وزارة الصحة
Ministry of Health

THE KINGDOM OF SAUDI ARABIA'S EXPERIENCE

in Health Preparedness and Response to COVID-19 Pandemic

We're all Responsible

August 2020

«We live in a difficult phase in the history of world, but we are fully aware that it is a phase that will pass despite its cruelty, bitterness, and difficulty… Your country, Saudi Arabia, continues to take precautionary measures to confront this pandemic and limit its effects»

The Custodian of The Two Holy Mosques
King Salman bin Abdulaziz Al Saud
Ruler of the Kingdom of Saudi Arabia

«Bad Circumstances, God Willing, Will pass, and we are heading towards lasting prosperity with the efforts of the people of the Kingdom of Saudi Arabia»

His Royal Highness
Prince Mohammed bin Salman Al Saud
Crown Prince, Deputy Prime Minister, and Minister of Defense

Table of Contents

01

Introduction

Introduction

By the end of December **2019**, China witnessed a widespread of acute pneumonia cases, later known as Coronavirus Disease 2019 (COVID-19). After that, countries around the world started preparedness and response efforts, in different ways at different times, in an attempt to limit the spread of COVID-19.

The Kingdom of Saudi Arabia was one of the first countries that started precautionary and preventive measures and anticipated the danger of this disease, which turned into a global pandemic within a short period of time. The Kingdom did not limit its efforts to curb COVID-19 to the local level, as it also expanded them to the international level, given its political, strategic, and economic roles. These are evident with the Kingdom's leadership role during its presidency of the **G20** for the year **2020**. Moreover, several international bodies and media channels praised the Kingdom's efforts at the national and international levels to strengthen response, develop a treatment, and ensure the availability of preventive equipment, as well as its **$500** million contribution to support global efforts to curb the pandemic. This support is part of the Kingdom's commitment to fund international organizations according to the agreements announced at the **G20** extraordinary summit initiated by the Kingdom.

Owing to the experience that the Kingdom accumulated over the years in risk management and assessment to secure national and global health, ensure the security and the safety of Hajj and Umrah pilgrims every year, and develop a highly efficient health system; and to its previous experience in curbing the Middle East Respiratory Syndrome (MERS-CoV); the Kingdom took several early, evidence-based precautionary measures at the highest levels. This report is aimed at documenting and publishing these measures to serve as a reliable reference for the Kingdom's efforts at all levels and for the lessons learned locally and globally.

The Kingdom's leadership relied on its previous experience with the spread of the MERS-CoV to take a series of proactive and precautionary measures to curb COVID-19 before the first case was confirmed in the country. These measures included activating Command and Control Centers (CCCs), suspending travel to China, and suspending entry to the Kingdom using tourist visas. After the first case was confirmed in the Kingdom, firm and effective precautionary measures were taken to impose social distancing, and strengthen key capabilities and resources on several fronts for virus containment, prevention, preparedness, detection, and treatment, as part of an integrated national approach to combating the pandemic. Some of these measures included the suspension of Umrah, education, and all international and domestic flights; the launch of Mass field testing; and the expansion of laboratory capacity to conduct over nine million COVID-19 tests. Other measures included a partial then total curfew in various regions of the Kingdom, and the decision to treat all citizens, legal and illegal residents for free without any consequences.

Pillars

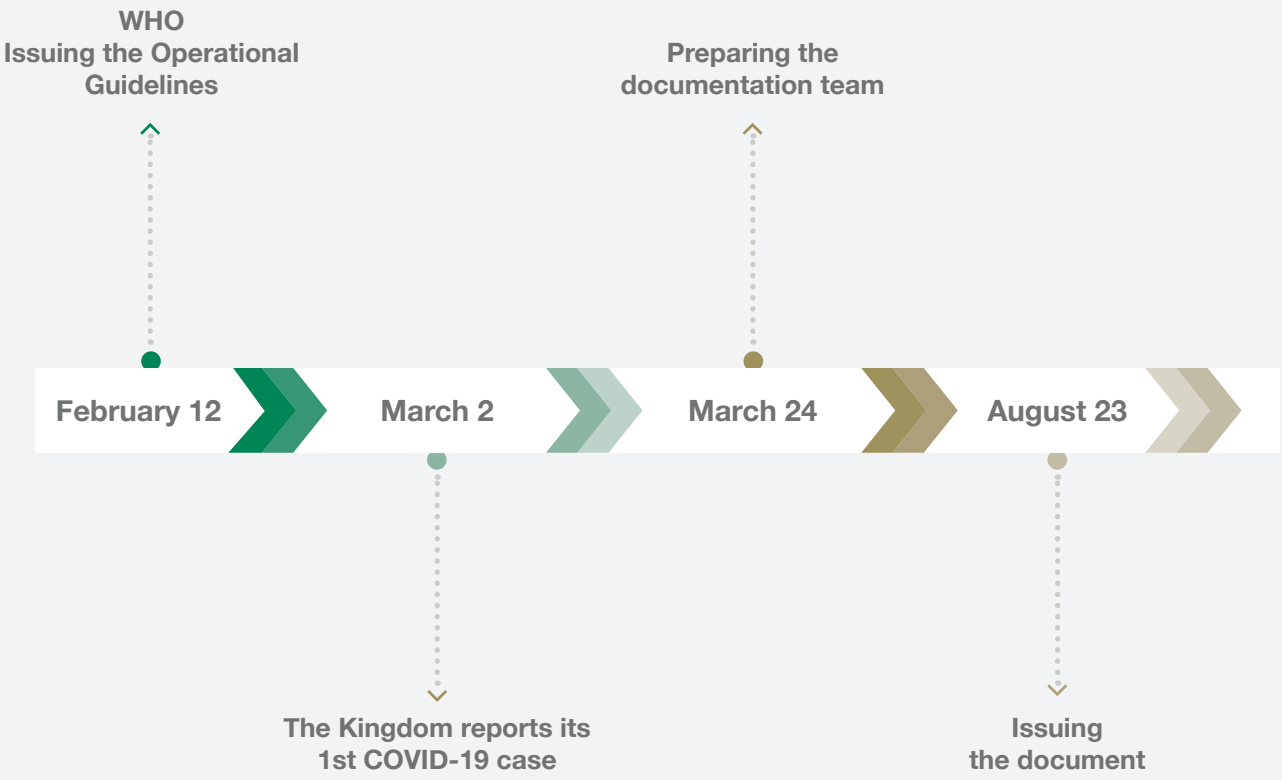
The Kingdom established guidelines in line with the standards adopted from the World Health Organization's (WHO) document to deal with COVID-19, entitled «Operational Planning Guidelines to Support Country Preparedness and Response». This report documents the Kingdom's efforts to curb COVID-19, its key accomplishments and their results, public opinions feedback, and lessons learned regarding the health response and preparedness in nine pillars:

The Purpose of This Document

Since the emergence of acute pneumonia cases in China, later known as COVID-19, countries around the world have been trying to develop preparedness strategies and response plans, and exchange knowledge, in order to learn more about the virus behavior, modes of transmission, and best methods to prevent and treat it. This document is therefore aimed at documenting the Kingdom of Saudi Arabia's health preparedness and response efforts at the national level, since the virus's emergence in early January, until August 23, 2020. This document covers the Kingdom's key decisions and accomplishments along with their impacts and results, and it summarizes the key lessons learned from combating the pandemic. The Kingdom established guidelines for many precautionary measures, in line with WHO's recommendations, as part of an integrated national approach to combating COVID-19, and the proactive steps taken for the preparedness, detection, testing, tracing, isolation, and treatment.

Response Documentation Methodology

To create this document, «The Kingdom of Saudi Arabia's Experience in Health Preparedness and Response to COVID-19 Pandemic», the framework and pillars of epidemics spread were created, in line with WHO's document, as part of the strategic plan for COVID-19 preparedness and response. Accordingly, the task force formed to document the efforts of combating COVID-19 contacted various sectors to obtain progress reports and updates on the implementation of key tasks and measures.



02

General Context

General Context

2.1 Overview of the Kingdom of Saudi Arabia

The Kingdom of Saudi Arabia is located in the Arabian Peninsula, in the southwest of Asia. Its population is estimated at 34 million people, including citizens and residents. The Kingdom is divided into 13 administrative regions, each with a number of governorates, which in turn include several centers that are linked to them administratively. This is illustrated in Figure 1 and Figure 2 below:

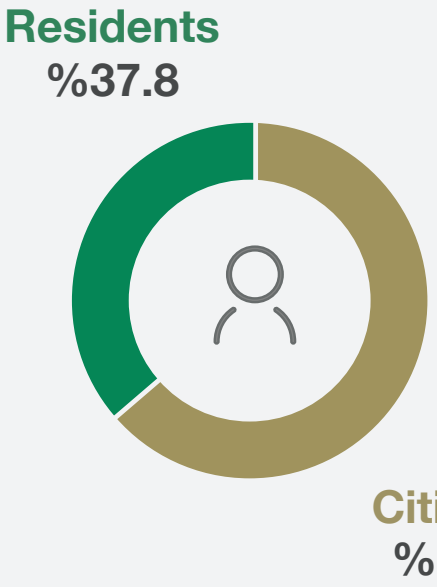


Figure 1: Percentages of Citizens and Residents in the Kingdom

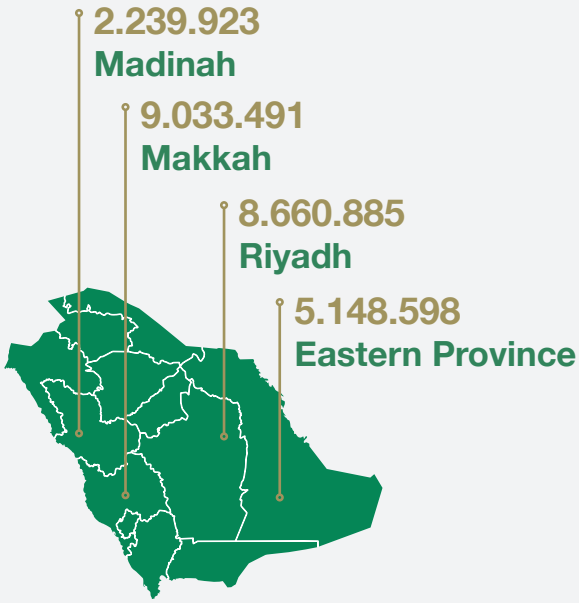


Figure 2: The Kingdom's Population by Region

Moreover, the Saudi community is known for its young population, with the majority aged under 65 years, as shown in the figure below:

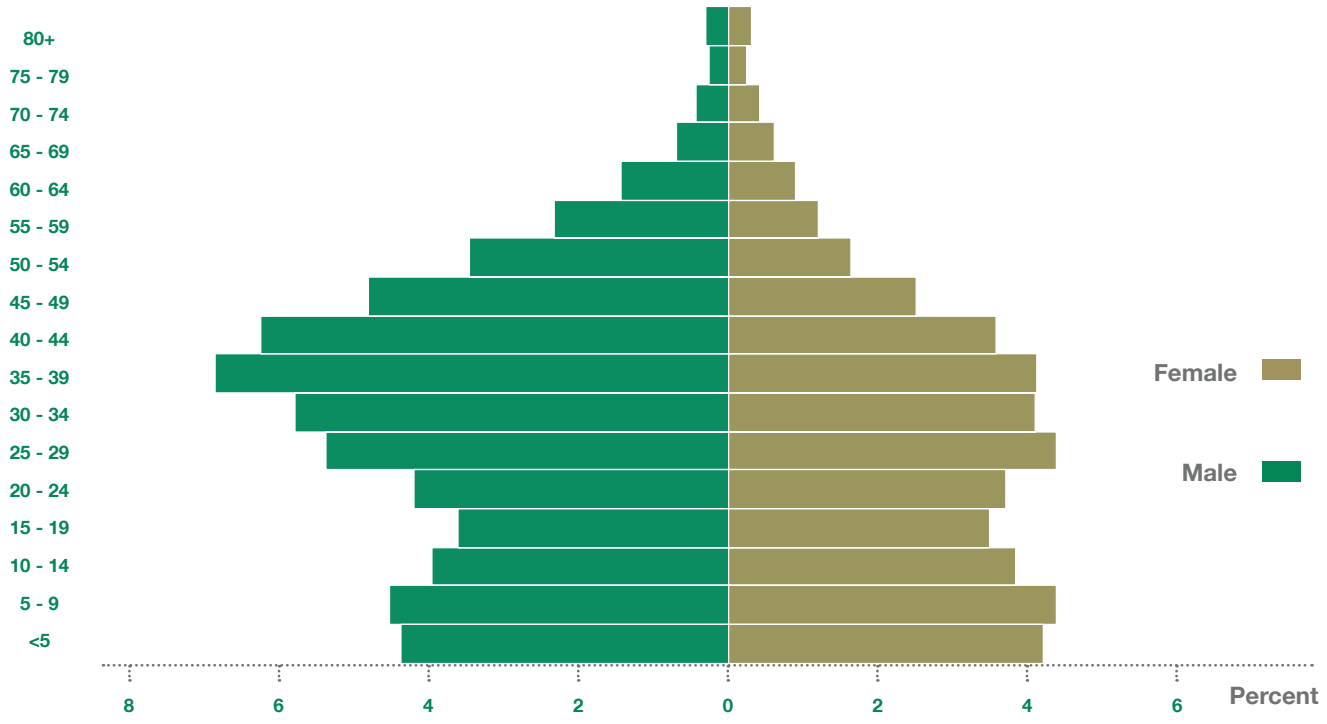


Figure 3: The Kingdom's Population Pyramid

The Kingdom's economy is the largest in the Middle East and North Africa (MENA) region, representing 25% of the gross domestic product of all countries in the region combined. Consequently, the Kingdom plays a major role in the global economy, as is evident in its presidency of the G20 summit for the year 2020.

2.2

Overview of Healthcare in the Kingdom

Medical Personnel

- **About 64,234** Saudi Physicians
- **About 139,798** Saudi Nurses
- **About 8,273** Saudi Pharmacists
- **About 75,000** Saudi Health support services employees

Healthcare Facilities

- **Over 494** hospitals in the Kingdom
- **Over 75,225** hospital beds
- Hospital beds per population **22.5** beds per **10,000** inhabitants
  (I.e one bed for every **445** people)

Academic Institutions

- **41** medical colleges
- **39** nursing colleges
- **27** pharmacy colleges
- **51** other healthcare colleges

Healthcare Improvement Opportunities

- Unhealthy Lifestyle (**60%** are obese, **18%** are smokers, **60%** do not engage in physical activities)
- Early deaths due to traffic accidents (over **8,000** deaths annually)
- Increase of chronic diseases to over **five million cases**

Figure 4: Healthcare in the Kingdom

For more information about the healthcare in the Kingdom:

https://www.moh.gov.sa/en/Ministry/Statistics/Indicator/Pages/default.aspx
https://www.moh.gov.sa/en/Ministry/vro/Pages/manual.aspx
https://www.scfhs.org.sa/Media/DigitalLibrary/DocumentLibrary/OtherPublications/Documents/1%D988%%D8%A7%D982%%D8%B9_%D8%A7%D984%%D982%%D988%%D989%_%D8%A7%D984%D8%B9%D8%A7%D985%%D984%%D8%A9_%D8%A7%D984%%D8%B5%D8%AD%D98%A%D8%A9.pdf

2.3 Overview of COVID-19 Pandemic in the Kingdom

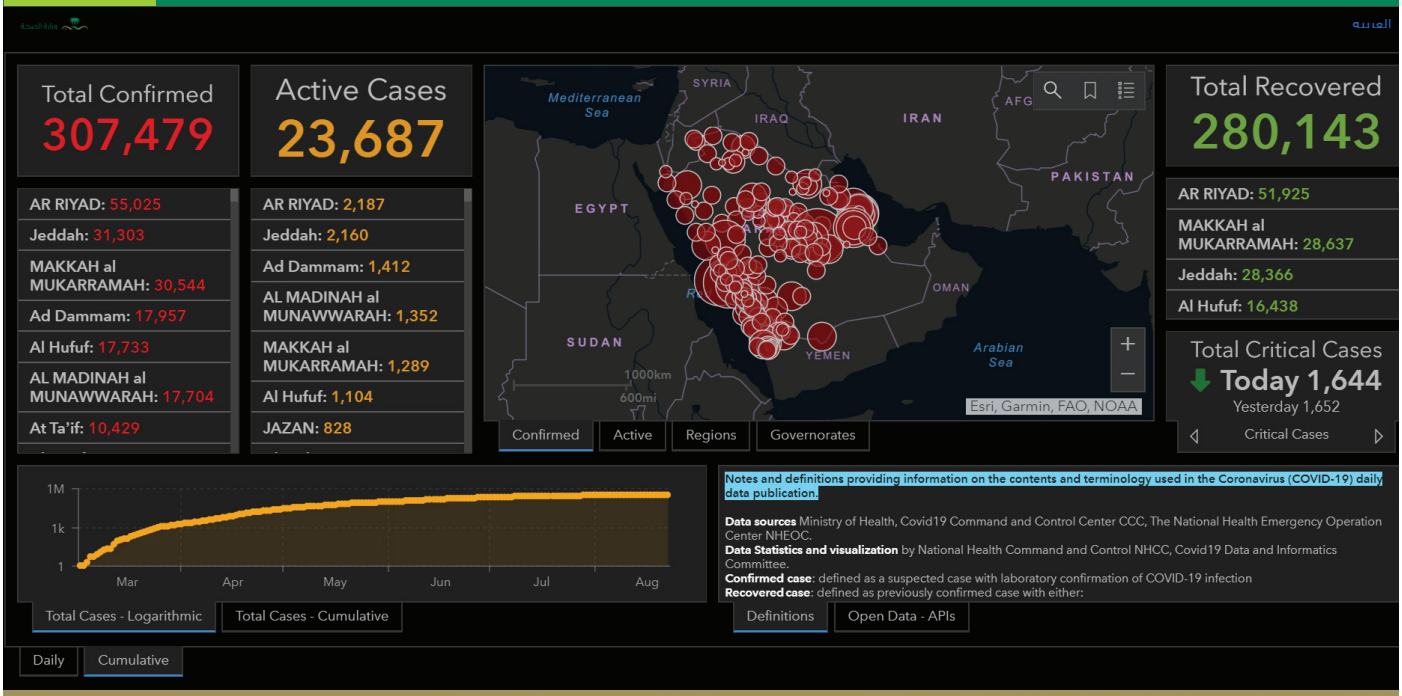


Figure 5: Dashboard showing the Spread of COVID-19 in the Kingdom

https://covid19.moh.gov.sa/

https://covid19-saudimoh.hub.arcgis.com/

Image Date: 23/8/2020

COVID-19 continues to spread globally, as shown in the above dashboard. With the Kingdom's success in **"flattening the epidemic curve"**, thanks to the strict measures it took early based on scientific evidence and previous experiences, the attack rate in the country was of 9 cases per **1,000** population, tests were conducted at a rate of **13,000** tests per 100,000 population, and the case fatality rate was at **1%** compared to **3.47%** globally, as of August 23, 2020. Although COVID-19 has the same origins as MERS-CoV and the Severe Acute Respiratory Syndrome (SARS), the development of COVID-19 is not yet fully clear, as is evident in the timeline below:

