4: TECHNICAL SUPPORT

Africa's regional RCCE subgroup has implemented a capacity-building strategy with national governments and intraregional organizations⁷². More precisely, through a one-hour course in English or French, the participants learn about risk communication, community engagement and best practices to set up governmental mechanisms. CARPHA has followed a similar methodology by developing an educational and capacity-building webinar series called 'CARPHA COVID-19 Health Rounds'⁷³.

Mobile Vans: Côte d'Ivoire government is deploying mobile clinics to educate, mobilize, and vaccinate its citizens⁷⁴. Also, the Civil Society Human and Institutional Development Programme has implemented mobile vans to increase awareness during outreach vaccination sessions in Pakistan⁷⁵.

In conclusion, although there is no single or comprehensive solution against vaccine hesitancy, various success factors can be applied: be community-led, be data-driven, be collaborative, and reinforce capacity and local solutions. The aim is to create a multi-component strategy that is context-specific. In other words, to reinforce local capacity-building, it is necessary to involve the community to develop useful feedback mechanisms that improve coordination between local, regional, and international actors. Yet, these factors are only translated to best practices when they achieve communication and engagement. Meaning that multisectional approaches are more effective because they allow immunization content to be disseminated in different levels -from local to global- and through multiple actors -from local NGOs to international organizations.

Afolabi, Aanuoluwapo A., and Ilesanmi, Olayinka S. "Dealing with vaccine hesitancy in Africa: the prospective COVID-19 vaccine context." *The Pan African Medical Journal* 38 (3), Jan 2021. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7825371/>

Ibid.

"COVID-19 Global Risk Communication and Community Engagement Strategy - interim guidance." WHO, December 2020 - May 2021. Available at: <https://www.who.int/publications/i/item/covid-19-global-risk-communication-and-community-engagement-strategy>

Ibid.

"Initiative de Plaidoyer pour la Vaccination." FENOS-CI. Available at: <https://fenosci.org/projet/initiative-de-plaidoyer-pour-la-vaccination-ipv/>

Kentish, Alison. "In race to recovery, the Caribbean wants less hesitancy, more vaccines." *Devex*, 13 May 2021. Available at: <https://www.devex.com/news/in-race-to-recovery-the-caribbean-wants-less-hesitancy-more-vaccines-99872>

"COVID-19 vaccines: from rejection to shortage, how Côte d'Ivoire became a model for managing vaccine hesitancy." *The World Bank*, 7 Sep 2021. Available at: <https://www.worldbank.org/en/news/feature/2021/09/07/covid-19-vaccines-from-rejection-to-shortage-how-c-te-d-ivoire-became-a-model-for-managing-vaccine-hesitancy>

Afolabi, Aanuoluwapo A., and Ilesanmi, Olayinka S. "Dealing with vaccine hesitancy in Africa: the prospective COVID-19 vaccine context." *The Pan African Medical Journal* 38 (3), Jan 2021. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7825371/>

"COVID-19 Global Risk Communication and Community Engagement Strategy - interim guidance." WHO, December 2020 - May 2021. Available at: <https://www.who.int/publications/i/item/covid-19-global-risk-communication-and-community-engagement-strategy>

"CARPHA Situation Report No. 195: Coronavirus Disease Pandemic." CARPHA, 23 September 2021. Available at: <https://carpha.org/Portals/0/Documents/COVID%20Situation%20Reports/Situation%20Report%20195%20-%20September%2023,%202021.pdf>

"COVID-19 vaccines: from rejection to shortage, how Côte d'Ivoire became a model for managing vaccine hesitancy." *The World Bank*, 7 Sep 2021. Available at: <https://www.worldbank.org/en/news/feature/2021/09/07/covid-19-vaccines-from-rejection-to-shortage-how-c-te-d-ivoire-became-a-model-for-managing-vaccine-hesitancy>

"Community Engagement for Demand Generation on Childhood Immunization". *Civil Society Human and Institutional Development Programme*, 13 Nov 2020.

