

# ANALYSIS OF QATAR'S SUCCESSFUL PUBLIC HEALTH POLICY IN DEALING WITH THE COVID-19 PANDEMIC

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**ABSTRACT Objectives:** Analysis and review of the public health policies implemented by Qatar, contributing to improvised outcomes in dealing with the COVID-19 pandemic. **Study Design:** A wide range of responses from public health departments and governments around the world has led to varied results in tackling the pandemic. We analysed the public health policies implemented in Qatar to curb the spread of Covid-19, taking into consideration the roles of various departments including the Ministry of Public Health, primary and secondary health care services, Ministry of Education and Ministry of Interior. **Methods:** We looked at how Qatar has implemented its public health policies and managed to curb the COVID-19 outbreak very effectively and efficiently in spite of having the highest number of COVID-19 positive patients per million population in the world. We evaluated the information which is available publicly on the official websites of the various organizations involved. **Results:** The implementation of their policies has resulted in the country recording one of the lowest mortality rates in the world with excellent patient outcomes. Qatar has also succeeded in preventing to a large extent, the second wave of COVID-19 in dealing with the pandemic. **Conclusion:** We recommend similar measures to successfully help slow the transmission of COVID-19 and protect healthcare systems around the world. Its pertinent to continue community awareness regarding infection control and prevention measures as well as strengthening surveillance systems and mobilising all available sectors early in the course of a pandemic. This helps reduce morbidity and mortality of the vulnerable population as well as enables the frontline workers who are doing the best they can, to protect the people of the country.

**KEYWORDS** COVID-19, Crisis Management, Pandemic, Policy, Public Health

## Introduction

The Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2 virus) has engulfed the globe, with the pandemic now affecting nearly every country in the world infecting over 40 million people and causing more than 1.1 million deaths worldwide.

Ever since the World Health Organisation (WHO) had declared Corona Virus Disease -19 (COVID-19) as a pandemic on March 11 '20[1], Qatar has set a clear pathway to control and minimise the extent of the crisis to the best possible outcome. The National Response Plan for COVID-19 in Qatar set out the protocols necessary to ensure that the health and well-being of the residents were addressed to, by taking timely and effective actions to prepare for, monitor and respond to the pandemic outbreak in the country.

The first case of COVID-19 in Qatar was confirmed on the February 27 '20 when a Qatari national was evacuated from Iran on a governmental chartered repatriation flight. Relative to its population, as of the October 15, Qatar has the highest number of COVID positive cases per million in the world with a total of 128,603 cases confirmed to date[2]. However, even with this high

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density of cases, the number of COVID related deaths recorded so far has been 220 with a mortality rate of 0.17% (Figure 1).

This is far less than any other developed country in the world, and here we review the processes in place as to how the government of Qatar in liaison with the public health authorities have managed to contain this pandemic in Qatar so very successfully. The country's proactive approach to tackle the pandemic early and the cooperation of the relatively young and healthy expat population of the country has perhaps contributed to the lower mortality rates as compared to the global average. The number of active cases in Qatar as of the October 15 is 2799 (Figure 2) after about 843,565 tests being performed since the beginning of the pandemic in Qatar[2].

This response is to continue with the setting of clear guidelines for the re-opening of the country through evidence-based, gradual and controlled lifting of restrictions imposed in response to the COVID-19 pandemic. The easing of lockdown aims to restore normal life while continuing to protect the people, society and economy of the residents of Qatar. In this review, we will highlight the measures taken by the government of Qatar to deal with the COVID-19 pandemic.