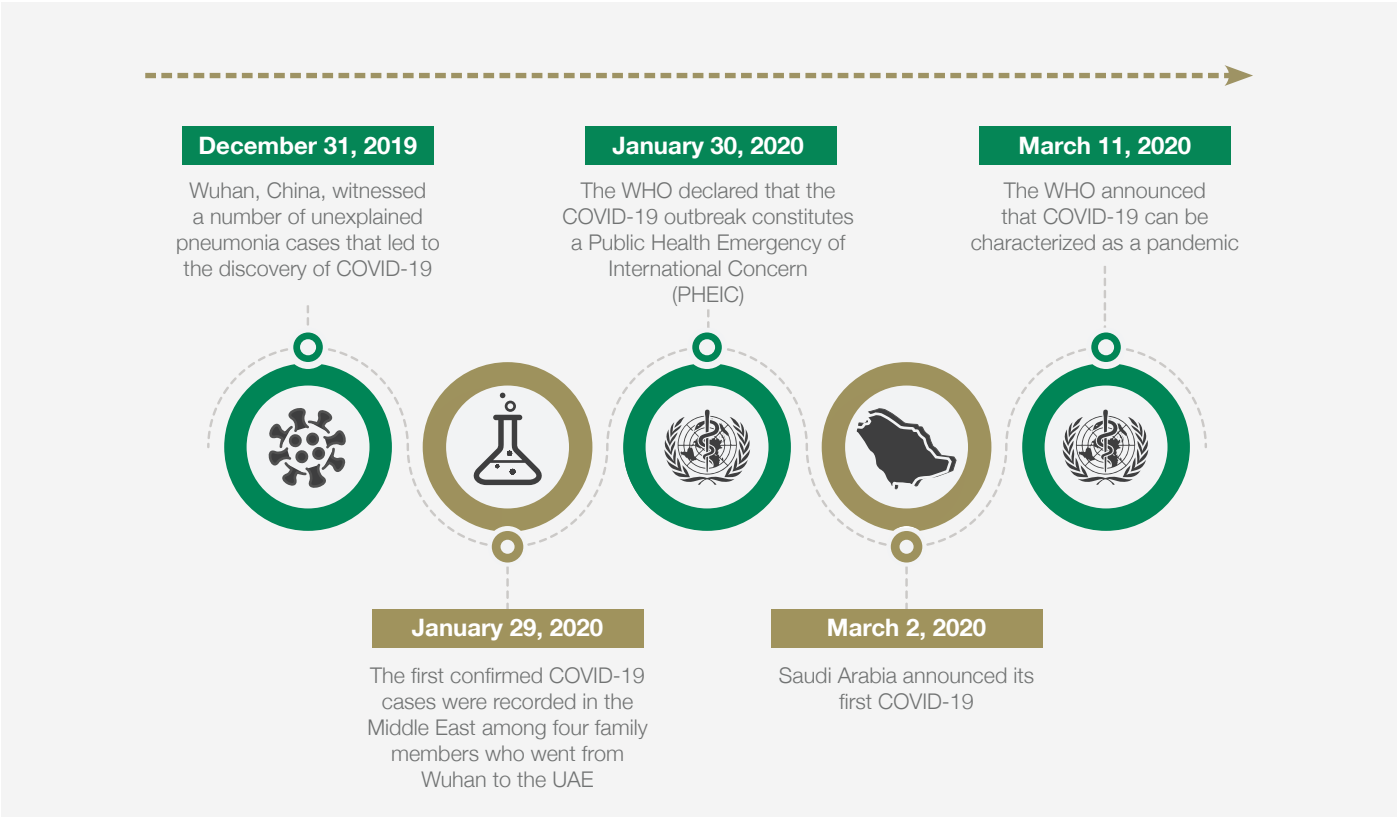


Figure 6: Stages of COVID-19 Development Timeline

Since discovering the first COVID-19 case in the Kingdom on March 2, 2020, the number of confirmed cases and their contacts increased in different regions in the country As of August 23, 2020, the Kingdom recorded 307,479 confirmed COVID-19 cases and 3,649 COVID-19 deaths. In parallel, the country increased diagnostic tests, preventive measures, and preparedness procedures to contain the spread of the disease, resulting in a total of 280,143 recoveries.

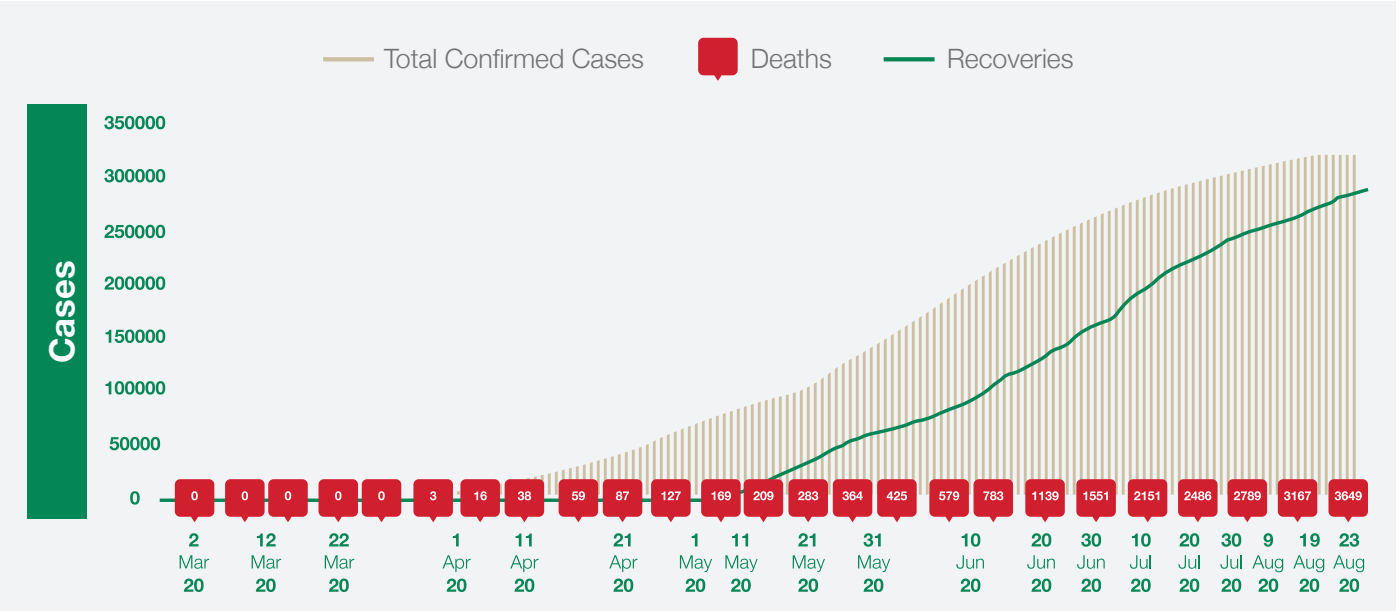


Figure 7: Total Confirmed Cases, Deaths, and Recoveries as of August 23, 2020

Some age groups were found to be more vulnerable to COVID-19 disease in the Kingdom. The figure below shows that 48% of the COVID-19 cases recorded between March and August 2020 were between the age group of 20 and 39.

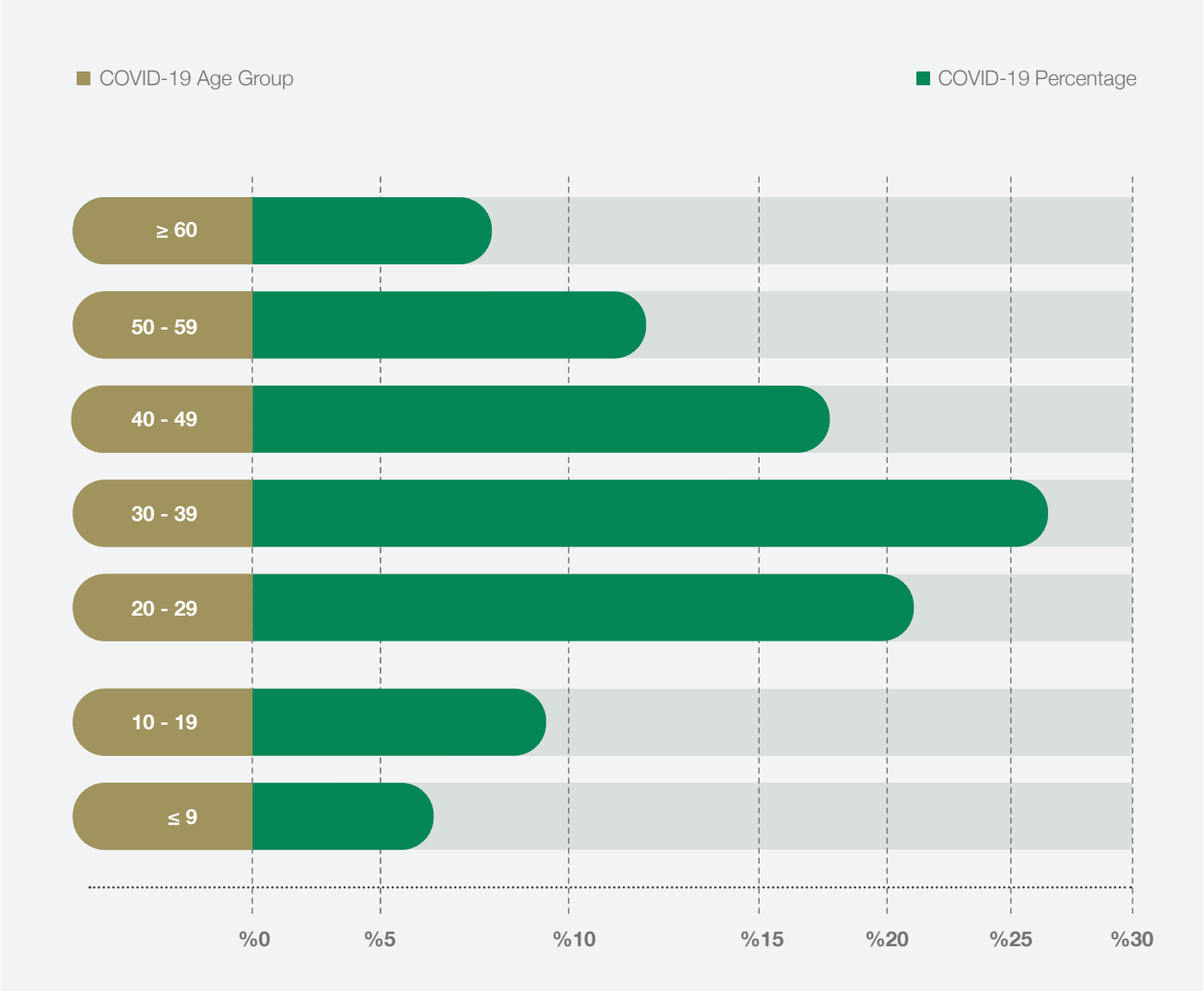


Figure 8: Confirmed Cases Percentages by Age Group from March to August 2020

2.4 The Kingdom's Position Among the G20 Countries

While the Kingdom will chair the G20 summit for 2020, many of these countries are still recording varying numbers of COVID-19 confirmed cases and deaths. As of August 23, 2020, the Kingdom had the lowest COVID-19 case fatality rates at 1%, while Italy and France had the highest rate at 14%, and China had a rate of 5%, as shown in the figure below:

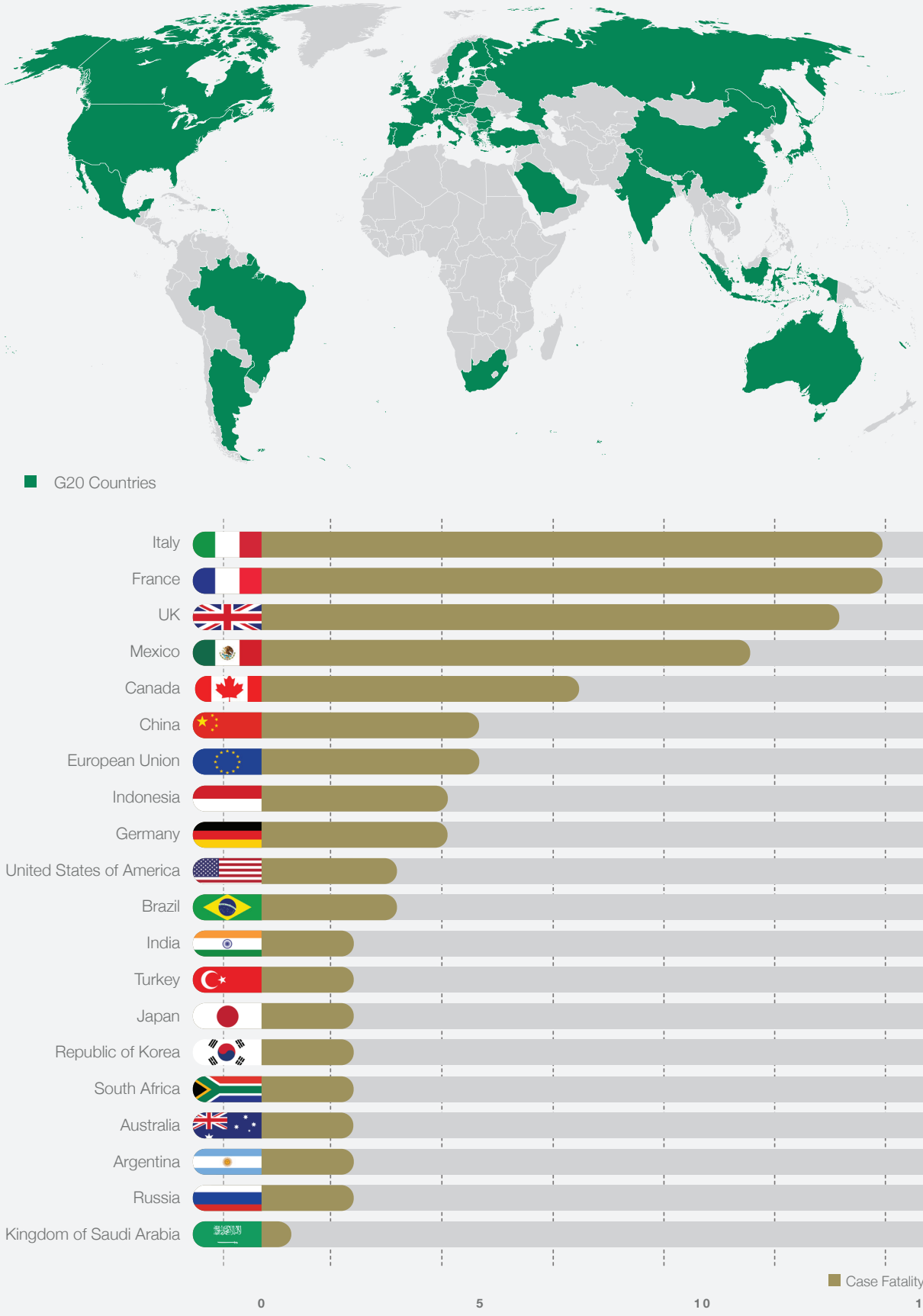


Figure 9: COVID-19 Case Fatality Rate in the G20 countries as of August 23, 2020

3

Response

Response

3.1 Hierarchy and Chain of Command

The Kingdom's response started early in two phases. The first phase was per the Royal Decree dated 01/06/1441 AH, on the establishment of the High Committee in charge of taking the precautionary measures needed to prevent the spread of COVID-19, headed by the Deputyship of the Ministry of Health for Public Health, and composed of six participating entities (Figure 10). Based on the assessment of the global situation, the Kingdom upgraded its response to the second stage as per the Royal Decree dated 07/06/1441 AH, on the establishment of the Concerned Committee in charge of taking the necessary precautions to curb the spread of COVID-19 in the Kingdom, chaired by His Excellency the Minister of Health, and composed of participating entities as shown in (Figure 11). To implement decisions, the Ministry of Health (MoH) created a hierarchical organization for the pandemic response (Figure 12).