RECOMMENDATIONS

1. Although with caution, the personal benefits of getting vaccinated should be reinforced in vaccination campaigns, including the economic and social benefits of vaccination. For example, on the website of the Centers for Disease Control and Prevention (USA), it is stated that if you've been fully vaccinated "you can resume activities that you did prior to the pandemic" and "you can travel" providing more specific detail on how to stay safe⁷⁶. On CARPHA's website the recommendations for vaccinated people in relation to social life is "It is recommended that social restrictions may be relaxed when herd immunity is achieved at a national level. For SARS-CoV-2, this has been estimated when approximately 70-90% of the population acquire immunity to break the chain of transmission. Until then, persons who have been vaccinated should continue with the ascribed social restrictions of hand-washing, social distancing, and face masks, as others may not be immune⁷⁷."

The main differences are:

- The message is not addressed to the individual but the broader community, and thus, is less appealing.
 - The message is too detailed with no headline, although the CDC message contains more detailed information in which it is recommended that vaccinated people wear masks and practice social distancing, the first message is short, direct and motivating.
2. Illustrate vaccines as an investment for themselves and their families which will bring about immediate benefits as well as benefits in the long run.

Campaigns might underline:

- The economic benefits of being vaccinated:
 - You have more chances to reopen business and return to the workplace;
 - You have to spend less money in testing, treatment and healthcare derived from COVID-19;
 - You are less likely to miss work due to quarantine or sickness of you or your family members;
 - You enhance the economic prospects of your children.
- The social relationship and traveling benefits:
 - Your family, friends and peers will feel safe spending time with you.
 - You might be able to travel without mobility restrictions.
- Other health benefits:
 - You will feel less stressed about COVID-19 because you will less likely contract the virus yourself and spread the virus to others.
 - You will stop avoiding or delaying care because you will feel safer going to the hospital.

⁷⁶ Centers for Disease Control and Prevention. (Oct. 15th 2021). Guidelines When You've Been Fully Vaccinated. Available at: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated.html>

⁷⁷ CARPHA.COVID-19 Vaccine Information. Available at: <https://carpha.org/What-We-Do/Public-Health/Novel-Coronavirus/COVID-19-Vaccine-Information>

3. Include in vaccination campaigns a message that states that tourism recovery is strongly related to the pace and the extent of vaccination. In countries that have had a faster pace and more people are fully vaccinated, tourism has been allowed by important Caribbean markets. ECCS must make sure they are not left behind.
4. Highlight that it is not enough if others get vaccinated as it has been proved that only when most of us are vaccinated cases start to fall. Relate the falling of cases with benefits such as greater employment (including tourism) or reopening of education. Consider measures such as the “vaccination passport” to attend public events and/or enter public spaces to increase vaccination.
5. Bear in mind that, if possible, all information campaigns about vaccination should be multisectorial, meaning including different stakeholders, and led by the community (they can include community leaders that the population is familiar with). Evidence shows that multisectorial campaigns that are community-led, data-driven and collaborative, and reinforce capacity and local solutions are the most successful, so this should be the guideline to create powerful messages that boost confidence among the population.
6. Additional surveys should be launched targeting particularly important populations in order to learn about their hesitancy profile and be able to send more powerful messages for vaccination to them. Among others collectives that are considered essential for the socioeconomic recovery of the Caribbean could be:
 - Tourism workers. Guarantee safe reopening of international tourism.
 - Farmers. Guarantee food safety.
 - Teachers. Guarantee safe reopening of schools.
7. Vaccination remains the best way to face the pandemic and deal with its uncertainty and rapidly changing scenarios. The new variant poses a threat to the achievements of the last year and a half, and governments must be ready to implement evidence-based vaccination strategies that reach everybody. The best case scenario would be to achieve high vaccination rates with at least one booster of a mRNA vaccine, which, according to preliminary data, are more successful in protecting against transmission from Omicron⁷⁸. The next best scenario would be to achieve high vaccination rates with two doses of any of the available vaccines, which are expected to remain effective against the severe outcomes of the infection. In any case, it is absolutely essential to promote vaccination to protect the population, the health system and the economy.

In conclusion, these are the key messages that can be extracted from the report:

- Being vaccinated comes with multiple personal benefits, both economic and social, in addition to the health benefits.
- The widespread and fast-paced increase in vaccination rates is related to a faster economic recovery, which includes an increase in employment and recovery of the tourism sector.
- All sectors of society have to work together to promote vaccination as a driver for better health and economic growth, especially community leaders, healthcare workers and local authorities supported by national and international institutions.
- In the current context, vaccines remain the best, most effective tool to deal with the pandemic and its uncertainty. Only countries with high vaccination rates will be able to successfully recover their economy while protecting their citizens.