## Methodology

This review is to denote the policies implemented by examining public health official information sources from Qatar's e-Government official website, Ministry of Interior, Ministry of Public Health and the Ministry of Education. All this information is publicly available on their official websites

## Health Centre Management

With the outbreak being declared a global pandemic in March '20[1], Qatar's first response was to liaise with the Ministry of Public Health (MOPH) and activate the Emergency Disaster Teams, with three regional command centres coming into play[3]. They nominated four primary health care centres in Qatar which were equipped with laboratory facilities, short-stay beds and onsite radiology amenities, as designated "Nodal COVID-19 Test and Hold Facilities". They furthermore allocated four dedicated secondary hospitals – as COVID – hospitals which were to process and receive admissions, from the COVID centres. The MOPH team also deployed community teams to conduct contact tracing of suspected COVID patients and arrange for mass testing in hot spots of community pockets[3].

Most importantly, the medical treatment, including the quarantine facilities offered to all patients, including the expat population, was at no cost whatsoever and was completely sponsored by the ministry of health.

Patients who had suspected symptoms of COVID-19 presented to the Nodal COVID centres for testing. They had an RT-PCR oropharyngeal/nasopharyngeal swab tests and were directed to be home quarantined until the results were declared. Highly suspicious patients were instructed to be quarantined for 14 days irrespective of the results of their tests. The COVID positive patients were contacted by the MOPH teams via phone calls and were instructed to come back to the COVID Centres for further investigations. At the COVID centres, they had chest radiographs and blood tests (Complete blood counts, Liver function tests, Renal functions tests, C- reactive protein) and their vital signs (Temperature,

Pulse and SpO<sub>2</sub>) were monitored<sup>3</sup>. A clinical decision by the medical team was then made to either refer the patient to

a quarantine centre or admit the patient to one of the COVID hospitals, depending on the severity and the need of the patient at the time.

## RT-PCR Test with CT Values (Measuring Viral Load)

Qatar also utilised the cycle threshold values (CT-Values) whilst interpreting the RT-PCR test results. All results released had the CT values which determined the viral load and infectivity of the patient and hence this dictated further quarantine management for the patient. Positive COVID RT-PCR test results were interpreted in 2 different ways[4]:

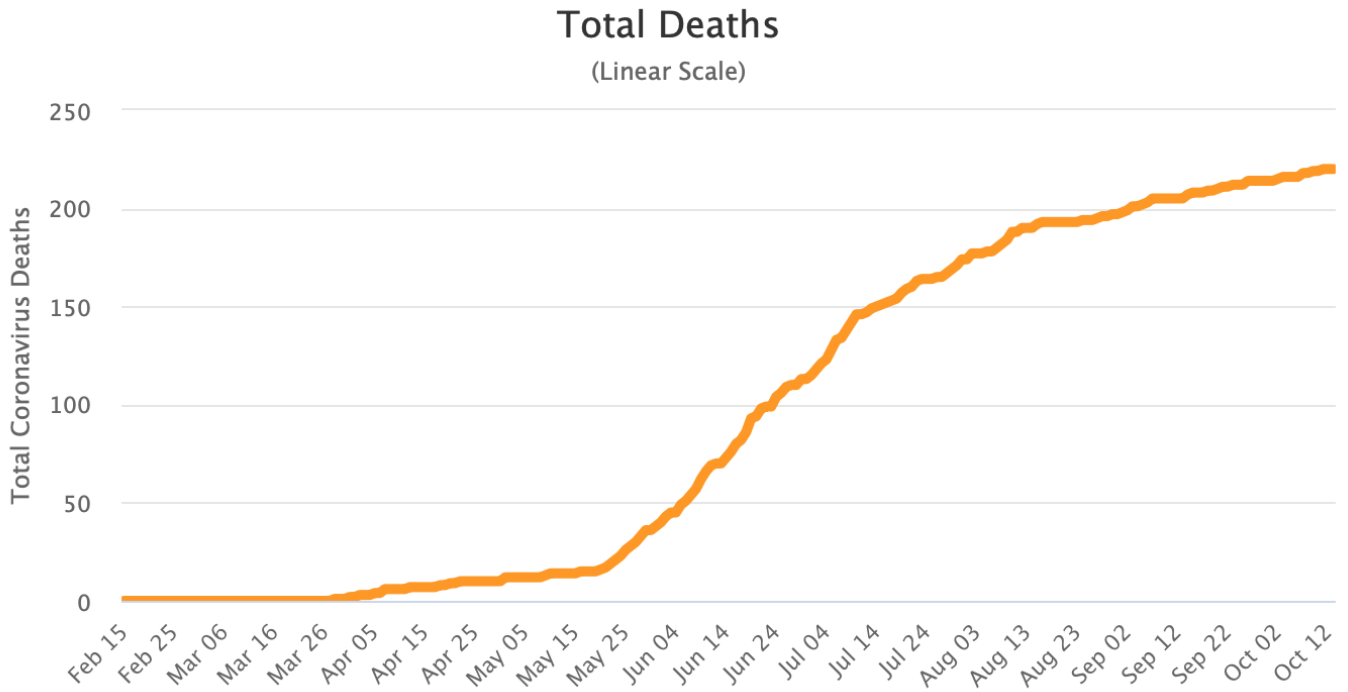
- (a) RT-PCR- CT values < 30 – patients were considered as highly infective (having a high viral load[4]) and had to be quarantined in a quarantine centre as a mandatory requirement. If the patient had home isolation facilities with personal space and private bathroom, they could be sent for home isolation under the Home Isolation Team comprising of doctors and nurses, who would follow-up them at home for any further medical needs as required. The quarantine period was for three weeks for this group of patients initially and was later reduced to 2 weeks after consultation with the MOPH and WHO departments.
- (b) RT-PCR- CT values > 30 – patients were considered non-infective (having a low viral load<sup>4</sup>) and were assigned for home isolation for a period of one week.