Stage 1

Figure 10: Entities Participating in Stage 1

Stage 2

Figure 11: Entities Participating in Stage 2

Hierarchical Organization for Committees

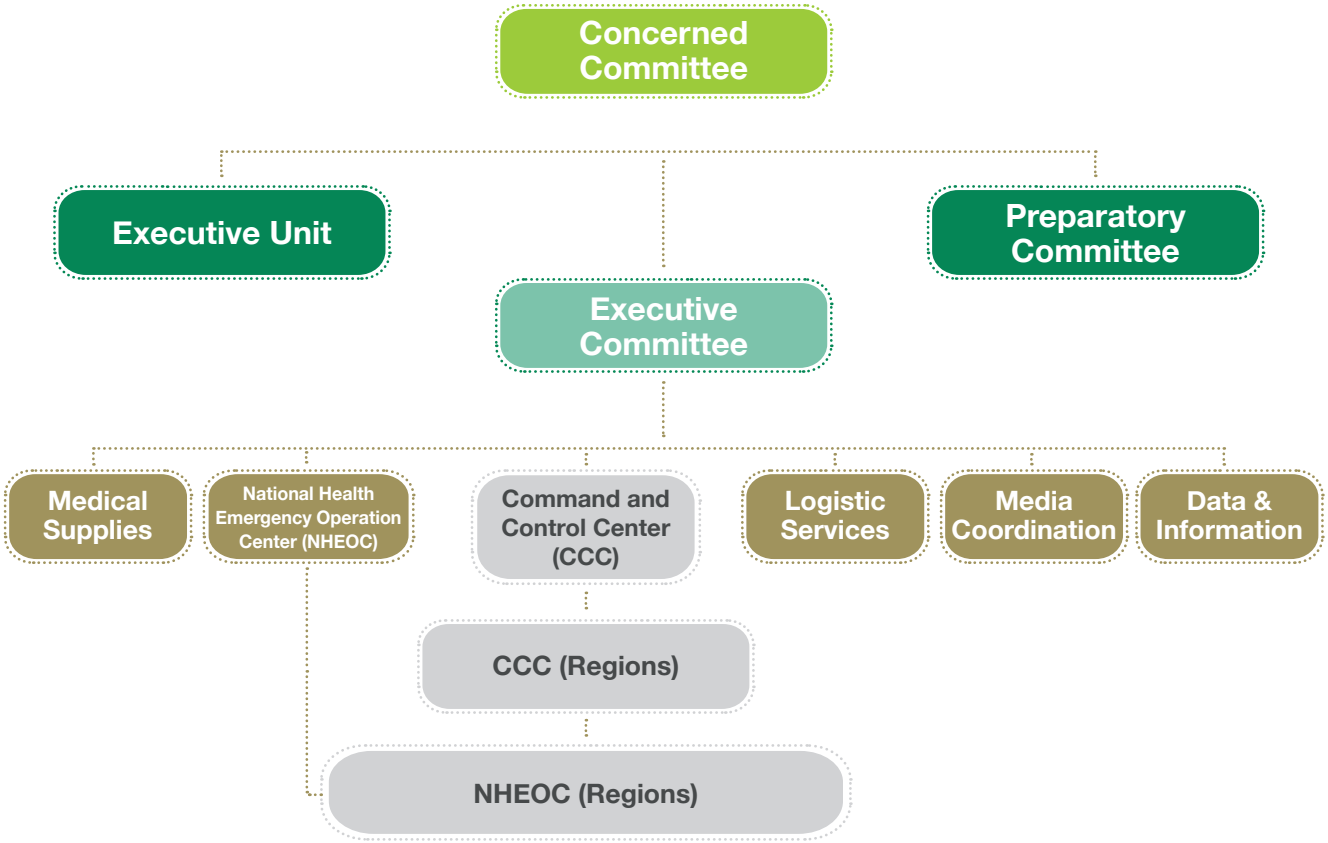


Figure 12: Hierarchical Organization for Committees

3.2 Decisions and Measures

The figure below illustrates the key actions of the Kingdom to curb the spread of the pandemic, their impact on the epidemic curve, and key milestones during the response period:

For More Decisions and Measures:

1 **January, 22**
Activating Command and Control Center (CCC)

2 **January, 25**
- Applying preventive measures to flights from China
- Evacuating all Saudi citizens from China

3 **January, 27**
Activating the Supreme Committee

4 **February, 2**
Activating the Concerned Committee in charge of taking all necessary precautions to curb the spread of COVID-19 in the Kingdom

5 **February, 4**
Activating Declaration initiative for individuals arriving from China 15 days in advance

6 **February, 6**
Suspending travelling to China

7 **February, 27**
- Suspending entry to the Kingdom using tourist visa
- Suspending the use of national IDs by Saudi citizens and citizens of the Gulf Cooperation Council to move in and out from the Kingdom

8 **March, 4**
Suspending Umrah

9 **March, 8**
Suspending Education

10 **March, 12**
Postponing the Arab-African Summit in Riyadh

11 **March, 13**
Suspending all social events

12 **March, 15**
Suspending all international flights

13 **March, 16**
- Suspending attendance at workplaces in all governmental agencies
- Closing shopping malls and complexes
- Banning gatherings in public places

14 **March, 17**
Suspending prayers in mosques

15 **March, 21**
Suspending domestic flights, buses, taxies, and trains

16 **March, 23**
Imposing partial curfew from 7 pm to 6 am for 21 days

17 **March, 26**
- Imposing partial curfew from 3 pm to 6 am
- Banning entry to and exit from Riyadh, Makkah, and Madinah

18 **March, 30**
Offering treatment for all citizens, legal, and illegal residents free of charge and without any consequences

19 **April, 2**
Imposing total curfew in Makkah and Madinah around the clock

20 **April, 6**
Imposing total curfew around the clock in Riyadh, Tabuk, and Dammam

21 **April, 12**
Extending curfew until further notice

22 **April, 16**
Initiating active mass field testing

23 **April, 21**
Adjusting the times during which movement is permitted in Ramadan to 9 am until 5 pm

24 **April, 26**
Signing a contract with China worth 995 million SAR to conduct nine million COVID-19 tests

25 **May, 28**
- Allowing car travel between regions and cities in the Kingdom during non-curfew periods
- Allowing the opening of some economic and commercial businesses

26 **May, 31**
- Lifting the suspension on domestic flights
- Allowing Friday and congregational prayers in the Kingdom's mosque
- Lifting the suspension on travelling between regions using various means of transportation

27 **June, 21**
Returning to normal life in all regions of the Kingdom, while adhering to health instructions and maintaining social distancing

28 **June, 22**
Deciding to organize Haij 1441 AH with a limited number of citizens and residents from within the Kingdom

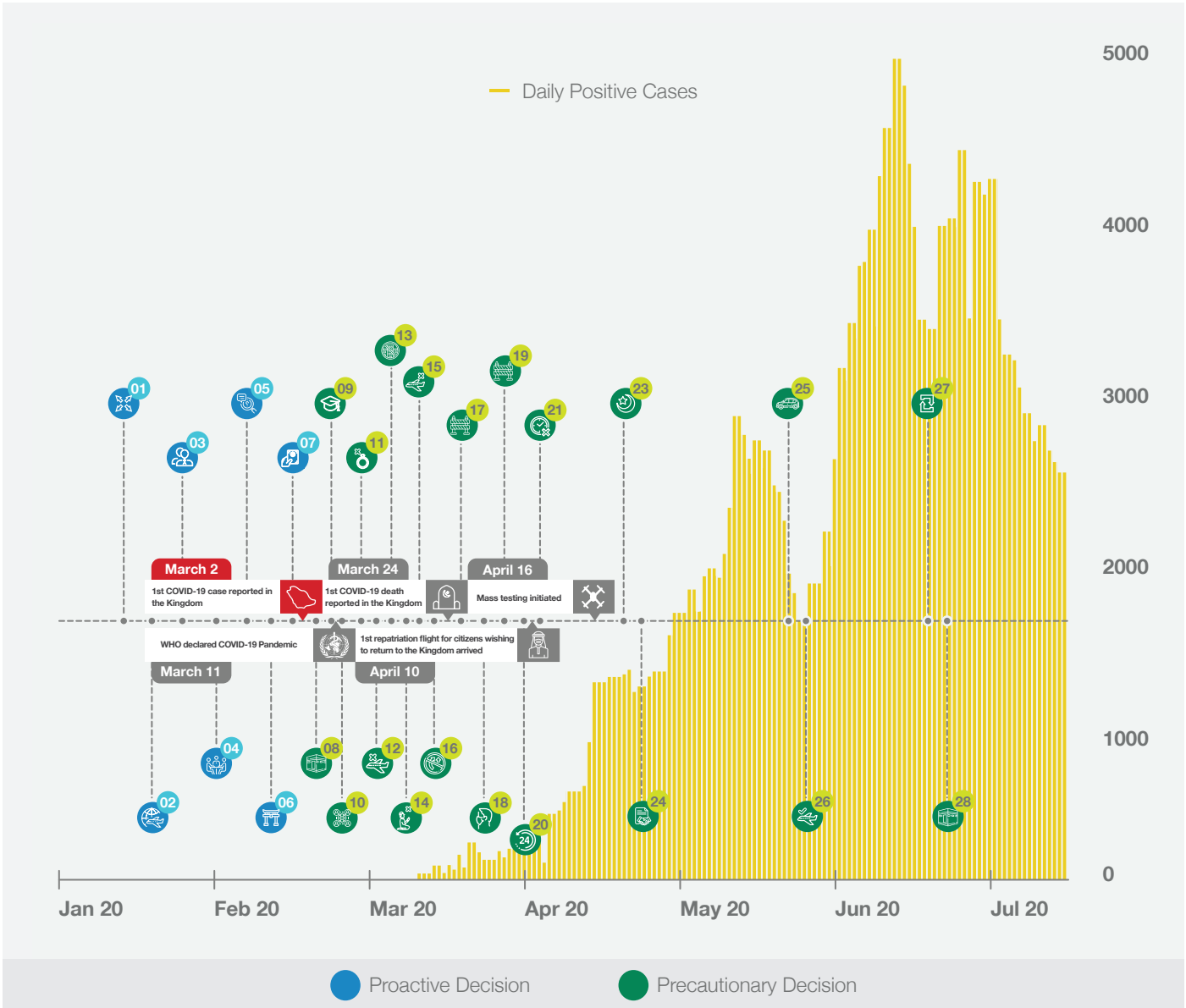


Figure 13: Decisions and Measures to Curb the Spread of COVID-19

3.3 Risk Assessment

Since the beginning of the pandemic, the Kingdom has based its decisions on the risk assessment of the COVID-19 spread at the international and domestic levels. Based on the reliable global statistics, and Saudi Center for Disease Prevention and Control (SCDC) travel assessment tool, the Kingdom issued warnings against traveling to affected countries in the early stages of the pandemic. With the global increase numbers of infection rates, the Kingdom suspended all flights and closed all other points of entry.

After its experience with the spread of MERS-CoV, especially in terms of risks related to the large numbers of Hajj and Umrah pilgrims and visitors that the Kingdom receives annually, the country uses several risk assessments tools, namely:

The "Jeddah Tool" was used to conduct a strategic assessment of the health risks of Umrah and Hajj due to the pandemic. This assessment revealed that the risks of Umrah were "extremely high". Accordingly, a recommendation was made and a decision was issued to suspend Umrah.

"Salem COVID Tool" was used to assess the health risks of COVID-19 in mass gatherings and events, which resulted in the cancellation and suspension of many events before a curfew was imposed.

"Jeddah" and "Salem COVID" tools are scientific risk assessments tools that MOH's Global Center for Mass Gatherings Medicine (GCMGM), a WHO collaborating center, developed based on scientific methods and reviewed and studied its application several times.
Accordingly, the Kingdom decided to suspend Umrah and restrict Hajj for the year 1441 AH to limited number of pilgrims from within the country, as shown in the figure below.

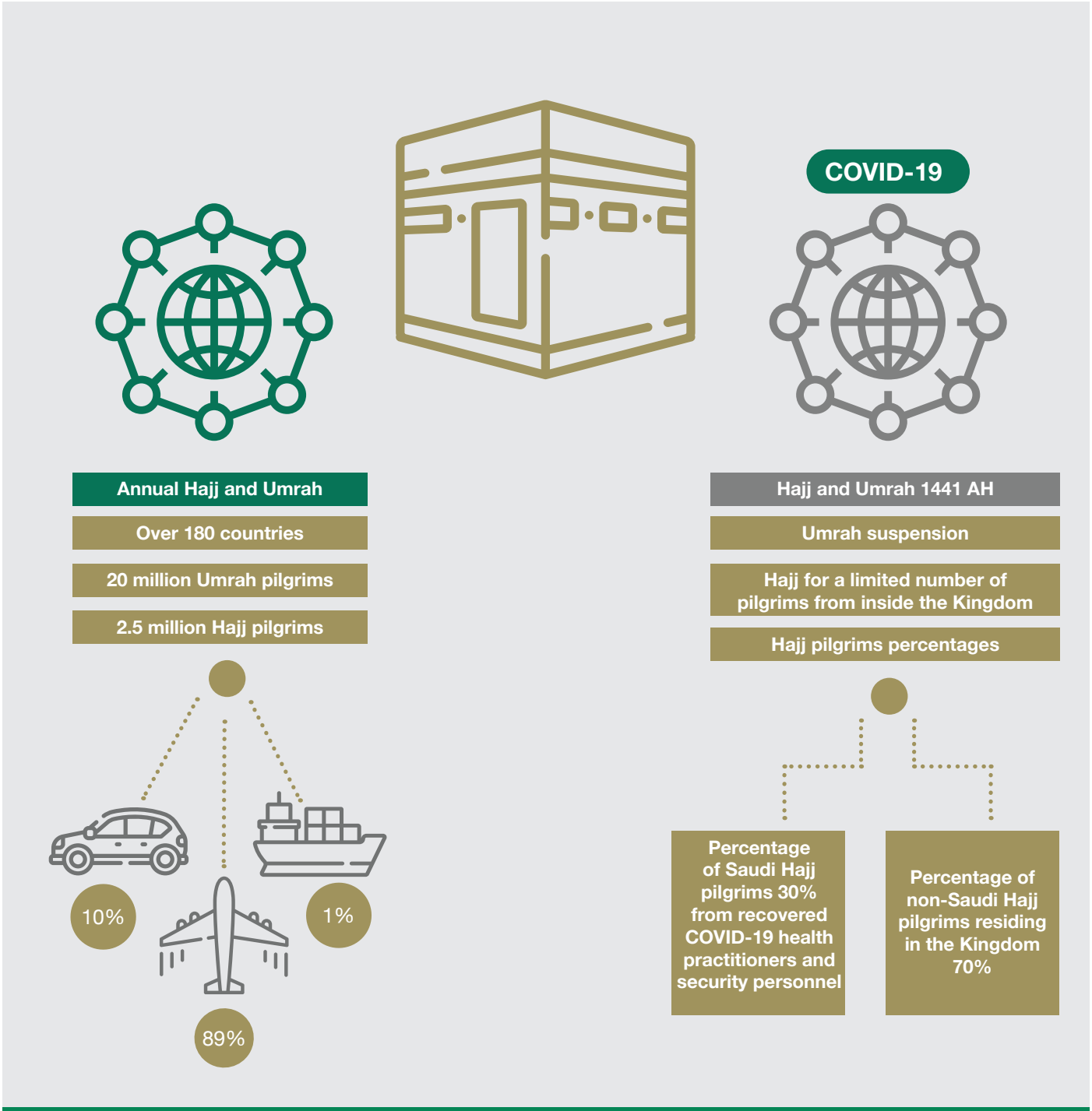


Figure 14: Hajj and Umrah Pilgrims Percentages with the spread of COVID-19 Pandemic for the year 1441 AH Compared to Previous Years Percentages

Flattening the epidemic curve means extending the COVID-19 spread period to give the health system sufficient capacity to deal with the cases. This is clearly reflected in the low case fatality rate in the Kingdom. It is, therefore, crucial to identify risk-mitigating measures for the gradual return to normal life, in order to reduce their economic, social, and security impacts. The gradual return to normal life has several phases, including the Containment Phase, the Early Recovery phase (after the peak of the epidemic curve), and the Recovery phase, as illustrated in the figure below.