⁷⁸ Nicole A. Doria-Rose, Xiaoying Shen, et al. Booster of mRNA-1273 Vaccine Reduces SARS-CoV-2 Omicron Escape from Neutralizing Antibodies. medRxiv 2021.12.15.21267805; doi: <https://doi.org/10.1101/2021.12.15.21267805> <https://www.medrxiv.org/content/10.1101/2021.12.15.21267805v1>



APPENDIX

1 to 5% of vaccinated		20 to 25% vaccinated		40 to 45% vaccinated		70 to 75% vaccinated	
Countries	Average cases per million	Countries	Average cases per million	Countries	Average cases per million	Countries	Average cases per million
Afghanistan	24.7	Albania	269.5	Antigua and Barbuda	720.8	Belgium	341.5
Angola	5.2	Antigua and Barbuda	0.0	Argentina	45.6	Cambodia	15.7
Argentina	303.8	Argentina	175.6	Australia	74.7	Canada	80.9
Armenia	105.9	Australia	25.9	Austria	24.5	Chile	34.8
Australia	0.5	Austria	28.4	Azerbaijan	185.9	China	0.0
Austria	225.3	Azerbaijan	223.7	Bahrain	1664.9	Cuba	34.7
Bangladesh	33.6	Bahrain	656.8	Barbados	1145.6	Denmark	95.5
Belgium	224.4	Barbados	9.1	Belgium	103.7	Finland	156.6
Benin	0.0	Belgium	105.9	Brazil	75.4	Iceland	212.1
Bolivia	120.1	Belize	619.9	Brunei	648.5	Ireland	285.3
Bosnia	78.8	Bolivia	34.4	Cambodia	32.1	Italy	82.7
Brazil	283.6	Brazil	144.5	Canada	11.8	Japan	1.5
Brunei	1.2	Brunei	192.5	Chile	367.8	Malaysia	170.0
Bulgaria	254.8	Bulgaria	576.2	Colombia	36.3	Malta	239.4
Burkina Faso	0.4	Cambodia	53.4	Croatia	667.2	Netherlands	268.7
Cambodia	10.0	Canada	16.9	Cuba	638.5	Portugal	222.1
Canada	143.0	Chile	383.1	Cyprus	771.0	Qatar	59.2
Cape Verde	124.8	Colombia	221.8	Czechia	18.6	Singapore	14.9
Chile	200.1	Croatia	14.7	Denmark	170.6	South Korea	33.9
Colombia	228.8	Cuba	773.2	D. Republic	27.1	Spain	142.9
Congo	15.9	Cyprus	75.9	Ecuador	69.4	UAE	124.6
Costa Rica	173.3	Czechia	11.5	El Salvador	0.0	Uruguay	36.4
Cote d'Ivoire	1.4	Denmark	146.1	Estonia	139.9	MEAN	120.6

1 to 5% of vaccinated		20 to 25% vaccinated		40 to 45% vaccinated		70 to 75% vaccinated	
Countries	Average cases per million	Countries	Average cases per million	Countries	Average cases per million	Countries	Average cases per million
Cuba	100.9	Dominican Republic	94.2	France	215.5		
Cyprus	197.2	Ecuador	9.0	Germany	11.0		
Czechia	847.6	El Salvador	52.4	Greece	226.5		
Denmark	134.0	Estonia	61.9	Hong Kong	0.8		
Ecuador	82.5	Eswatini	4.3	Hungary	14.9		
Egypt	4.9	Finland	38.7	Iceland	5.8		
El Salvador	22.2	France	43.2	Ireland	94.7		
Estonia	649.3	Georgia	888.8	Israel	287.0		
Eswatini	343.6	Germany	30.7	Italy	41.1		
Ethiopia	6.4	Greece	104.8	Japan	180.5		
Finland	81.0	Guyana	236.8	Kazakhstan	65.5		
France	356.0	Hong Kong	0.3	Kosovo	9.3		
Gabon	53.5	Hungary	158.1	Latvia	219.1		
Georgia	351.0	Iceland	4.4	Liechtenstein	43.6		
Germany	148.7	India	9.6	Lithuania	26.3		
Ghana	1.9	Indonesia	3.2	Malaysia	663.2		
Greece	148.1	Ireland	74.0	Maldives	160.0		
Grenada	4.0	Israel	720.9	Malta	9.7		
Guatemala	90.1	Italy	31.6	Mexico	22.7		
Guinea	4.2	Japan	25.4	Mongolia	361.0		
Honduras	110.0	Jordan	92.0	Morocco	103.0		
Hong Kong	1.8	Kazakhstan	439.9	New Zealand	7.1		
Hungary	371.1	Kosovo	160.7	Norway	105.9		
Iceland	11.2	Laos	37.3	Panama	84.5		
India	95.1	Latvia	88.7	Peru	23.9		
Indonesia	29.9	Lebanon	94.3	Poland	2.5		
Iran	247.6	Liechtenstein	43.6	Qatar	51.0		
Iraq	139.1	Lithuania	164.1	Saint Kitts and Nevis	438.0		
Ireland	329.6	Malaysia	545.1	Samoa	0.0		