In either group of patients, if they were symptomatic or having any comorbidities such as hypertension, diabetes, asthma or any other chronic medical ailments, they had to compulsorily have a chest x-ray, ECG and blood tests as mentioned above and the clinical decision was made based on the results of these investigations[3]. If a patient had abnormal results, they would be considered for admission to the COVID hospitals and the secondary care teams would then take over the management of these patients.

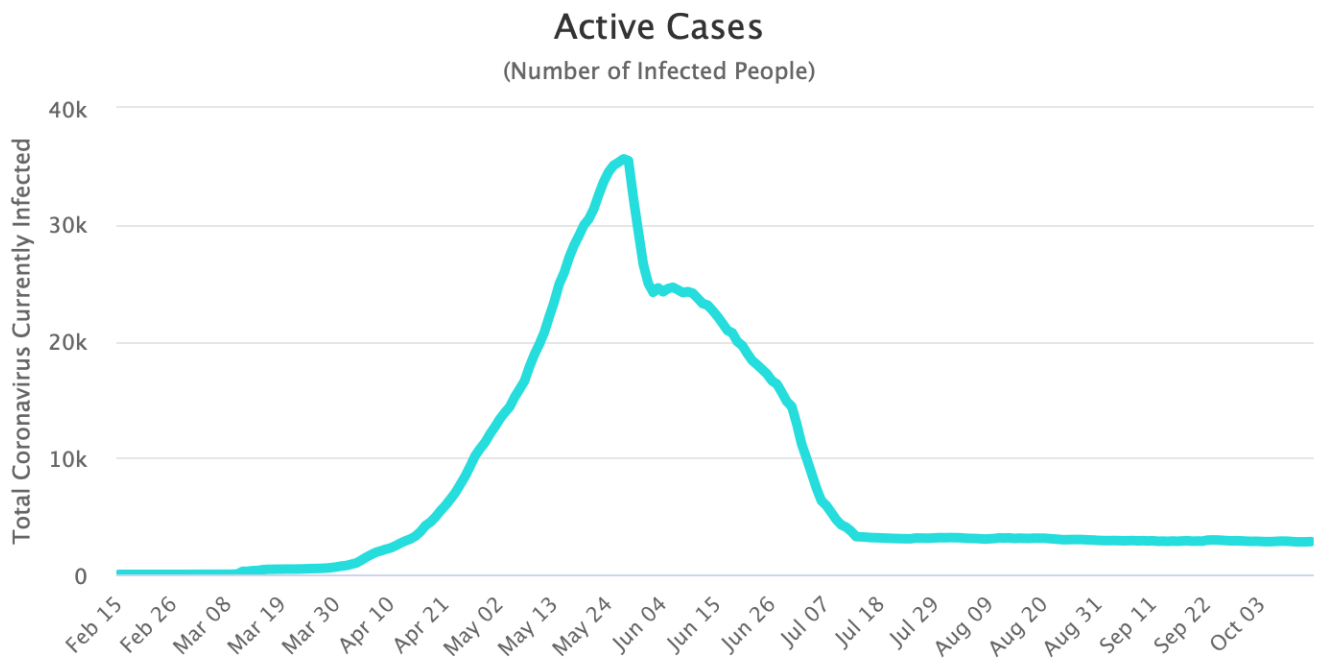
The MOPH team also conducted random testing in the community, as well as sent invitations for testing by appointments to randomly selected pockets of the community to identify COVID hotspots. They were asked to be tested in a drive-thru swab collection areas in specific health centre car-park locations in Doha. MOPH home-swabbing teams visited patients' homes after contact tracing to trace and test the contacts of positive patients.