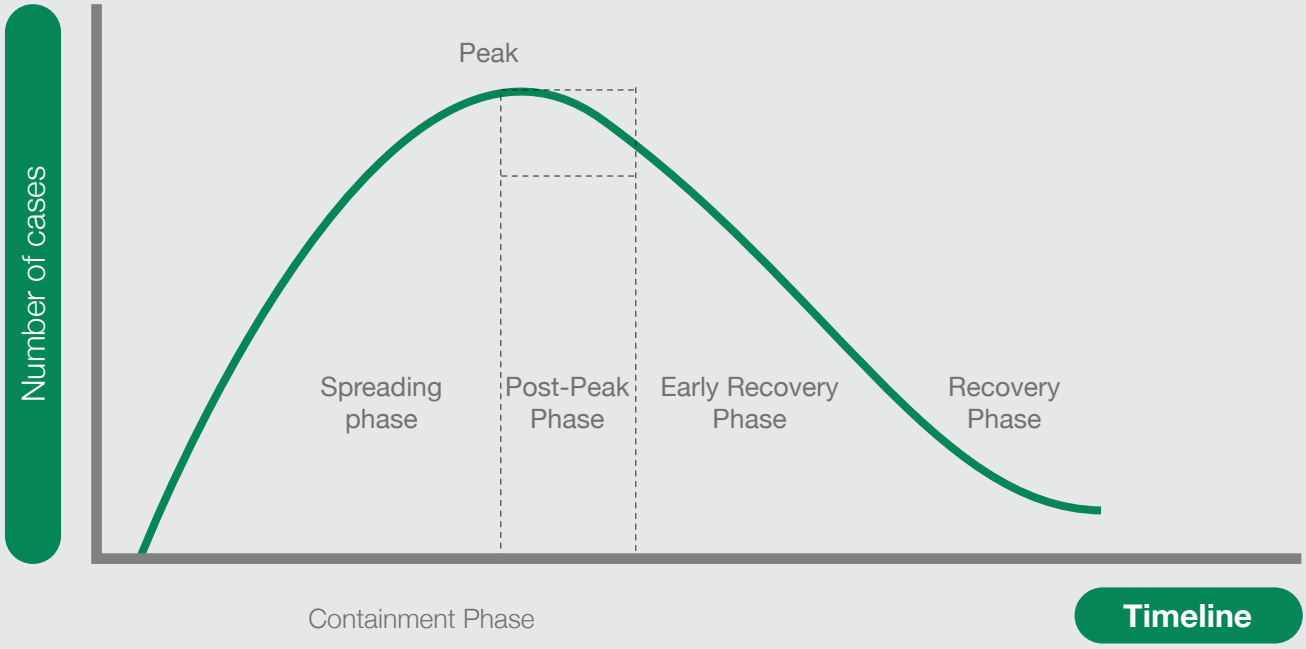


Figure 15: Timeline of the Epidemic Curve of COVID-19

Precautionary measures during the containment phase included the following:

Avoid going out unless necessary, especially for the elderly (65 years and over) and for children (15 years and under)

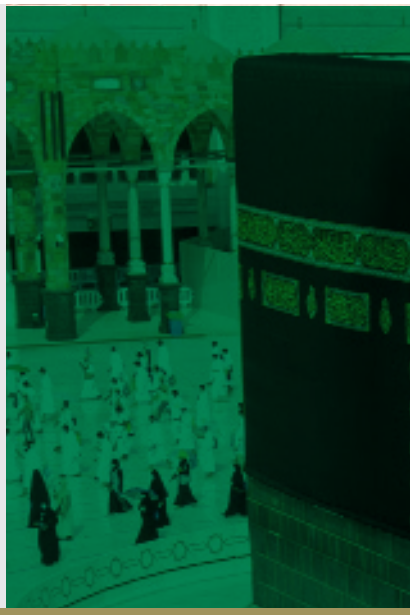
Stay at home if one suspects having COVID-19 symptoms

Self-isolate at home and report anyone who has symptoms or has had contact with an infected person during the previous 14 days

Provide educational materials for the community and follow up on the implementation of precautionary measures

Suspend all gatherings and Promote the “We Are All Responsible” campaign

Ban gathering in residences, workplaces, and businesses, and report any violations of the precautionary measures



In a success story to organize Hajj for the year 1441 AH with the great efforts and cooperation of the authorities under these exceptional circumstances, the Kingdom applied meticulous and multi-stage procedures to select a limited number of pilgrims from different nationalities from within the Kingdom, with the goal of reducing and preventing health risks for pilgrims and workers. This included close monitoring and conducting tests before, during, and after the Hajj period for the selected few. As a result, the Kingdom organized a healthy, safe Hajj with no COVID-19 reported cases.

4

Pillars

Pillars

4.1 Country-level Coordination, Planning, and Monitoring

Efforts and resources are focused on supporting monitoring activities for the work of many sectors, committees, and entities involved in increasing preparedness and response to COVID-19, and on achieving complementarity and coordination at the country-level.

4.1.1 Key Completed Tasks

Coordination with the relevant authorities and other government and private entities was ensured by the Command and Control Center (CCC) and the support of the National Health Emergency Operation Center (NHEOC) to apply monitoring procedures for the entities involved in the COVID-19 response, by activating Command and Control Centers (Regions) led by the regional directors of health affairs. The tasks of these centers revolve around defining and monitoring the tasks and performance indicators of the participating entities, as well as the requirements necessary for implementation, and monitoring the commitment of health institutions to the established standards, as follows:

Defining the Tasks of the Participating Entities

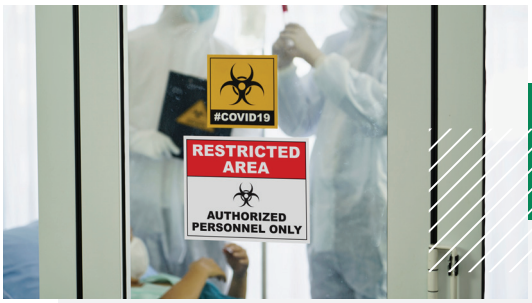
- Coordinating with all entities quickly to achieve integration in decision-making and implementation through the Concerned Committee
- Activating CCCs and various committees and entities in all regions
- Holding daily meetings with all committees and entities. With the surge in cases, the meetings were held virtual
- Assigning tasks to each entity by the CCC and monitoring their performance through daily indicators
- Issuing periodic warnings and reports and monitoring hospitals performance by the NHEOC

Entities Participating in COVID-19 Pandemic Health Response

- Infectious Diseases
- Infection Control in Healthcare Institutions
- SCDC
- Quarantine Facilities
- Primary Care
- International Health Regulations & Points of Entry
- HESN
- Logistics and Engineering Affairs
- eHealth
- Communication and Media
- Hospitals
- Human Resources
- Laboratories
- Mystery Visitor
- Compliance
- Health Investment
- Mass Gatherings Medicine
- 937 Call Center
- National Health Emergency Operation Center (NHEOC)

Monitoring Health Entities

- Determining COVID-19 reference hospitals and monitoring their readiness on a daily basis
- Determining the needs of healthcare institutions and providing supplies and logistics support
- Monitoring hospital occupancy rates continuously
- Monitoring the compliance of healthcare institutions with MOH's instructions for infection control
- Monitoring compliance with institutional quarantine standards



Monitoring Hospitals and Quarantine Facilities Compliance

- Conducting daily visits to Hospitals, Primary Care Centers, and Tetamman Clinics
- Measuring the compliance of healthcare institutions and quarantine facilities with infection control standards and special procedures:
  - Visual triage and Respiratory cases track
  - Wearing Personal Protective Equipment (PPE)
  - Reducing the number of patients
  - Entering data into the Health Electronic Surveillance Network (HESN) database
  - Providing face masks and sanitizers
  - Displaying educational posters
- Assessing government and private hospitals using various criteria to combat COVID-19, with the participation of the Saudi Central Board for Accreditation of Healthcare Institutions (CBAHI)

4.1.2 Results and Success Lessons

- Documenting efforts and success lessons is crucial for continuous development during the pandemic and in the future
- Previous experience with MERS-CoV helped develop the foundations and procedures of addressing the COVID-19 pandemic
- The existence of a modern technical infrastructure contributed to the smooth digital transformation of many procedures and the organization of virtual meetings
- The use of scientific tools to assess the health risks of mass gatherings resulted in the suspension of Umrah and other events, and the organization of Hajj with limited number of pilgrims from inside the Kingdom
- Provide periodic reports and daily indicators to monitor the performance of platforms and committees, and facilitate communication with them
- Fast access to accurate information and statistics related to the spread of the disease and its control among various command centers and relevant committees (such as the number of daily cases, vacant beds, isolation rooms, intensive care, etc.)
- Adopt the concept of system flexibility and the rapid ability to change to keep pace with developments in the pandemic
- Impose and implement preventive public health measures
- Determine the health administrative structure during pandemics, determine responsibilities, and coordinate between all the concerned committees and departments
- Provide the necessary support, including psychological support, to all members of the system during the pandemic
- Extend the scope of monitoring the application of preventive measures during the pandemic to public and healthcare institutions

Strategic Indicators of the Pillar	Indictor type	Achieved	Not achieved
Existence of a national plan to combat COVID-19	Procedure	✓	
Existence of a coordination mechanism for the various national sectors for preparedness and response	Procedure	✓	
Advice or enforcement of public health measures against COVID-19	Goal	✓	
Canceling an event/mass gatherings as a result of a risk assessment	Goal	✓	

4.2 Risk Communication and Community Engagement

The WHO recommends effective communication because it helps to manage individuals' expectations and concerns, which in turn increases the likelihood of their compliance with the instructions issued by the relevant authorities during the pandemic. In contrast, weak communication reduces trust, which may increase the likelihood of negative economic and social impacts.

The perceptions of community groups are usually different from those of experts and specialized entities. Effective efforts to report risks and engage the community can help bridge gaps by identifying what people know, and what they should know and do to control the spread of the virus. Interaction helps present complex information in an understandable, reliable, and accessible way. Furthermore, the existence of an official source, rich in useful information, prevents the spread of rumors and fake news.

4.2.1 Key Completed Tasks

Strategic and effective tasks were completed in cooperation with the relevant authorities to communicate with the community and engage it, under MOH's leadership. Which is centered around traditional channels of communications through TVs , radios, and text messages, as well as technology and digital health programs, through the optimal use of media by publishing the most prominent developments about the pandemic and developing awareness campaigns aimed at spreading awareness among the community, such as WhatsApp messages and the use of various electronic applications such as **"Tetamman"** and **"Mawid"** applications.

Media

- Daily joint press conference to highlight latest updates
- Production of high-quality media materials by the Ministry of Health, Ministry of Media, and the Center for Government Communication

Advertising and Marketing Campaigns

- Intensify MOH's educational efforts to deal with COVID-19, through TV, radio, and text messages, by publishing preventive health guidelines, offering solutions through social media, and sharing video messages of ministers and other public figures urging people to follow the precautionary measures against COVID-19
- Creating qualitative and unconventional awareness campaigns to urge citizens to stay at home for their safety, as a precautionary measure against COVID-19

Community Empowerment

- Establishing mechanisms to systematically monitor community reactions through monitoring social media, behaviors and practices surveys, dialogues and direct consultations
- Establishing broad community participation to create social and behavioral changes to ensure health prevention and individual and community health hygiene practices in line with national public health recommendations

eHealth

- Activating MOH's website for COVID-19 prevention, which contains awareness materials in Arabic and in the other common languages spoken by the residents of the Kingdom https://covid19awareness.sa/en/home-page
- Developing the **937** hotline to support the community by answering inquiries, giving instructions, and providing medical and psychological consultations on all aspects related to COVID-19 around the clock
- Launching additional channels to reach the community in addition to the existing channels, such as offering the **937-health service** on WhatsApp using a chatbot on the number **920005937** to provide advices and educational information on COVID-19, as well as launching the Sign Language Application "Eshara", to reach deaf people and provide them with services and information
- Providing technical support for all MOH's programs and staff in relation to COVID-19
- Summarizing scientific material in common languages among residents to disseminate messages in a timely manner and adopt relevant communication channels
- Developing applications (Tetamman and Mawid) to assess suspected cases and monitor confirmed ones
- Activating the role of virtual clinics, tele-medicine, tele-consultations, tele-radiology, and robotics use to prevent the spread of COVID-19

4.2.2 Results and Success Lessons

- Holding daily press conference at a fixed time by MOH's official spokesperson, with the participation of official spokesmen from various relevant authorities
- Sending over **6.6** billion awareness text messages about COVID-19, with guidelines for dealing with the virus and prevent its spread
- Reaching over **150** million views for educational videos, with over **9** million people benefitting from field awareness campaigns
- Reaching over four million followers the Ministry's Twitter account, **@saudiMOH937**, with the most popular tweets being about COVID-19 and its prevention
- Controlling and organizing monitoring and interactions on social media, which plays a positive and effective role in awareness-raising and prevention, and responding to the spread of fake news and misinformation
- Over **2,000** employees (physicians and customer service specialists) providing services on the **937** line around the clock
- **937** line received over **10** million calls, including inquiries about COVID-19
- Telemedicine services provided over **five** million consultations
- MOHs COVID-19 prevention website reached over **15 million** visitors, and contains **600+** educational materials in more than **11** languages https://covid19awareness.sa/en/home-page
- The number of beneficiaries from Tetamman application more than **1,443,818** beneficiaries
- Primary healthcare centers contributed to raising awareness about COVID-19 with over **400,000** educational activities per month

- The organization of the daily press conference confirms that the Ministry is the ultimate source of reliable information regarding the pandemic, as it inform the public about the health situation, it also shows the extent of coordination between sectors, and thanks to the use of an easy language, it succeeded in reaching all categories of society and blocking all rumors
- Developing over the phone medical consultations services (Teleconsultations) by increasing the available specialities to support the beneficiaries needs during the pandemic
- The media contributed to lifting the spirits of the public through the positive messages that they continuously broadcast despite the spread of the virus in the Kingdom
- Following a media protocol as a reference to ensure that public participation and future campaigns are compatible with the customs and culture of the Kingdom
- Applying best scientific guidelines in communication
- Translating educational and scientific materials to the most widespread foreign languages at an early stage of the response
- Follow up on reaching all categories of society and plan to target the most difficult to reach groups
- Developing call center systems to meet the tremendous pressure from caller and enhance them with necessary technologies
- Intensifying training courses and keeping call center employees updated about the developments of the pandemic

Public Opinion

Many health sector employees thanked the Kingdom's leadership for signing a contract with China worth SAR 995 million to provide COVID-19 diagnostic tests for nine million people in the Kingdom, including all equipment and supplies, and 500 specialists and technicians to train Saudi staff on conducting daily tests.

Sentiment analysis revealed the society's positive opinions about MOH's efforts to lead clinical studies on innovative ways to treat COVID-19, in partnership with the WHO

- Pictures documenting the work of the joint operations room in various regions of the Kingdom during curfew hours garnered many positive opinions and comments, many citizens tweeted about MOH's efforts to designate reference hospitals in each region to receive COVID-19 cases, and about the medical staff who continue to treat other medical cases with professionalism despite the pandemic

- Risk communication and community engagement measures also received positive feedback from the community. Social media users emphasized the importance of showing solidarity and conducting campaigns to reduce the spread of COVID-19, with the increase number of cases, the response of the community to precautionary measures increased, Saudis launched the (#Quarantine_is_a_Nationalduty) hashtag on Twitter as part of their role as a community in responding to the pandemic

- Some local newspapers also praised MOH's decision, in the context of war against COVID-19, to start the active surveillance phase, which simply means moving from a reaction stage to an action stage. Citizens and legal and illegal residents all welcomed this decision with satisfaction and appreciation

- Some Twitter users mentioned the efforts of the Kingdom to curb the spread of the virus through points of entry, and sentiment analysis showed the positive reaction of the public to the suspension of international and domestic flights

- Citizens showed appreciation for MOH's efforts to combat COVID-19 and protect the Saudi community, namely in terms of applying COVID-19 testing to all residents in the Kingdom, many people tweeted about the implementation of the fast-track service for COVID-19 test dedicated for people who are called after an epidemiological surveillance, and where screening takes about **45** seconds

- Many Saudi citizens and residents praised the creation of fixed sites inside primary healthcare centers to withdraw COVID-19 samples for suspected cases and the contacts of confirmed cases

- Overall, reactions were also positive to the Kingdom's efforts to repatriate citizen from abroad, Some Twitter users confirmed their confidence that the Kingdom is taking the necessary measures to combat COVID-19 by imposing compulsory quarantine on returnees

- Sentiment analysis also showed positive opinions about issuing guidelines for all segments of society in public places, and about MOH's efforts to implement a worker awareness campaign in the industrial area to limit the spread of COVID-19, considering that workers are part of society and partners in building the Kingdom

- A large number of Twitter users expressed their gratitude for an initiative that brought together MOH and the Ministry of Tourism, to provide over **11,000** hotel rooms to host citizens returning from abroad for the purpose of quarantine or treatment at the beginning of the pandemic

- The international media also expressed its admiration for the Kingdom's preparedness to Combat COVID-19, and it commended the country for preparing **25** reference hospitals to treat COVID-19 cases

- Many members of the Saudi society called on the relevant authorities to provide guarantees for the continuity of shipping, supply, and arrival of necessary goods and products

- The community interacted bt volunteering in the Health Endowment Fund (HEF)

- MOH's efforts to enhance the scheduling and follow-up of necessary vaccinations for children also received a positive reaction from the public

Strategic Indicators of the Pillar	Indicator Type	Achieved	Not achieved
Existence of a national plan for risk communication and community engagement during COVID-19 pandemic	Procedure	✓	
Existence of a coordination mechanism for the various national sectors for preparedness and response	Procedure	✓	
Existence of a mechanism to know the community's reactions regarding COVID-19	Goal	✓	

4.3 Surveillance, Rapid Response Teams, and Case Investigation

Early detection and comprehensive surveillance are necessary to detect confirmed cases and their contacts arriving from abroad or through local spread, in order to limit the spread of the disease and control it. The goals of early detection and surveillance are extended to include monitoring the geographical spread of the virus and its transmission intensity and identifying its viral features.