1 to 5% of vaccinated		20 to 25% vaccinated		40 to 45% vaccinated		70 to 75% vaccinated	
Countries	Average cases per million	Countries	Average cases per million	Countries	Average cases per million	Countries	Average cases per million
Japan	29.5	Moldova	319.3	Slovakia	411.0		
Jordan	451.0	Mongolia	180.6	Slovenia	117.9		
Kazakhstan	122.8	Montenegro	103.7	South Korea	39.0		
Kenya	9.4	Morocco	19.2	Spain	348.5		
Kosovo	25.4	Nepal	24.2	Sri Lanka	224.3		
Kyrgyzstan	93.4	New Zealand	12.0	Switzerland	38.1		
Laos	3.3	N. Macedonia	342.1	Taiwan	0.4		
Latvia	343.6	Norway	42.7	Thailand	135.2		
Lebanon	216.6	Pakistan	1.9	Trinidad & Tobago	206.6		
Lesotho	0.9	Palestine	973.9	Turkey	235.3		
Liechtenstein	82.9	Paraguay	15.1	UK	102.5		
Lithuania	231.0	Peru	33.1	US	55.5		
Luxembourg	327.4	Philippines	49.4	Uruguay	450.9		
Malawi	4.9	Poland	11.2	MEAN	207.6		
Malaysia	106.4	Portugal	60.6				
Maldives	216.7	Qatar	192.9				
Mali	0.6	Romania	4.0				
Malta	310.0	Russia	134.7				
Mexico	57.6	St. Lucia	93.3				
Moldova	47.7	Samoa	0.0				
Montenegro	374.8	San Marino	298.2				
Morocco	10.2	Saudi Arabia	28.5				
Mozambique	18.8	Serbia	185.4				
Namibia	252.8	Seychelles	852.6				
Nepal	115.7	Slovakia	8.0				
New Zealand	0.6	Slovenia	108.0				
Niger	0.4	South Africa	4.2				
Nigeria	0.9	South Korea	34.6				

1 to 5% of vaccinated		20 to 25% vaccinated		40 to 45% vaccinated		70 to 75% vaccinated	
Countries	Average cases per million	Countries	Average cases per million	Countries	Average cases per million	Countries	Average cases per million
Pakistan	10.4	Switzerland	64.4				
Panama	98.6	Taiwan	0.2				
Papua New Guinea	10.9	Tajikistan	0.0				
Paraguay	265.6	Thailand	183.7				
Peru	198.6	Timor	14.0				
Philippines	60.6	Trinidad & Tobago	140.0				
Poland	272.1	Tunisia	143.2				
Portugal	379.5	Turkey	80.6				
Romania	179.8	UK	31.0				
Russia	61.5	USA	199.7				
San Marino	1117.3	Uruguay	744.6				
Senegal	10.5	Vietnam	43.3				
Sierra Leone	1.3	MEAN	172.0				
Slovakia	328.6						
Slovenia	502.3						
Somalia	4.0						
South Korea	10.8						
Spain	395.6						
Sri Lanka	114.5						
Sudan	0.9						
Switzerland	228.5						
Syria	8.1						
Taiwan	1.1						
Tajikistan	4.1						
Tanzania	0.0						
Thailand	49.8						
Trinidad and Tobago	271.8						
Tunisia	176.2						
Turkey	126.6						
Ukraine	133.8						
UK	253.3						
USA	549.0						
Vietnam	55.0						
Yemen	0.6						
Zambia	38.4						
Zimbabwe	33.1						
MEAN	155.9						

**Vaccination as a Driver for
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Barbados and the Eastern Caribbean**

March 2022