## The Lockdown

Qatar was one of the earliest countries to implement a nationwide lockdown to curb the spread of the virus and contain the pandemic. On March 9 '20, Qatar announced the closure of all educational institutes as well as placed a travel ban on incoming flights from 15 countries identified as high risk for COVID-19. Simultaneously, all parks and public beaches were shut down to help curb the spread of the pandemic. As the number of cases continued to rise in Qatar, despite the initial measures, a partial lockdown of the country was announced on the March 23 with all restaurants, cafés, sports clubs being shut down too<sup>5</sup>. The industrial area where there was a hot pocket of COVID cases reported was cordoned off by the MOPH team to contain the cases. On March 28, Qatar reported its first death due to COVID-19. In May, the government made it mandatory for everyone to use facemasks in public places.



**Figure 1** Total death in Qatar (Worldometers)[2]



**Figure 2** Total active cases in Qatar (Worldometers)[3]

## Safety of Medical Personnel

Hamad Medical Corporation, the governmental medical institution in Qatar had a COVID team with four hospitals dedicated as COVID hospitals for this purpose. They also had in place, a sufficient number of ventilators, on standby with ICU facilities in each of these hospitals from the beginning itself[3].

All routine planned surgeries were postponed, and routine outpatient appointments were rescheduled to have enough medical personnel onboard.

Also, the medical staff were instructed to have COVID tests for themselves twice a month or if any clinical suspicion arose, so as to identify and isolate any potentially infected health care professional at the earliest. The occupational health department at HMC and PHCC were very actively involved in ensuring that the medical and nursing staff are well taken care of during this pandemic. The infection control and prevention team (IPAC) ensured that enough personal protective equipment (PPE) was in place and tendered the supply chains for the same well in advance[3].

## Geo-Localisation of COVID-19 patients - phone application "Ehteraz"

The government of Qatar in liaison with the MOPH were one of the few countries in the world to push for digital contact tracing utilizing the latest technological advances and Bluetooth directed tracing of potential COVID positive patients<sup>6</sup>. They implemented the "Ehteraz" application as a mandatory requirement for all citizens of Qatar to have downloaded and installed in their smartphones. The application enabled public health authorities to track areas of high COVID positivity as well as help contact trace people. This was launched at the end of April '20 and was developed to help support the residents of Qatar, warning them when in close proximity of potentially positive patients as well as to help support the efforts of the frontline public health workers in the fight against COVID-19.