4.3.1 Key Completed Tasks

Coordination was achieved with the relevant preventive health departments to implement epidemiological surveillance tasks and measures, and launch rapid response teams, with a focus on mass testing and surveillance using electronic tracking applications, in addition to forming preventive health teams to assess and monitor confirmed cases as follows:

Active Surveillance and Mass Testing

- Using **HESN** to monitor and track suspected cases and their laboratory results, in order to enable specialists to monitor the epidemiological situation and take the necessary decisions to respond to COVID-19 in the Kingdom
- Applying precautionary and proactive measures in several stages to implement active surveillance measures for cases in the community, detecting infected areas, and focusing on crowded residence sites in various regions. This led to the detection of many confirmed cases and their contacts and taking the appropriate preventive measures to prevent further spread
- Activating **"Takasi"** application to monitor suspected and confirmed cases on a daily basis in quarantine facilities and home isolation
- Activating **"Tabaud"** application that alerts anyone who has had contact with a case that happens to be confirmed later

Preventive Health

- Forming specialized public health teams to evaluate and monitor confirmed cases and their contacts in different regions, identifying infection causes, determining links between cases, and monitoring daily laboratory results and reporting them to the relevant authorities locally and internationally (WHO)
- Updating MOH's instructions periodically, and preparing and reviewing educational content on COVID-19 and updating it based on local reports and scientific evidence

4.3.2 Results and Success Lessons

- The announcement of the first COVID-19 case in the Kingdom on March 2. 2020
As of August **23**, 2020, the Kingdom recorded **307,479** confirmed cases, **280,143** recoveries**,** and **3,649** deaths

- Stage 1 of the National Mass Testing Period: April 16 -May 5, 2020, Testing site: **807** locations of workers housing and slums

- Stage 2 of the National Mass Testing Period: May **3** - May **19**, 2020, Testing sites: Selected health centers, Targeted groups: Low-risk groups through Mawid application

- Stage 3 of the National Mass Testing (Takkad Centers), Period: May **29** until now, Testing sites: Rapid tests from inside vehicles, with an average waiting time of **15** to **30** minutes, Targeted groups: Individuals with no COVID-19 symptoms

- Providing all three stages of the National Mass Testing through Takasi program, with **1,847,573** tests until mid-August 2020, National Mass Testing obtained a **92%** satisfaction rate, The beneficiaries' reports are received and resolved through the Ministry's **937** line

- Allocating **239** sites in various region and governorates to provide healthcare and testing for suspected COVID-19 cases also known as "Tetamman centers" (**134** in health centers and **104** in hospitals), receiving **364,000** visitors until mid-July **2020**, Targeted groups: Individuals with COVID-19 symptoms

- Testing the current system, plan through actual experience and simulation exercises, and documenting the results for future preparedness and response activities

- The existence of an electronic database for patients, sample results, and the surveillance of the contacts of confirmed cases, to facilitate data entry and extraction in various healthcare institutions

- Displaying fatality and recovery indicators, as well as the number of cases in healthcare institutions in each region, in the early stages of the pandemic, in order to make proper decisions in a timely manner and reassuring stakeholders and the general public

Strategic Indicators of the Pillar	Indicator Type	Achieved	Not achieved
Number of daily, new confirmed COVID-19 cases (Age, gender)	Goal	✓	
Number of daily, new confirmed COVID-19 deaths (Age, gender)	Goal	✓	
Number of daily, new, hospitalized, confirmed COVID-19 cases (Age, gender)	Goal	✓	
COVID-19 Case Fatality Rate	Goal	✓	
Number of daily, new confirmed COVID-19 cases (Age, gender) among healthcare workers	Goal	✓	
Initiate a national epidemiological testing project using the serological examination of antibodies	Goal	✓	
Presence of an official for training and the application of contact tracing	Goal	✓	
Existence of a national epidemiological surveillance program to detect respiratory symptoms	Goal	✓	

4.4 Points of Entry, International Travel, and Transport

Efforts and resources are focused on supporting monitoring activities at land, sea, and air points of entry to reduce the spread of COVID-19. This includes testing travelers, intensifying epidemiological surveillance, applying precautionary measures, setting up a mechanism for travelers to disclose their presence in affected countries and transferring them to healthcare facilities as needed.

4.4.1 Key Completed Tasks

Coordination was achieved with health control centers and the entities operating in points of entry to apply and implement the tasks and measures aimed at curbing the spread of COVID-19 through those points at the beginning of the pandemic. These measures were centered on communicating with travelers, applying and updating plans and procedures, training and educating employees on proper procedures to deal with passengers, and improving the preparedness of the points of entry as follows:

Communication with Travelers

Educating travelers about COVID-19 by showing an educational video about the pandemic on the screens of international flights coming to the Kingdom, distributing pamphlets, and displaying educational boards for travelers upon arrival

Implementation, Update, and Evaluation of Plans and Procedures

- Monitoring and assessing the effectiveness of preparedness and response measures regularly at the points of entry, and adjusting preparedness and response plans as needed by comparing the numbers of tested travelers with the lists of arrivals from affected countries
- Reviewing the epidemiological situation in the world and issuing periodic reports on the stages of travel warnings
- Creating a system to increase response to international travel
- Establishing a mechanism requiring travelers from affected countries to disclose their whereabouts and update its application mechanism
- Extending the scope of passengers testing to include all arrivals, by using thermal cameras at international airports and electronic thermometers in all other points of entry

Preparedness of the Points of Entry

- Issuing COVID-19 guidelines and training the personnel of the points of entry on the application of preventive measures
- Reviewing and updating contingency plans, coordinating with the relevant authorities to approve them, implementing hypotheses to ensure readiness, and detecting and fixing vulnerabilities
- Strengthening the basic capabilities of health control centers as required for the implementation of international health regulations, providing the centers with a trained workforce and the necessary tools (thermal cameras and electronic thermometers) to test travelers and deal with suspected cases
- Implementing training programs for all personnel of points of entry on infection control procedures and the use of PPEs

4.4.2 Results and Success Lessons

- Activating response plans in **14** airports, **9** land entry points, and **4** sea ports to deal with passengers, and transportation means and their crews

- As of January **20**,**2020**, **13,368** travelers declared their presence in affected countries

- From March **1** to the end of May **2020**, a total of **1,122,543** passengers were tested, through **55** thermal cameras that were provided at major airports, as well as electronic measuring devices in all other points of entry

- Training the staff of points of entry on the appropriate procedures to deal with traveling patients; install thermal devices in major airports in the Kingdom, which contributed in identifying suspected cases; conducting necessary isolation directly; and conducting medical tests

- Disclosure forms play a key role in tracing suspected cases and their contacts before closing international points of entry

- It is crucial to develop and implement public health contingency plans in all points of entry, especially those that participate in receiving Hajj and Umrah pilgrims. These plans should be tested in advance, and train staff about them, before applying them, while ensuring coordination between all relevant entities and constantly updating it

- Effective cooperation and communication between the relevant health entities (such as health control centers at the points of entry, infection control department, SCDC) as well as non-health entities, in order to ensure effectiveness and compatibility when implementing plans and procedures

- Existence of a self-evaluation mechanism, through which each health monitoring center performs the assessment according to WHO's standards on a quarterly basis, while increasing the capabilities and competencies of the workers at the points of entry in different health areas, in a way that enhances self-sufficiency and reduces centralization and reliance

- Imposing precautionary measures in the different points of entry, which contributed to limiting the spread of the pandemic, decreasing number of cases, and alleviating pressure on the health system

Strategic Indicators of the Pillar	Indicator Type	Achieved	Not Achieved
For points of entry to report a suspected case of COVID-19 at least once (during the past week)	Procedure	✓	
The presence of public health emergency plans in the points of entry	Procedure	✓	

4.5 National Laboratories

As proactive steps in anticipation of a surge in the number of cases and expanded mass testing programs, the Kingdom increased laboratory preparedness and capacity to manage and analyze COVID-19 samples since the beginning of the pandemic.

4.5.1 Key Completed Tasks

MOH cooperated with the laboratory of Saudi Center for Disease Prevention and Control (SCDC), regional laboratories, and various reference laboratories in the health sectors, to increase the preparedness and capacity of laboratories to manage and analyze COVID-19 samples. Efforts were focused on launching the laboratory accreditation program to conduct COVID-19 tests, defining standards to accredit laboratories that can carry out initial testing and approve the positive results of these laboratories, and standardizing and linking samples results in a central platform, in an effort to enhance the various national efforts aimed at curbing the spread of COVID-19, as follows:

SCDC's Laboratory

- Increasing the capacity of SCDC's laboratory, and a number of regional laboratories, to receive and analyze the increasing number of COVID-19 samples while ensuring the accuracy and reliability of the lab results
- Inaugurating the Chinese laboratory to support efforts against COVID-19
- Detecting the genetic sequence of COVID-19 to understand the patterns of its transmission, and help develop vaccines and counteracting medications

Linking Samples Results in a Central Platform

• Linking samples results to HESN, which contains the main epidemiological data, while continuing to assess the quality of the entered data to utilize them widely

Implementing Plans and Procedures

• Applying the standard work policies manual for all laboratories and adopting standard operating procedures for collecting samples and transferring them from healthcare institutions to laboratories while monitoring each step to ensure the safety and speed of the transfer process

Continuing to Test other Viruses Samples

• Continuing testing other viruses samples, such as MERS-CoV, H1N1, and others, to prevent the spread of other epidemics in conjunction with COVID-19

4.5.2 Results and Success Lessons

Launching a program to accredit laboratory testing for **PCR** in government and private health facilities, in order to limit the spread of the virus by applying SCDC's requirements

Since the beginning of the pandemic, and up until August **23**, **2020**, more than **4,674,950** laboratory tests were performed in **50** laboratories inside the Kingdom, including all health sectors

Laboratories have a capacity estimated at over **80,000** tests per day

The positivity rate of all tests in the Kingdom were **7%**, knowing that the targeted positively rate by WHO is ((**5%**))

The Kingdom signed a contract with China to provide **nine** million COVID-19 diagnostic tests, along with devices, specialists, and specialized technicians from China, and the establishment of **6** large regional laboratories distributed between various regions of the Kingdom, including a mobile laboratory with a capacity of **10,000** tests per day

The national epidemiological testing project using the serological examination of immune bodies was conducted on several levels, namely
- Strategic testing targeted at workers in large companies, residences, and workers in healthcare facilities
- Testing of areas with a surge in cases
- Community transmission surveys from blood banks
- Testing of the contacts of confirmed cases and of the beneficiaries of health services
- National community testing

Total tests: **43,520** tests

Optimizing the estimation of the number of samples required in pandemics, and updating the plans and work mechanism of the strategic national stock for preparation, such as providing stocks of vaccines, treatments, and laboratory tests

Increasing the capacity of laboratories to manage and analyze samples in all sectors in the early stages of the pandemic

Strategic Indicators of the Pillar	Indicator Type	Achieved	Not achieved
Ability to conduct a COVID-19 test in an accredited laboratory within **72** hours	Goal	✓	
Daily statistics for COVID-19 laboratory tests NAAT (by age and gender)	Goal	✓	

4.6 Infection Prevention and Control

The existence of guidelines in communities and health facilities is undoubtedly a major factor in curbing the spread of COVID-19. MOH and SCDC assigned committees and expert task forces to prepare precautionary protocols for health facility preparedness and epidemiological surveillance, in addition to treatment protocols, according to best practices based on clinical trials and on previous experiences with MERS-CoV in the Kingdom.

4.6.1 Key Completed Tasks

MOH coordinated with the relevant authorities, including SCDC, to implement the tasks and measures aimed at curbing the spread of COVID-19. This coordination was focused on enhancing the preparedness of health facilities regarding infection prevention and control, establishing a mechanism to monitor and record community cases and those associated with healthcare institutions to analyze results and take the required decisions directly, and issuing guidelines for all segments of society.

Enhancing the Preparedness of Health Facilities

- Preparing procedural guidelines for infection control and health facility preparedness, which includes providing a triage system, and updating respiratory triage models, isolation rooms, and hand hygiene stations in cooperation with the infection control departments in health sectors
- Training staff on basic infection control principles (such as using PPEs and learning hand sanitizing techniques) and early detection of cases
- Determining the required quantities of PPEs and hand sanitizers and the rate of their consumption in healthcare institutions in cooperation with the teams working on infection control, inventory control, compliance, and the mystery visitor program
- Accrediting laboratories by SCDC to conduct COVID-19 tests, with the goal of strengthening the preparedness of health facilities

Surveillance And Recording Mechanism

- Setting a mechanism for surveillance, recording, and investigating confirmed COVID-19 cases and their contacts among health sector workers, and creating daily indicators to be presented to the CCC to take appropriate actions

Guidelines for all Segments of Society

- Issuing guidelines for all segments of society in public places, such as mosques, schools, markets, workplaces, public transportation, and others
- Publishing an educational guide on COVID-19 prevention and the repercussions of not following advices and instructions, using various languages in order to ensure reaching everyone, in cooperation with the health awareness team

4.6.2 Results and Success Lessons

Issuing health protocols to limit the spread of COVID-19
Period: April 29 - May 13, 2020

Key protocols:

- Wholesale and retail trade shops
- Commercial centers (malls)
- Preparing a guide for quarantine and home isolation

Issuing health protocols for various sectors to limit the spread of COVID-19
Period: May 31 - June 20, 2020

Key protocols:

- protocols for mosques
- protocols for the public sector
- protocols for the petroleum, petrochemical, and gas sectors
- protocols for electricity
- protocols for the contracting sector - existing projects
- protocols for wholesale and retail trade shop, malls, and commercial centers
- protocols for public goods markets
- protocols for social shelters
- protocols for administrative and office work
- protocols for restaurants and cafes
- protocols for home deliveries
- protocols for domestic workers paid by the hour

Issuing additional health protocols for 34 sectors to limit the spread COVID-19
Period: June 21, 2020 (curfew lifting period)

Key protocols:

- protocols for driving schools
- protocols for educational institutes
- protocols for men's and women's sewing shops and workshops
- protocols for funeral services and prayers
- protocols for wedding and event halls and rest houses
- protocols for hospitality centers and nurseries

- **CBAHI** contributed to the accreditation of healthcare institutions based on objectives standards, including infection prevention and controls.
CBAHI prepared a program for surprise visits to healthcare institutions to re-evaluate standards, and ensure and increase the level of their preparedness. Standards included requiring each facility to train its workers periodically and monitor the validity dates of their training certificates. MOH also provided the necessary training online through the (**BICSL**) program

- Increasing infection control standards and distributing PPEs and hand sanitizers in healthcare institutions and public utilities

- Existence of a national plan to manage PPEs supplies (stock and distribution) and defining the maximum capacity plan for infection control

- Comprehensive assessment of the infection control capacity at all levels of the healthcare system, including a triage system, isolation rooms, trained personnel (early detection and basic infection control principles), and sufficient infection control materials, including **PPE** and handwashing / cleaning stations

- Ensuring the commitment of health sectors, institutions, healthcare workers, as well as of all segments of society, to procedural guidelines; providing infection control means and mechanisms; training staff; and increasing awareness on a general scale

- Establishing a surveillance and recording mechanism to monitor the implementation of the mechanism and reduce the spread of infection in the most vulnerable places and institutions, or where there is a lack of commitment or a high number of cases associated with workers in the health sectors

- The Existence of data from regions and hospitals enables the assessment of the infection control capacity at all levels of the healthcare system

For more information about COVID-19 prevention and control https://covid19.cdc.gov.sa/

Strategic Indicators of the Pillar	Indicator Type	Achieved	Not achieved
Existence of a national infection prevention and control program and WASH standards in healthcare institutions	Goal	✓	
Commitment of emergency services to performing visual screening (respiratory symptoms of patients) and triaging them	Goal	✓	
Existence of isolation rooms in hospitals	Goal	✓	
Existence of infection prevention and control policies and procedures in long-term care homes	Procedure	✓	
Presence of an official for infection prevention and control training	Goal	✓	
Train health practitioners on infection prevention and control	Goal	✓	

4.7 Case Management

The readiness of all primary care centers, hospitals, and quarantine facilities was increased to receive large numbers of confirmed and suspected COVID-19 cases, in order to alleviate pressure on healthcare institutions. The personnel of those facilities were also trained on detecting COVID-19 cases, providing the appropriate care, prioritizing treatment for patients at risk of infection, and providing guidelines on how to deal with the disease in healthcare institutions, quarantine facilities, or during self-isolation. It is crucial to review the surge capacity plans in healthcare institutions, as well the provision of working plans continuity and the provision of other essential healthcare services.

4.7.1 Key Completed Tasks

The Concerned Committee coordinated with the relevant authorities to take the necessary precautions to prevent the spread of COVID-19 in the Kingdom, and assign centers to implement the tasks and measures of managing and treating confirmed or suspected COVID-19 cases. This coordination is centered on the response of government and private hospitals, surge capacity plan, the response of primary care centers, quarantine procedures, and the optimal utilization of private healthcare institutions.