The success of utilising the digital contact tracing apps like Ehteraz, to keep people safe from the virus requires the involvement and active participation of the citizens, residents and visitors to download the application and ensure they have turned on at all times. The Ehteraz status being "Green" would mean that the person is relatively safe and distant from anyone who might be positive. If a potential patient had a COVID test, their Ehteraz status would turn "Yellow", until the results were released and this would then turn "Red" if the patient becomes positive. All contacts of this positive patient would then have their Ehteraz colour changed to "Grey" hinting that they might have been in close proximity to a positive patient and should hence consider testing themselves[6].

With this being implemented nationwide at all public facilities including malls, supermarkets and offices needing to check for the "Ehteraz App" of any visitor, it aided tremendously to identify and isolate individuals as well as helped people feel safer in such public places as only "Ehteraz Green" people were allowed to enter the facilities<sup>6</sup> (Figure 3).

Heavy fines directed against people who did not adhere to the government lead policies and prison imprisonments for people who break quarantine rules meant that people of Qatar were very much involved in supporting the health care workers and the government authorities to help curb the spread of the pandemic[5],[6].

## Progressive lifting of restrictions: Getting back to Normalcy

After a strict and successful lockdown to curb the spread of the pandemic, Qatar gradually lifted Covid-19 restrictions in four phases, striking a balance between the health risks involved and the economic and social welfare of the country[5].

Following were the phase-wise details:

### A Phase 1 – June 1 '20

Only essential repatriation outbound flights allowed from Doha. Inbound travellers to have COVID-19 testing as well as mandatory hotel quarantine for two weeks. Restricted opening of mosques across Qatar. Parks open for controlled hours, allowing outdoor activities. Professional training allowed in outdoor areas only for no more than five people in a group—private healthcare facilities to operate at 40% capacity during this time. Emergency services to continue as needed. Partial opening of shops in malls allowed, allowing customers not exceeding 30% of the mall capacity. Also, 20% of employees to be allowed at company workplaces with the implementation of strict health precautions and social distancing measures in place.

### B Phase 2 – July 1 '20

The full opening of all parks and beaches allowed at this time. All malls, souqs and wholesale markets to also open in this phase with restricted hours and capacity. Restaurants, museums and libraries allowed to open with restricted capacity. Professional training allowed outdoors for small groups of up to 10 people—private healthcare facilities to operate at 60% capacity during this phase. Also, 50% of employees to be allowed at company workplaces in this phase[5].

### C Phase 3 – August 3 '20

Low-risk inbound flights for priority passengers and returning residents permitted during this time. All malls to open with full hours, but restricted restaurant opening to continue with increasing capacity. Health clubs, gyms, beauty parlours and barbershops/hairdressers to open with a 50% capacity at this time. Nurseries and childcare facilities were allowed to open in this phase too. Sports training to be allowed with up to 40 people along with amateur sports contests without spectators. Private healthcare facilities allowed to operate at 80% capacity in this phase. Also, 80% of employees to be allowed at the company workplace from this time[5].

### D Phase 4 – 1st September '20

This phase oversees the complete reopening of all economic activities in the country with proper stringent measures implemented[5]. Business-related mass gatherings, trade shows and conferences to be allowed from this phase, along with entertainment-related mass gatherings, theatres and cinemas reopening with social distancing measures in place. Inbound flights to Doha to be expanded as advised by the Ministry of Public Health, whilst Doha Metro and public bus services resume with restrictions. Malls, souqs and wholesale markets and restaurants to resume full operations. Museums and libraries to open completely too. Sports-related mass gatherings to be permitted from this

# QR Health Codes

The profile of each user is linked to the QR Code by automatically extracting the user's health information from the official bodies according to the following categorizations:



Figure 3 Total death in Qatar (Worldometers)[2]

time in addition to local and international sports competitions with limited spectators. Private healthcare facilities to operate at 100% capacity as well as all employees to be allowed at company workplaces with proper checks in place. The elderly population, as well as people with chronic diseases and children, were advised to stay home during the phases of gradual lifting of restrictions.

## The progressive reopening of the border to international travellers

Qatar opened its borders for its Resident Permit (RP) holders to re-enter the country on the August 1 '20, exercising extreme caution and being conscious of the possibility of a second wave in doing so and hence opening up in a phased controlled manner[5].

The MOPH regularly updated a list of low-risk countries, so inbound travellers had to be quarantined for a period of 1 week if travelling from these countries. If a traveller is inbound from a list of high-risk countries, they had to be quarantined in an approved hotel for a period of 1 week followed by home quarantine for an additional week, making it two weeks of seclusion requirement in total. Also, all incoming travellers had to have an RT-PCR swab test on day zero – on arrival at Hamad International Airport. They also needed to have an RT-PCR test on day 6 of arrival, which was again organised at the COVID centres. The “Ehteraz” application would be displayed yellow for all inbound travellers, turning green at the end of the quarantine period after fulfilling the quarantine requirements and having had a negative COVID test[5],[6].

## Progressive re-opening of schools:

As per the MOPH regulations, all teaching staff were instructed to adhere to the mandatory infection control measures to curtail the spread of COVID-19 during re-opening of schools as well as had to have a COVID19 PCR test prior to starting a phased opening of schools[7],[8]:

**1st Phase:** 1/3rd of pupils expected to attend school in all grades during this phase.

**2nd Phase:** Blended Learning Model for a period of 2 weeks, wherein the students as split into two groups and attend school on alternate days during this period, with a 50% expected attendance.

**3rd Phase:** 100% attendance expected, with all pupils expected to attend school and to have stringent measures in place.

There were exceptions wherein students or parents with chronic diseases were exempt from this requirement and could still opt to continue online e-learning as in the previous terms. Also, it was mandatory to have school nurses onsite with dedicated isolation rooms allocated for any symptomatic pupils or teachers in all schools.[7],[8]

## Conclusion

By October 15 '20, only 57 patients remained in ICU with 125,584 patients having recovered from COVID-19 in Qatar. The total active cases were 2799 patients, and 849,738 tests were undertaken during this time. The fatality rate remained the lowest in the world, with 220 recorded deaths in a population of 2,807,805 people.

We recommend similar measures to successfully help slow the transmission of COVID-19 and protect healthcare systems

around the world. Its pertinent to continue community awareness regarding infection control and prevention measures as well as strengthening surveillance systems and mobilising all available sectors early in the course of a pandemic. This helps reduce morbidity and mortality of the vulnerable population as well as enables the frontline workers who are doing the best they can, to protect the people of the country. Effective funding for vaccine and therapeutic measures to help curb the pandemic should be emphasized. Everyone has a crucial role to play in winning over this dreaded pandemic with individuals needing to adapt behaviours, empowering communities by educating the need of the hour and supporting healthcare workers with case finding and contact tracing. Proactive leadership from the governmental agencies as well as private companies in coordinating and ensuring the continuity of essential services, food chains, medical supplies and diagnostics is the key to unlock the challenge.

Qatar, with its excellent proactive leadership, has provided the nationals and expatriates, access to high-quality health services for no cost, thereby building a healthy society with a strong and progressive long term strategy to control the pandemic. The government of Qatar is aiming to be COVID free by April 2021 and have also announced free COVID-19 vaccinations for all its residents when this becomes available.

#### **Ethical Committee Approval:**

Ethical approval was not required for this study because all the information published in this review are publicly available in the official governmental E-Sites of Qatar.

#### **Declaration of Interest statement**

The authors declare that they have no competing interests. The authors alone are responsible for the content and writing of this article.

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#### **Conflict of interest**

There are no conflicts of interest to declare by any of the authors of this study.

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