Hospitals Response

- Developing and implementing a surge capacity plan, and monitoring and adjusting measures according to the level of response in hospitals and regions
- Determining reference hospitals to receive COVID-19 cases and assessing their readiness and capacity at the beginning of the pandemic, and preparing other hospitals afterward to receive and treat cases
- Monitoring the number of isolation and intensive care rooms, respiratory care devices and consumables, Extracorporeal Membrane Oxygenation (**ECMO**) devices, the workforce, and taking the necessary measures as needed
- Monitoring procedures for the entry, exit, and organizing isolated patients in the hospitals designated to receive COVID-19 cases, in order to minimize patients hospitalization, in line with the applicable policies and procedures, reserving beds to receive more cases
- Monitoring the daily occupancy rates of isolation beds, intensive care units' beds, and hospitals designated to receive COVID-19 cases, and determining the number of available beds to take appropriate decisions, either by increasing the number of isolation beds, transferring patients who do not have COVID-19 to other hospitals, or temporarily suspending some routine and non-urgent services in hospitals
- Allocating ambulances teams and cars to transport confirmed and suspected COVID-19 cases to and from health facilities
- Holding periodic meetings to support the preparedness of field hospitals in various regions of the Kingdom
- Providing counseling and psychological support to patients, health workers, and the community since the early stages of the pandemic, in cooperation with the mental health team, in order to contain and mitigate the social impact of COVID-19

Private Health Institutions Response

- Including telemedicine in medical insurance
- Activating home medical care centers and telemedicine centers to help relieve pressure on healthcare institutions
- Identifying private hospitals that will receive COVID-19 cases, assessing their preparedness and capacity, and providing them with COVID-19 protocols
- Identifying reference private laboratories that will receive suspected COVID-19 cases and assessing their preparedness and capacity
- Responding to COVID-19 by taking patient samples through accredited private sector institutions and sending the results to the designated authorities
- Requiring designated private hospitals to prepare specialized «**Tetamman**» fever clinics

Primary Care Centers Response

- Identifying and equipping primary care centers to receive COVID-19 cases
- Monitoring the quality of operations in various departments of healthcare centers, and reviewing and updating the manual of work policies and procedures in primary healthcare centers, as well as the treatment protocol for confirmed cases

Quarantine Facilities Procedures

- Establishing measures for quarantine facilities, equipping them with PPEs, decontaminating rooms regularly, conducting triage procedures and clinical examination for cases, and making decisions about transferring cases to hospitals or keeping them in quarantine facilities, in cooperation with the medical team
- Choosing the appropriate quarantine facilities, equipping them with the appropriate medical staff, and approving their policies
- Monitoring the occupancy rates of quarantine facilities in various regions and submitting requests to increase bed capacity as needed
- Updating quarantine guidelines
- Communicating with the returnees from abroad before reaching quarantine facilities; providing them with educational material on the pandemic, how to deal with it, and the expected phases in the quarantine facility; and preparing equipment and preventive measures to deal with them during all stages of their travel
- Registering data, providing all individuals with a pamphlet on prevention and quarantine instructions, and submitting a daily report on the health status of the cases in cooperation with the administrative team

4.7.2 Results and Success Lessons

A Royal Decree was issued on March 30, 2020 to offer treatment and healthcare services to all citizens and residents, both legal and illegal, without legal consequences. This measure helped with early detection and testing the most vulnerable groups to COVID-19, and was commended by the WHO

Proactive plans were prepared to increase surge capacity in various healthcare institutions during the COVID-19 pandemic. The WHO issued recommendations regarding the expected healthcare services for COVID-19 based on the spread rate, which is of **1,100** beds per million residents. Therefore, MOH's CCC and SCDC issued recommendations in the same context, which the NHEOC used to develop planning frameworks to increase surge capacity in the Kingdom during the COVID-19 pandemic as follows:

Cases Classification According to Healthcare	Case Distribution	Health Services	Number of Beds Per Million Inhabitants
Critical	**5%**	ICU	**55**
Moderate	**25%**	Wards	**275**
Mild	**70%**	Quarantine	**770**

The surge capacity plan provides healthcare institutions with solutions to face the surge in the number of cases. These solutions include reducing the occupancy rate of MOH's hospitals, optimizing other government and private sector hospitals, and providing multiple options to use qualified medical personnel, such as increasing the number of working hours and changing the healthcare practitioner to patient ratio. The plan consists of five levels, each with triggers, procedures, and options for the workforce, as follows:

	Level (1)	Level (2)	Level (3)	Level (4)	Level (5)
Triggers	Average COVID-19 Hospital admission by day: <332 OR Average daily COVID-19 deaths: <15	Average COVID-19 Hospital admission by day: 332-646 OR Average daily COVID-19 deaths: 15-26	Average COVID-19 Hospital admission by day: 646-996 OR Average daily COVID-19 deaths: 26-46	Average COVID-19 Hospital admission by day: 996-1494 OR Average daily COVID-19 deaths: 46-70	Average COVID-19 Hospital admission by day: >1494 OR Average daily COVID-19 deaths: >70
Procedures	Decrease MOH Hospitals occupancy for Non-COVID-19 patients to <50%	Decrease MOH Hospitals occupancy for Non-COVID-19 patients to <25% Repurposing Beds	Maximum utilization of other Hospitals like Private Hospitals and other Government Hospitals	Trans RHD Support	Field hospitals
Workforce Options	* Utilizing non-functional departments staff * Training and cross skills * Part-time / locum / overtime * Considering 12 hours shift * Adjusting healthcare worker to patient ratio	* Maximum utilization of other Healthcare services: - Primary Health Care - Specialized Centres - Private Sector (like clinics and others)		* DMAT * Volunteers	

- A Royal Decree was issued on June **2020** to increase the surge capacity of all healthcare sectors by **50%**
- Activating NHEOC to support the regions that reached critical levels until they are stabilized based on the indicator of pressure on intensive care units
- The National Health Command Center (NHCC) developed control panels to monitor bed capacity in wards and intensive care units in all hospitals in the Kingdom, in addition to the hospitals of other sectors. Regions struggling with bed capacity refer patients through "Ihalati" program
- With the increase in the number of inpatients, the number of intensive care beds increased by **30%** added to the existing number of beds in all health sectors
- Securing the needs of hospitals in terms of ventilators based on the worst expected scenario, which amounted to over **200** ventilators in various regions of the Kingdom at the beginning of the pandemic, and the distribution is currently being completed around the clock
- Supporting respiratory care consumables by distributing over **1,000** Helmet-Based Ventilators, **1,500** High-Flow Nasal Cannulas (**HFNC**), and HEPA filter devices
- Supporting the mobile dialysis services, which offered over **1,000** sessions in various regions of the Kingdom

- Appointing an oxygen safety officer who will in cooperation with the Hospital's Respiratory Therapy Department, supervise the arrival of oxygen to patients in vital areas, and monitor the flow rate, devices pressure, and their impact on the infrastructure
- Strengthening the medical workforce by creating a database of temporary contracts "Visitors", which received over **5,400** registrations from health practitioners from various medical specialties to benefit from them
- Activating the program of recalling contracted healthcare practitioners from their vacations in cooperation with the Ministry of Foreign Affairs and the Civil Aviation Authority, which contributed to the return of **2,389** healthcare practitioners from abroad to support health facilities after completing the quarantine period upon their return
- Repatriating **3,193** nurses who were stranded abroad
- Temporary contracting with **1,294** qualified practitioners with nursing titles
- Contracting with **287** female nurses from abroad
- Distributing **2,474** applicants for nursing specialist positions over various healthcare institutions
- Forming a rapid response nursing team to support critical areas with **347** nurses
- Activating the Saudi Disaster Medical Assistance Team **(DMAT)** and creating a platform to join the team from all over the Kingdom
- Creating programs to train **3,625** non-specialized doctors, from various specialties, on dealing with the pandemic; and training **2,710** nurses and anesthesia technicians on the basics of operating and managing ventilators
- Updating treatment protocols based on the latest developments in scientific studies and international protocols
https://www.moh.gov.sa/Ministry/MediaCenter/Publications/Documents/MOH-therapeutic-protocol-for-COVID-19.pdf
https://www.moh.gov.sa/en/Ministry/MediaCenter/Publications/Pages/covid19.aspx
- Forming teams to implement the COVID-19 treatment protocol in intensive care units and evaluate hospital's compliance with it
- Following-up methods of treating COVID-19 patients in hospitals and making recommendations for using the optimal treatment and minimizing side effects, as the number of patients benefiting reached **4,950** patients
- Coordination with hospitals in the field of providing narcotic drugs and psychotropic substances to patients during the COVID-19 pandemic, as the number of beneficiaries reached **10,000** patients
- Seeking the assistance of the Saudi Scientific Committee for the Support of life with Extracorporeal Membrane Oxygenation to develop a scientific methodology for the distribution of **ECMO** devices
- Studying the operation of beds and closed hospitals under the committee to operate the **8,000** beds in MOH's hospitals
- Activating virtual clinics in hospitals to ensure the continuity and ease of providing services to patients under the COVID-19 pandemic, through coordination with Sehhaty and Mawid applications to link these clinics electronically
- Preparing more than **6,331** diagnostic radiology reports through the National Teleradiology platform
- Ensuring the preparedness of field hospitals, by assessing 165 halls, equipping and operating 4 field hospitals with a capacity of **1,100** beds, and currently equipping **14** hospitals with a capacity of **2,652** beds. Work is still ongoing around the clock to discuss the need to add more field hospitals
- The Medical Evacuation Department participated in transporting patients from inside and outside the Kingdom to complete admission procedures and attend appointments. A total of **604** patients were transferred by the end of May
- Setting mechanisms for dealing with people without IDs and documenting the procedures in the medical records of COVID-19 cases
- In addition to the reference hospitals and laboratories, **19** private hospitals and laboratories from all branches in various regions and governorates in the Kingdom have been accredited to take samples from suspected COVID-19 cases
- Increasing the number of beds in private hospitals intensive care units with **344** beds, bringing the total to **3,950** beds in private hospitals
- Suspending elective operations in government and private healthcare institutions when occupancy rates in the region increases to a certain level, in order to reduce the spread of the virus and ensure the availability of beds when needed

- Determining a sample of reference primary healthcare centers to receive COVID-19 cases, designing a specific track for them, and assessing their preparedness periodically
- Ensuring the continuity that primary healthcare centers to provide extended care services over a period of **16** hours and **24** hours in **237** health centers, to facilitate access to healthcare services and reduce the overcrowding of non-emergency cases in hospitals
- Providing consultation clinics services in **122** primary healthcare centers, which helped meet the increasing demand for appointments in hospitals under the pandemic
- providing prescriptions renewals services for chronic diseases medications at primary healthcare centers without the need to visit healthcare institutions, by using the Wasfaty service to get medications from pharmacies. This helped renew over **100,000** prescriptions per month
- Activating occupational health clinics in workplaces and offering healthcare for migrant workers
- A total of **291** health guesthouses hosted over **157,987** people and contained 28,308 isolation units
- Repatriating **43,826** citizens from abroad, and providing smart wristbands to monitor them along with suspected cases, instead of imposing quarantine on them
- Establishing an indicator to monitor the inventory of infection control equipment and count the actual balance of items in quarantine facilities and reference hospitals, in order to monitor the compliance of healthcare institutions and quarantine facilities with infection control requirements to monitor the inventory infection control

- Existence of a plan to increase surge capacity to provide the necessary healthcare services during the COVD-19 pandemic
- Monitoring bed capacity data to predict which areas will face challenges and pressure on bed occupancy
- Introducing an indicator for the use of the “Ta’ahab” program in all hospitals in the Kingdom to monitor data recording
- Identifying reference hospitals in the early stages of a pandemic
- Counting and providing ventilators, respiratory care consumables, and HEPA filter devices in healthcare institutions
- Supporting the workforce of specialized medical personnel and providing them with the necessary training
- Preparing plans to operate field hospitals in order to increase capacity during the COVID-19 pandemic
- Enabling primary healthcare clinics to receive COVID-19 patients, providing support for medical consultations, and contributing in spreading awareness about COVID-19
- The contribution of quarantine facilities to curbing the spread of COVID-19, by isolating suspected cases and the contacts of confirmed cases from the rest of the community
- Supporting the initiatives of national companies to manufacture medical equipment and sanitizers during pandemics

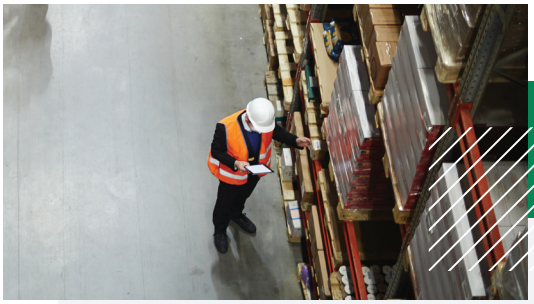
Strategic Indicators of the Pillar	Indicator Type	Achieved	Not achieved
Clarity of treatment and transfer tracks for COVID-19 patients	Goal	✓	
COVID-19 inpatients discharge rate	Goal	✓	
Surge capacity and response plans	Goal	✓	

4.8 Operational Support and Logistics

Logistics preparations are crucial because they ensure supply availability and supply chain sustainability in response to COVID-19. This includes measuring consumption rates for the most important medications and providing financial and electronic support as well as volunteers.

4.8.1 Key Completed Tasks

Coordination was ensured with the relevant authorities, and in cooperation with the Supply and Engineering Affairs Agency, the Financial Committee, volunteers, and the e-health agency, among others, to apply and implement the tasks and measures of operational support and logistics. This cooperation was focused on developing an integrated plan to identify and cover the needs of the health and vital sectors. The Agency for Facility Operation and Maintenance also supervises public departments (medical maintenance/general maintenance/infrastructure/health facility environment/development and quality) in all MOH's health facilities, develops preparedness plans, provides alternatives to implement and apply the tasks and measures of medical and non-medical operations and maintenance, ensures the preparedness of healthcare institutions, develops plans for disasters, and identifies operational risks and how to deal with them.



Supplies in the Health Sectors

- Inventory the available resources and organizing supply in the health sectors and in the regions
- Reviewing supply chains and identifying shortages and risks
- Developing a central reserve stock for each region to manage COVID-19 cases
- Developing a standard to measure consumption and its compatibility with the inventory

Supporting Services and Vital Sectors Support

- Identifying and supporting vital sectors that continue to be active during the spread of COVID-19 (such as water and sanitation, fuel and energy, food, telecommunications / Internet, financial support, security sectors, and transportation)
- Contribution of the Direct Purchase Committee to the supply of many medical supplies and infection control equipment during the COVID-19 pandemic
- supporting many entities with the e-Health team to create dashboards for critical information for health facility preparedness, as well as electronic epidemiological surveillance systems during the COVID-19 pandemic, in order to facilitate and speed up the presentation and analysis of information to make the necessary decisions
  Contribution of the Agency for Engineering Affairs to the development of urgent and effective strategies to curb
- the pandemic and limit the spread of COVID-19, including equipping hospitals, supporting existing hospitals, supplying devices, preparing isolation rooms, implementing laboratories, designing mass testing stations, and establishing field hospitals
  Application of the preventive measures and precautions by the security and safety staff
- Providing the necessary accommodations for suspected cases, isolating them, housing travelers coming from
- abroad and ensuring their safety, and educating the residents of residential complexes designated for health personnel on the necessary preventive precautions

Operation and Maintenance in the Health Sectors

- Reconfiguring the infrastructure of regional laboratories by establishing negative pressure laboratories distributed among the regions and governorates of the Kingdom to facilitate COVID-19 testing
- Supporting medical gas systems by increasing storage capacity, i.e. securing new air stations, and reconfiguring the gas network within health facilities to accommodate an increase in the number of COVID-19 patients
- Checking the operational status; inventory all systems, equipment, and operation and maintenance works; providing alternatives represented by systems (electricity/air conditioning); and providing alternative sources for consumables and spare parts
- Ensuring the safety of operation and maintenance workers in operating companies, applying precautionary measures at their workplaces and residences, transferring workers to suitable accommodations that are compatible with health requirements, and supporting the labor deficit in health facilities as a result of the spread of COVID-19 among them
- Starting a number of initiatives with agents and specialized companies for non-medical systems in health facilities to conduct free preventive maintenance
- Operating field hospitals and supporting them with continuous maintenance, and providing operation and maintenance services for new hospitals and Holy Sites hospitals
- Inventory ventilators for the healthcare institutions of all health sectors, by specifying the type and condition of each device, counting ventilators that are out of service, identifying the types of devices that serve COVID-19 patients, repairing them, and distributing them to hospitals as needed
- Establishing daily plans and monitoring for the maintenance and repair of ventilators, providing the necessary spare parts to repair ventilators, inventory available consumables and spare parts, and identifying needs
- Inventory **ECMO** devices in all healthcare institutions and monitoring their operation and maintenance
- Supporting accredited laboratories to conduct COVID-19 tests with the necessary equipment and supplies, operating them, training workers on their use, and ensuring their safety through periodic and preventive maintenance

Health Volunteering

Health volunteer teams help with health awareness and education; epidemiological surveillance; medical consultations; volunteering in hospitals, quarantine facilities, and laboratories; volunteering in home care; and delivering medications to patients in their homes during the COVID-19 pandemic

4.8.2 Results and Success Lessons

- Supplying **220** ventilators, **2,540** fluid pumping devices, **1,194** vital signs monitors, **214** suction devices, and **691** beds
- Designing and implementing mass testing stations in Riyadh, the Eastern Province, Madinah, Makkah, and Asir as primary sites, along with a number of secondary sites
- Equipping **1,152** health centers with electronic infrastructure; expanding the electronic file system to include **859** health centers, **186** of which were integrated with the Mawid application; including HESN/Takasi platforms in Tetamman and Takkad centers; developing daily readiness monitoring systems through the Mostaid program; Launching the free e-prescription dispensing program in **910** health centers; and approving the electronic sick leave system
- Supporting medical gas systems by increasing storage capacity - securing new air stations - and re-configuring the gas network inside health facilities to accommodate the increase in the number of COVID-19 patients, for over **40** hospital in various regions of the Kingdom, and re-configuring the infrastructure of regional laboratories for 10 COVID-19 laboratories
- Preparing a clinical nutrition guide for patients during the pandemic and preparing nutrition specifications during crises and emergencies for field hospitals and health quarantines, more than **350,000** meals were provided to more than **80** quarantines, in participation with the community partnership
- Preparing a project for establishing regional centers for forensic medicine and coping with disasters in the Kingdom, preparing a document for forensic tasks at the scene of death for criminal deaths, suicide, and suspected criminal deaths, preparing a statistical study on the work of forensic medicine centers in the regions and governorates of the Kingdom, and completing **4** forensic medical committees. In addition, technical documents for **260** forensic medical reports have been reviewed, and the issuance of a guide for dealing with deaths from infectious diseases in forensic centers and mortuary departments in the Kingdom with an appendix for dealing with deaths caused by COVID-19
- The contribution of over **32,000** health volunteers, who were trained through appropriate training programs, to spreading awareness, educating the community, and helping in hospitals, quarantine facilities, mass testing centers, and laboratories, in addition to providing home care, delivering medications, volunteering in call centers and medical consultations, and providing support services. A total of **10** million people benefited from the services of volunteers, which amounted to over **1.1** million volunteer hours since the beginning of the pandemic

- Health Endowment Fund (HEF) was aimed at supporting government efforts to combat the COVID-19 pandemic in the Kingdom. HEF launched a campaign to attract financial and in-kind donations, which exceeded one **billion** SAR, including the contributions of the private sectors, with the ACWA Power that launched the Nujoud Medical Hospital in Madinah
- HEF's initiative to transport patients during the lockdown with a total of **14,000** trips. The initiative of home care services and diabetes patients for **5,500** beneficiaries. The mobile clinics initiative in crowded neighborhoods for **95,000** beneficiaries. The health volunteering initiative for **100,000** beneficiaries. The initiative of providing medical needs for quarantine facilities for **6,000** beneficiaries
- HEF helped with home healthcare for patients by providing and delivering medical supplies to **35,000** beneficiaries. It took **116,647** trips to deliver medications to patients in their homes
- The General Administration for Medical Rehabilitation and Long-Term Care, represented by the Department of the Affairs of Persons with Disabilities, contributed to issuing guidelines for the "Nabghak Murtah" initiative, which aims to evaluate and prepare MOH's quarantine facilities to comply with international standards for the services aimed at persons with disabilities; developed the skills of workers in quarantine facilities to deal with persons with disabilities; provided sign languages translations for the deaf and hearing impairments people; and provided physiotherapy for inpatients and explained its importance to specialist with the spread of COVID-19 pandemic

- Contribution of the supply and support plan, in partnership with the concerned authorities and specialized committees in regions, to counting the central stock and in the regions and the stocks of reference hospitals, and securing their needs in terms of medical solutions, swabs, PPEs, critical supplies, ventilators, and others
- Continuous monitoring of operational systems, medical devices, and stocks to make the necessary escalation
- Early awareness in rationalizing the use of PPEs in pandemics is crucial to prevent large volume depletion
- Providing financial funds and logistics support during the COVID-19 pandemic is a major factor in the implementation of preventive and treatment programs and plans
- Accelerating the completion of ongoing projects to be structurally ready, through readiness and operation tests, completion of observations, and delivery for operation
- Preparing crisis management plans to follow up on the work progress of systems in healthcare institutions and increase readiness
- Spreading a culture of compliance with precautionary measures, and applying them in all healthcare institutions through the formation of health champions safety work teams, which led to positive results in terms of significantly reducing the number of cases among the Ministry's employees and volunteers
- Providing a channel to receive community participation requests and organizing the distribution of resources to make the best use of them
- Supporting volunteer initiatives in various fields during the COVID-19 pandemic

Strategic Indicators of the Pillar	Indicator Type	Achieved	Not achieved
Monitor the availability of the required resources	Procedure	✓	
Check the availability of ventilators	Procedure	✓	
Provide basic medications	Inputs	✓	
Provide supplies (COVID-19 laboratory tests, PPE)	Inputs	✓	
Provide quarantine facilities and alternative care sites	Inputs	✓	

4.9 Maintaining Essential Health Services and Systems

All efforts were focused on curbing COVID-19 as a top priority, but this did not cancel the health system's primary role in maintaining essential health services for anyone who needs them since the beginning of the pandemic and what maybe reflected negatively on some patients in avoiding going to emergency departments and clinics out of fear of COVID-19, or the commitment of a large part of the health system in combating the pandemic, and those efforts led to the reduction of such consequences.

4.9.1 Hospitals

- The Saudi Patient Safety Center issued guidelines for determining priorities when dealing with health conditions, a planning guide to ensure the continuity of healthcare services, and the "healthcare provider safety guide"
- Establishing a mechanism for the continuity of basic health program services to ensure the provision of treatment services such as routine check-ups and surgeries
- Receiving cases and monitoring them in the regions whether through virtual clinics or within hospitals clinics, according to the cases and their needs for a visit to conduct required tests
- Rescheduling appointments for routine check-ups and surgeries to ensure the continuity of services provision and the safety of beneficiaries from infection transmission
- Following up non COVID-19 inpatients while adhering to all preventive measures and updating hospitals occupancy rates data on a daily basis to ensure the availability of beds when needed
- Monitoring targets for all specialities in preparation for achieving them by the end of **2020**
- Activating cooperation between specialized oncology centers in central regions and units in peripheral areas, to serve patients and provide necessary medications in their regions without moving, approximately **5,000** patients benefited from this cooperation
- Activating remote consulting clinics for cardiac patients as the number of beneficiaries reached **15,000**, and for diabetes as the number of beneficiaries reached **60,000**

- Activating the telemedicine services as a means to follow up with patients, guide them without the need to visit the health facility in person, provide them with e-prescriptions, deliver medications to their homes, and create relevant guidelines
- Providing services to the geriatric specialty as the number of outpatient beneficiaries reached **21,000** and virtual clinics beneficiaries reached **5,000**
- Providing services to the speciality of dermatology, as the number of outpatient beneficiaries reached **32,000** and virtual clinics beneficiaries reached **14,000**
- Providing services for the Down syndrome specialty specialty, as the number of outpatient beneficiaries reached **700** and virtual clinics beneficiaries reached **800**
- Activating virtual clinics in **19** mental hospitals, to ensure continuity and ease of providing services to patients and visitors during COVID-19 pandemic, as the number of beneficiaries of the services reached more than **40,000**
- Providing psychological support programs for health practitioners and community around the clock through the unified call center **937** by **50** volunteers from specialized physicians and psychologists
- Activating the delivery of medications from health facilities to patients in their homes in order to reduce the spread of infection, as the number of beneficiaries reached **445,308** patients
- Activating the delivery of medications in **19** mental hospitals to ensure a continuous provision of necessary medications for patients through volunteer teams and the Saudi Post during COVID-19 pandemic

4.9.2 Primary Care

- Ensuring the commitment of preventable diseases vaccinations in the early stages of the pandemic by primary healthcare centers
- Increasing the number of available appointments for vaccinations in primary healthcare centers to **10.9** million scheduled appointments
- Providing medications delivery services and home vaccinations by health centers in a number of regions, for over **20,000** beneficiaries per month, including medications delivery to guest houses in various regions of the Kingdom
- Monitoring the efficiency of primary healthcare in terms of vaccinations through central dashboards
- Ensuring awareness about the importance of vaccinations and it's continuity during the pandemic through various channels of communication with the community

4.9.3 Education and Training

- The General Department of Academic Affairs and Training prepared and uploaded training courses in the online educational platform for all health practitioners on the link http://moh.upskilling.sa

- Providing more than **15** educational lectures remotely for employees of radiology and medical imaging departments, and the number of beneficiaries reached more than **13,000** trainees

- Holding remote training courses in dealing with the pandemic in relation to healthy nutrition, which amounted to more than **14** educational sessions and lectures

- Providing more than **12** electronic lectures, aiming to review the latest developments in treatment and methods of practice during the COVID-19 pandemic, and the number of beneficiaries reached **8,017** trainees

- Training **900** trainees in infection control precautions while dealing with COVID-19 deaths, infection control procedures in forensic medicine centers, basic principles of the negative pressure system for mortuary rooms to stop the transmission of infection from cadavers to forensic medical personnel, and the basics of the electronic forensic system

- Activating the remote training of health practitioners in the **19** mental hospitals to ensure continuity and ease of providing services to patients and visitors during the COVID-19 pandemic, as the number of trainees reached more than **12,000** trainees

- Providing many lectures for psychological support by psychiatrists and psychologists remotely for patients and their families, as the number of lectures reached more than **200** lectures

- Activating remote training courses for specialized centers, as the numbers of trainees reached more than **5,000**

- The Saudi Commission for Health Specialties (SCFHS) offered several online seminars, attended by a total of **267,271** practitioners, as part of a weekly online series on the COVID-19 pandemic presented by a group of speakers and specialists and approved as continuous medical education hours

- SCFHS launching the “Imtenan” initiative in late March 2020, which includes extending the registration of **81,250** health practitioners whose professional registration expired. It also accepted the number of hours of continuing medical education that practitioners had obtained so far the purpose of renewing submitted applications, as a contribution to countering the COVID-19 pandemic

- SCFHS indicated that the current working conditions of health practitioners requires obtaining psychological support through the “Daem” service, which reached **500,000** beneficiaries. It was previously available to Saudi Specialization Certificate trainees, and upon its success, it was made available to all health practitioners in appreciation for their efforts in protecting the society

5

Studies and Research

5 Studies and Research

Global efforts are focused on evidence-based practice through medical research and clinical trials for diagnosis, drug testing, and effective vaccine manufacturing against COVID-19. From this standpoint, the Kingdom devoted great attention to supporting urgent medical research programs and publishing scientific studies, at the local and international levels, on COVID-19 virulence, infection sources, epidemiology, preventive measures, clinical management, ethical and social considerations, diagnosis, pathological changes, laboratory tests, and economic effects on the health system in relation to COVID-19.

5.1 Key Completed Tasks

Coordination was ensured with the relevant authorities to encourage and publish medical research and clinical trials, in order to contribute to diagnosing and reducing the spread of COVID-19, supporting the publication of scientific studies at the international and local levels, and studying best practices to curb the spread of the pandemic as follows:

Documenting the Efforts of Various Government Entities

- Establishing the National Committee for Corona Research by Ministerial Resolution No. **1441- 1564549** dated 13/08/1441 AH
- Supporting and encouraging scientific research
- Establishing and publishing COVID-19 research priorities
- Announcing a call for proposals for scientific research support programs
- Launching the national registry platform to record COVID-19 cases in cooperation with SCDC to produce accurate statistics about positive COVID-19 cases and enable researchers to conduct research
- Cooperation with the King Abdulaziz City for Science and Technology (KACST) to implement the fast track program for COVID-19 research grants through the Science and Technology Unit
- Providing continuous technical and research support to research teams carrying out research under the COVID-19 grants program
- Providing support to various research sectors in the Kingdom, such as the Ministry of Education, the General Authority for Intellectual Property, and research centers to coordinate, review, and evaluate COVID-19 research

Identifying Best Practices to Combat the Spread of the Pandemic

- Attracting the best international protocols for new treatments and vaccines by research centers and entities
- Supporting local studies to find a COVID-19 vaccine
- Conducting scientific review of the research proposals received by the Ministry

5.2 Results and Success Lessons

Launching a research support program called " Urgent COVID-19 Research Program", aimed to research COVID-19 virulence, source of infection, epidemiology, diagnosis, pathological changes, tests, preventive measures, and treatments, **33** researchers were announced as winners with the title of "Research Heroes"

338 research projects were reviewed, and more than **100** of them were granted ethical approvals for COVID-19 related research through the Central Institutional Review Board

MOH leading advanced global clinical studies on four COVID-19 treatment methods in which more than seven hospitals participated, in collaboration with the WHO

In cooperation with China, the Kingdom participated in multi-center Clinical studies to test the COVID-19 vaccine targeting over **5,000** volunteers

The Ministry supported a national clinical study of blood plasma transfusion as a treatment in more than **21** sites in the cities of the Kingdom

KACST dedicated a fast track to support COVID-19 scientific research in cooperation with MOH, Saudi Health Council, and SCDC

Several universities, such as King Saud University, offered grants dedicated to researching COVID-19 prevention, diagnosis, treatment, social and ethical aspects, and others

Research is one of the important aspects in which the Kingdom shows its leadership role

The importance of contributing to the dissemination of scientific studies in pandemics and sharing them globally to exchange experiences

The necessity of supporting and initiating collaboration with initiatives aimed at developing a research environment in governmental and private sectors, and in early stages of pandemics, to contribute to understanding the causes, clinical characteristics, diagnostic methods, and testing drugs and vaccines to be adopted in actual treatment

The Kingdom's contribution in international studies to investigate the effectiveness of COVID-19 treatments helped enhance its research status and opportunities to share results with other countries

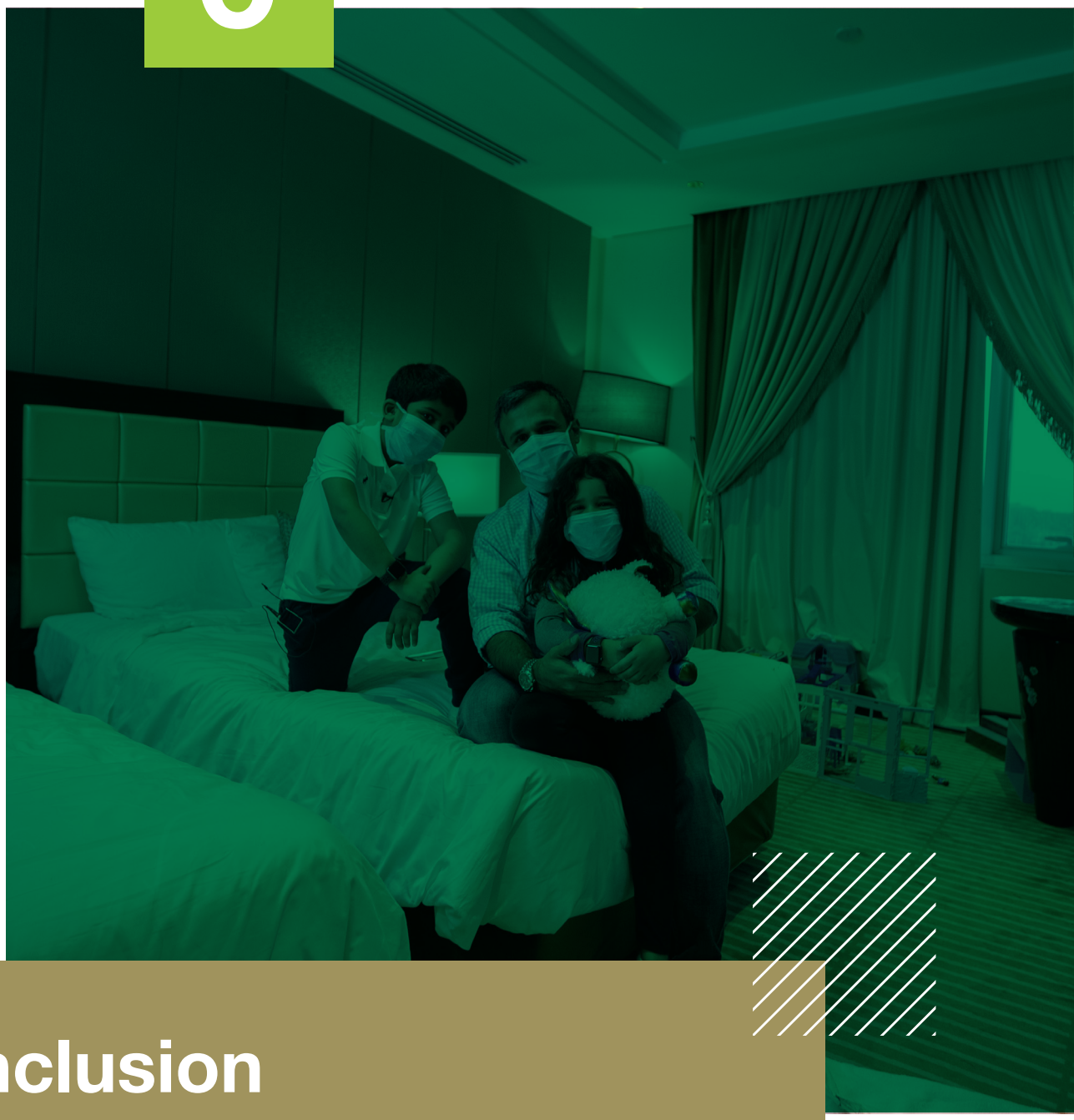
The importance of re-studying the infrastructure needed to develop new drugs and vaccines in the Kingdom to construct a strategy aimed at advancing this aspect as an industry to fuel local sufficiency

For more information about the published research:

https://covid19-saudimoh.hub.arcgis.com


COVID-19

6



Conclusion

Conclusion

With Gods help, and thanks to the wise leadership of the Custodian of the Two Holy Mosques, King Salman bin Abdulaziz Al Saud, and of the Crown Prince Mohammed bin Salman, and with the work of all relevant ministerial and administrative authorities, the Kingdom will continue to combat this pandemic, mitigate its spread, and address its dire consequences on the security of and health of citizens and residents in the Kingdom.

The next stage in the war against COVID-19 is a sensitive one, aimed at maintaining the success achieved until now, and diligently preparing for COVID-19 risks and the possibility of its resurgence, until the appropriate vaccine or treatment are discovered, especially in light of the measures taken to return to normal life in society. Therefore, it is crucial to take caution, rely on scientific evidence, monitor vital indicators, and maintain full readiness in all sectors to take more measures based on the data. Finally, the community is urged to participate in the Kingdom's efforts, realize the gravity of this period, and comply with the wise, albeit ever-changing, decisions.

7

References and Appendices

References and Appendices

The Measures of the Kingdom of Saudi Arabia to Curb COVID-19

December 31, 2019

China announced dozens of unexplained pneumonia cases

January 7, 2020

In cooperation with the WHO, the Chinese authorities discovered a new coronavirus

January 21, 2020

Warnings against traveling to China

January 22, 2020

Activating the CCC

January 25, 2020

- Applying preventive precautions to flights from China
- Evacuating all Saudi citizens from China

January 30, 2020

The WHO declared the spread of the coronavirus is a Public Health Emergency of International Concern

February 3, 2020

A total of 17,480 COVID-19 cases and 362 deaths in the world

February 4, 2020

Requiring people to disclose their arrival from China 15 days in advance

February 6, 2020

Suspending travel to China

February 27, 2020

- Suspending entry for Umrah
- Suspending entry to the Kingdom using tourist visa
- Suspending the use of national IDs to enter the Gulf Countries
- The WHO supports the decisions of the Kingdom of Saudi Arabia

March 2, 2020

The first COVID-19 case was recorded in Saudi Arabia

March 4, 2020

Suspending Umrah

March 5, 2020

Suspending entry to the Two Holy Mosques after the Isha prayer until one hour before Fajr prayer

March 6, 2020

Working on awareness programs about COVID-19

March 8, 2020

- Suspending education
- Suspending entry to and exit from Qatif
- Suspending all outdoor activities in the Two Holy Mosques

March 9, 2020

The Kingdom donates $10 million to the WHO to combat COVID-19

March 11, 2020

- Warning against gatherings of more than 50 people
- Closing cinemas
- The WHO announced the COVID-19 pandemic

March 12, 2020

- Enforcing preventive measures and sanitize airport lounges
- Postponing the Saudi-African summit and the Arab-African summit

March 13, 2020

- Suspending all social events
- Suspending the statistics stage of the general census of the Kingdom›s population for 2020

March 14, 2020

- Suspending all sports activities
- Announcing packages worth SAR 50 billion to support private companies

March 15, 2020

- Suspending all international flights
- Closing markets, malls, restaurants, and cafés

March 16, 2020

- Suspending attendance at workplaces in all government entities
- Banning gatherings in public places

March 17, 2020

Suspending prayers in mosques

March 19, 2020

The Custodian of the Two Holy Mosques King Salman announces in a televised address the measures aimed at providing all residents and citizens with medications, food, and necessities during the pandemic

March 20, 2020

Announcing packages worth SAR 120 billion to support business

March 21, 2020

Suspending domestic flights, buses, taxis, and trains

March 23, 2020

Royal Decree: Start curfew from 7 pm until 6 am for 21 days

March 24, 2020

The first COVID-19 death was recorded

March 25, 2020

March 26, 2020

The Custodian of the Two Holy Mosques King Salman chaired a virtual G20 summit with the leaders of member states to coordinate the international response to COVID-19

- Suspending entry to and exit from Riyadh, Makkah, and Madinah.
- Imposing partial curfew from 3 pm to 6 am
- Banning movement between administrative regions

March 29, 2020

Extending the suspension of attendance at workplaces as well as the suspension of air travel

March 30, 2020

Royal Decree: Offering free treatment for all citizens and legal and illegal residents

The Measures of the Kingdom of Saudi Arabia to Curb COVID-19

April 2, 2020

Imposing curfew in Makkah and Madinah around the clock

April 3, 2020

Royal Decree: Covering 60% of the salaries of private-sector employees

April 5, 2020

Launching an electronic service for citizens wishing to return to the Kingdom

April 6, 2020

Imposing a total curfew around the clock in Riyadh, Tabuk, and Dammam

April 8, 2020

Advancing curfew hours in other regions and cities to start from 3 pm to 6 am

April 9, 2020

Announcing the extension of return visas to the Kingdom, which were expiring between February 25 and May 24, for a period of 3 months without additional fees

April 10, 2020

The first repatriation flight for citizens wishing to return to the Kingdom arrived

April 12, 2020

- Extending curfew until further notice
- Launching the Tetamman application to communicate with COVID-19 patients and cases in quarantine facilities

April 14, 2020

Using public school buildings in all regions of the Kingdom to accommodate expatriate workers

April 16, 2020

- Announcing the end of the academic year and the success of all students in public education
- Initiating Mass Testing

April 17, 2020

- Performing Tarawih and Eid prayers at home as long as the pandemic continues
- Continuing active, expanded mass testing is one of the best scientific practices in terms of preventive measures

April 18, 2020

The WHO thanks the Kingdom for contributing with $500 million to support international efforts to combat COVID-19

April 19, 2020

Business owners enter the locations and details of their employees' housing on the Ejar network

April 20, 2020

- Requiring companies to provide electronic payment methods (via the network)
- Suspending all prayers for the public in the Two Holy Mosques during Ramadan

April 21, 2020

Adjusting the times during which movement is permitted during the holy month of Ramadan to 9 am until 5 pm

April 26, 2020

- Signing a contract with China worth SAR 995 million to conduct 9 million COVID-19 tests
- Lifting curfew partially in all regions of the Kingdom from 9 am to 5 pm until May 13
- Banning social gatherings of more than 5 people, including weddings and funerals

April 29, 2020

- Allowing entry to and exit from the Qatif Governorate
- Allowing the resumption of wholesale and retail trade, and reopening shopping centers, provided that social distancing is maintained
- Allowing construction companies and factories to resume work

May 5, 2020

Provisions and penalties for the violators of the preventive measures to combat COVID-19

May 6, 2020

- Allowing registration, exceptionally, for all nationalities in the Awdah initiative
- Lifting additional precautionary measures in Al-Faisaliah and Al-Fadhliya neighborhoods in Al-Ahsa Governorate

May 7, 2020

Adopting a regulation to reduce gatherings that contribute to the spread and transmission of COVID-19

May 9, 2020

Lifting the precautionary measures in the neighborhoods of Al-Sheribat, Bani Dhafar, Qurban, Al Gomaa, part of the housing in Bani Khadra in Madinah

May 11, 2020

- Applying preventive precautions to flights from China
- Lifting precautionary measures in the Samtah Governorate

May 12, 2020

Continuing all precautionary measures until the end of Ramadan, and imposing a complete curfew from Ramadan 30 until Shawwal 4

May 17, 2020

Determining the penalty for family gatherings inside homes, rest houses, chalets, or farms
for more than one family who do not share housing

May 18, 2020

Determining the penalty for (non-family) gatherings inside homes, rest houses, farms, camps, chalets, or open areas for the residents of one neighborhood or others

May 19, 2020

- Determining the penalty for people who intentionally infect others
- Determining the penalty for any gathering of shoppers or workers, inside or outside commercial stores, exceeding the numbers stipulated in the precautionary and preventive measures

May 20, 2020

Determining the penalty for worker gatherings inside houses or buildings under construction, rest houses, farms, and others, other than their housing

The Measures of the Kingdom of Saudi Arabia to Curb COVID-19

May 23, 2020

Determining the penalty for gatherings in social events

May 28, 2020

- Changing the permissible times for movement in all regions of the Kingdom, except for Makkah, to 6 am until 3 pm
- Allowing car travel between regions and cities in the Kingdom during non-curfew hours
- Allowing some economic and commercial businesses to open and operate
- Banning all activities that do not allow social distancing
- Ensuring that all citizens and residences follow the necessary measures to limit the transmission of infection, such as wearing face masks and washing hands
- Granting movement permits to necessary and emergency cases through the approved paper permit form and electronic permits on the Tawakkalna application
- Allowing neighborhood residents to walk inside their neighborhoods during the curfew
- Maintaining Umrah suspension
- Maintaining International flight suspension

May 29, 2020

Starting phase 3 of mass testing

May 30, 2020

Amending the maximum number of people allowed in family and non-family gatherings inside homes, rest houses, farms, or in social events such as funerals and parties, to 50 people

May 31, 2020

- Changing the permissible times for movement in all regions of the Kingdom, except for Makkah, to 6 am until 3 pm
- Lifting curfew partially from 6 am to 3 pm in Makkah
- Allowing Friday and congregational obligatory prayers in the Kingdom's mosques, except in Makkah
- Continuing to hold Friday and congregational prayers at the Great Mosque of Makkah in accordance with the health and precautionary measures in place
- Lifting the suspension of workplace attendance for ministries, government entities, and private sector companies, and return to office activities in accordance with the controls set by the relevant authority
- Lifting the suspension on domestic flights while adhering to precautionary measures
- Lifting the suspension on travel between regions using various means of transportation
- Allowing some economic and commercial businesses to be open and carry on their business (internal orders in restaurants and cafés), while continuing to suspend all activities that do not allow social distancing, such as beauty salons, sports clubs, entertainment centers, cinemas, etc.
- Continuing requiring social distancing in public places at all times and banning social gatherings of more than 50 people

June 1, 2020

Punishing the non-compliance of private entities with precautionary and preventive measures, such as admitting people not wearing face masks, or nose and mouth covers, or not securing disinfectants and sanitizers in the designated places

June 4, 2020

Issuing health protocol procedures and recommendations

June 6, 2020

- Re-tightening health precautions in Jeddah for a period of 15 days, including imposing a curfew from 3 pm to 6 am; suspending prayers, workplace attendance, and submission of internal orders in restaurants; and banning gatherings of more than five people; while continuing to allow domestic flights and entry to and exit from the city during non-curfew times
- Launching Tetamman clinics dedicated to people who experience COVID-19 symptoms such as fever

June 10, 2020

- Banning the use of self-sanitization gates in government and private entities
- Suspending plastic surgeries and routine procedures in all private sector hospitals in regions and governorates that are in the red or orange band of the pressure indicator on intensive care units

June 14, 2020

Launching Awdah initiative to enable residents inside the Kingdom to submit electronic requests to return to their countries via the Absher platform

June 15, 2020

Imposing penalties on workers gatherings

June 16, 2020

Imposing penalties on intentionally violating the precautionary and preventive measures

June 18, 2020

Imposing penalties on the failure of private sector entities to comply with the announced precautionary and preventive measures

June 19, 2020

Imposing penalties on any gatherings of shoppers or workers, inside or outside commercial stores, exceeding the numbers stipulated in the precautionary and preventive measures

June 21, 2020

- Returning to normal life in all regions of the Kingdom, except for Makkah, while adhering to health instructions and maintaining social distancing
- Lifting curfew completely starting from 6 am on Sunday, June 21, in all regions and cities of the Kingdom, except for Makkah, and allowing all economic and commercial activities, while fully adhering to all preventive protocols, maintaining social distancing, wearing face masks, and limiting human gatherings to less than 50 people
- Lifting curfew partially from 6 am to 8 pm in Makkah
- Maintaining the suspension of Umrah and visits
- Maintaining the suspension of international flights, as well as entry and exit through land and sea borders, and imposing penalties on violators
- Resuming the activities of men's barbershops and women's beauty salons, while committing to the established preventive measures
- Maintaining the ban on hookahs, and closing children's playgrounds playgrounds in restaurants as precautionary measures
- Increasing the percentage of workplace attendance to no more than 75% in all cities of the Kingdom
- Resuming activities in all gyms and sports centers while adhering to the guidelines
- Explaining the protocols of resuming activities in wholesale and retail trade stores, malls, restaurants, and cafés
- Continuing the suspension of courses and lectures, as well as Qur'an teaching in mosques, and continuing to provide them through electronic channels

June 22, 2020

Carrying out Hajj 1441 AH with a limited number of pilgrims from inside the Kingdom to preserve the health and safety of the pilgrims

The Measures of the Kingdom of Saudi Arabia to Curb COVID-19

July 5, 2020

- Extending the validity of the final exit visa for expatriates without charge
- Extending the validity of expired Iqamas for expatriates who were outside the Kingdom on exit and return visas that expired during the suspension of entry to and exit from the Kingdom, for a period of 3 months without charge
- Extending the validity of exit and return visas for expatriates who did not use them during the suspension of entry to and exit from the Kingdom, for a period of 4 months without charge
- Extending the validity of exit and return visas for expatriates who are outside the Kingdom and whose visas expired during the suspension of entry to and exit from the Kingdom, for a period of 3 months without charge
- Extending the validity of Iqamas for expatriates who are in the Kingdom with visit visas that expired during the suspension of entry to and exit from the Kingdom, for a period of 3 months without charge

July 12, 2020

Setting the penalty of violating the ban of entry to the Holy Sites without a permit at SAR 10,000. In the event of repetition, In the eventof repetition, the penalty will be doubled from 28/11/1441 - 12/12/1441 AH

July 22, 2020

Punishing with imprisonment for six months, a fine of up to SAR 50,000, defamation, for anyone who transports pilgrims not authorized to perform Hajj

July 23, 2020

The Saudi embassies in Kuwait, the UAE, Bahrain, and Jordan announced the opening of land points of entry for the return of Saudi citizens without prior permission

References

1.World Health Organization. Strategic preparedness and response plan for the novel coronavirus, available frovm https://www.who.int/publications-detail/strategic-preparedness-and-response-plan-for-the-new-coronavirus ; 2020 [accessed May 14 2020].

2.World Health Organization. Operational planning guidance to support country preparedness and response, available from https://www.who.int/publications-detail/draft-operational-planning-guidance-for-un-country-teams ; 2020 [accessed May 14 2020].

3.World Health Organization. WHO, Saudi Arabia join forces to fight COVID-19 nationally, regionally and globally ,available from http://www.emro.who.int/ar/media/news/who-saudi-arabia-join-forces-to-fight-covid-19-nationally-regionally-and-globally.html; 25 March 2020 [accessed 25 April 2020].

4.General Authority for Statistics Kingdom of Saudi Arabia. The total population, available from https://www.stats.gov.sa/en/13 [accessed 27 April 2020].

5.Central Department of Statistics & Information. Available from https://web.archive.org/web/20160116105404/ http://www.cdsi.gov.sa:80201055-59-09-08-05- [accessed 28 April 2020].

6.Ministry of Economy & Planning. Available from, https://www.mep.gov.sa/en [accessed 28 April 2020]. 6.

7.World Health Organization. WHO Timeline - COVID-19 World Health Organization, available from: https://www.who.int/news-room/detail/272020--04-who-timeline---covid-19; 2020 [accessed May14 2020].

8.Ministry of Health. Health Electronic Surveillance System, available from https://hesn.moh.gov.sa/webportal/home# [accessed April 2020].

9.Saudi Center for Disease Prevention and Control. Available from https://covid19.cdc.gov.sa/ [accessed April 20 2020].

10.Ministry of Health. Available from https://covid19.moh.gov.sa/ [accessed April 5 2020]..10

11.Saudi Press Agency. Available from https://www.spa.gov.sa [accessed April 6 2020].

12.Alwatan Online.18 million pilgrims, 36% from abroad, available from, https://www.alwatan.com.sa/article/1008644/%D985%%D8%AD%D984%%D98%A%D8%A7%D8%AA/18-%D985%%D984%%D98%A%D988%%D986-%%D985%%D8%B9%D8%AA%D985%%D8%B136--%D985%%D986-%%D8%A7%D984%%D8%AE%D8%A7%D8%B1%D8%AC ; 6 May 2019 [accessed 20 April 2020].

13.Global Center for Mass Gatherings Medicine, Ministry of Health. Health Risk Assessment Framework for Mass Gatherings, available from https://www.moh.gov.sa/Documents/JED-Tool-v.119-7-18-.pdf [accessed April 29 2020].

14.World Health Organization. Available from https://www.who.int/publications-detail/risk-communication-and-community-engagement-readiness-and-initial-response-for-novel-coronaviruses; 26 January 2020 [accessed 29 April 2020].

15.Ministry of Health. COVID-19 - Salem Tool, available from https://www.moh.gov.sa/HealthAwareness/EducationalContent/PublicHealth/Pages/016.aspx [accessed 1 May 2020].

16.World Health Organization. WHO Coronavirus Disease (COVID-19) Dashboard, available from https://covid19.who.int/; 2020[accessed May 28 2020].

17.Ministry of Health. COVID-19 Guidelines, available from https://www.moh.gov.sa/en/Ministry/MediaCenter/Publications/Pages/covid19.aspx ; 2020[accessed May 5 2020].

18.Ministry of Health. COVID-19 Follow-up Committee Reviews Latest Updates of the Fight Against the Pandemic, available from https://www.moh.gov.sa/en/Ministry/MediaCenter/News/Pages/News-2020-23-03-003.aspx ;2020[accessed 23 March 2020].

19.Ministry of Health. E-Services, available from https://www.moh.gov.sa/en/eServices/Pages/Rest-assured.aspx[accessed 24 March 2020].

20.Ministry of Health. MOH Continues with Expanded Coronavirus Screening via "Mawid" App, available from https://www.moh.gov.sa/en/Ministry/MediaCenter/News/Pages/News-2020007-04-05-.aspx; 4 May 2020[accessed 5 May 2020].

21.Ministry of Health. Available from https://www.moh.gov.sa/Documents/2020001-17-03-.pdf ;2020[accessed 5 May 2020].

22. Saudi Commission for Health Specialties. Available from https://www.scfhs.org.sa/Media/News/Pages/news0330.aspx ; 2020[accessed 30 May 2020].

23.Saudi Patient Safety Center. Available from https://www.spsc.gov.sa/English/pages/home.aspx ; 2020[accessed 30 May 2020].

24.Saudi Health Council. Available from https://shc.gov.sa/Arabic/Pages/default.aspx ;2020[accessed 30 May 2020].

25.Johns Hopkins University & Medicine. COVID-19 Dashboard by the Center for Systems Science and Engineering at JHU, available from https://coronavirus.jhu.edu/map.html ; 2020[accessed 6 June 2020].

“The new COVID-19 virus is currently spreading all over the Kingdom, and great crises weaken when working together, by the will of God”

His Excellency
Dr. Tawfig bin Fawzan Al Rabiah
Minister of Health

We're all Responsible

وزارة الصحة
Ministry of Health