Public Health & Healthcare Actions taken to combat the COVID-19 Pandemic

KUWAIT MINISTRY OF HEALTH EXPERIENCE
Since the first case of the novel coronavirus (COVID-19) was reported in Wuhan (China), Kuwait is represented by the Ministry of Health, which starts to take precautions and actions regarding this issue.
Six examples of Public Health & Healthcare Actions taken to combat the COVID-19 Pandemic

1. Risk Communication and Education
2. Testing strategy and Testing Capacity
3. Socio-economic restriction and Transmission Suppression & Epidemiological Monitoring
4. Healthcare Services Capacity
5. Healthcare Workers Capacity, Training & Protection
6. Overall Assessment of country risk for decision making
Risk Communication and Education

For COVID19
Leadership and Governance

- Ministry of Interior
- Ministry of Social Affairs
- Civil Services Commission
- Ministry of Commerce
- Directorate General of Civil Aviation
- Ministry of Foreign Affairs

MOH Communication
Kuwait Risk Communication and Public Education regarding COVID-19

Direct public reports & Risk communication

Two-way public communication

Continuous Public Education
Community & Business Place Guidelines
Testing strategy and Testing Capacity

For COVID19
COVID-19 Laboratory Testing Capacity

Tests per day at different stages of the epidemic

No Cases & Sporadic transmission

Clusters

Community Transmission

Testing All suspected cases with Influenza Like Symptoms (ILI) + history of travel to areas with outbreak

Aggressive testing for suspected cases

Testing prioritized for symptomatic cases and their contacts

Intensive community level testing ongoing for vulnerable areas

4000+
Travelers from areas with high COVID-19 cases

Hospitals & Primary Care centers conduct active surveillance of suspected cases using COVID-19 case definition

Active syndromic surveillance of vulnerable communities – work places – high traffic public areas

PCR testing

Institutional or home quarantine and monitoring

Positive cases undergo institutional or home isolation depending on home suitability

Contact tracing units
Contact Tracing & Quarantine procedures

For Positive Cases

Close contacts traced by regional offices teams using close contact definitions

Close contact will be tested

Assess suitable home and possibility of home quarantine

Home suitable for quarantine using MOH guidelines: HOME QUARANTINE

Crowded living building with no possibility to appropriately differentiate contact history: BUILDING LOCK DOWN + LOGISTIC SUPPORT

Home not suitable for quarantine: INSTITUTIONAL QUARANTINE
Socio-economic restriction and Transmission Suppression & Epidemiological Monitoring

For COVID19
Social distancing & Transmission suppression

- **Reduction in community mobility**
  - Partial Lockdown (curfew) 3/22/2020
  - Full Lockdown (curfew) 5/10/2020
  - Partial Lockdown (curfew) 31/5/2020

- **Halting government and private work**
- **Halting of schools**
- **Closing public places (Cinemas, dine-in restaurants, mosques, banning weddings and funerals)**

- **Slow return of businesses and work after slowing and stabilization of new cases**
  - March 2020
  - 21 June 2020
Daily new COVID-19 confirmed cases

Estimated Rt (7 day window)

Estimated Doubling Time (Days)
Healthcare Services Capacity

For COVID19
Capacity building & Ensuring Healthcare Service Delivery

Facilities structure

- Reinforce infrastructure and increase ER, ward, and ICU capacity designated for COVID-19
- Ensuring continuation of standard of care for non-COVID 19 cases

Standard care delivered

- Develop and updated management protocols & flow charts:
  - Hospital infection control protocols
  - Triaging suspected cases
  - Management ER and ICU cases
  - Management of in-patients.
  - Discharge and home isolation.
Number of beds in field hospitals

Field Hospitals

- Mishref: 1200 beds
- Jleeb: 60 beds
- Mahboula: 100 beds
- Sabhan: 218 beds

Total: 1578 beds

*No. of beds

*12th July 2020 MOH census
Successful resource reallocation & Capacity increase

Target: Bed capacity ≥ 20% patient admission rate on Weekly assessment
Examples of prepared and updated management protocols
Healthcare Workers Capacity, Training & Protection

For COVID19
Objectives Achieved for protecting, training and increase capacity of Healthcare workers

- **Ensuring PPE availability**
  - (No recordable event of run out stocks)

- **Swab clinics for HCWs**
  - (more than 7000 swab)

- **Increase core staffing and back-up COVID teams**

- **Allocating housing facilities for HCWs**
  - (for more than 2000)

- **Special quarantine places for HCWs COVID cases**

- **Contingency accredited training programs**

<table>
<thead>
<tr>
<th>Training Program</th>
<th>Total Trained</th>
</tr>
</thead>
<tbody>
<tr>
<td>ER/ Airway &amp; isolation precautions</td>
<td>3250</td>
</tr>
<tr>
<td>BLS</td>
<td>1000</td>
</tr>
<tr>
<td>Online COVID Webinars</td>
<td>300</td>
</tr>
<tr>
<td>ER triage</td>
<td>163</td>
</tr>
<tr>
<td>ER/ Basic ICU</td>
<td>149</td>
</tr>
<tr>
<td>ACLS</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total trained</strong></td>
<td><strong>5200</strong></td>
</tr>
</tbody>
</table>

COVID teams and Backup teams from March to June 2020

- COVID teams: March - 145, June - 2937
- Backup teams: March - 0, June - 229
Overall Assessment of country risk for decision making

For COVID19
<table>
<thead>
<tr>
<th>Overall Assessment</th>
<th>Reproductive Number (R) &gt; 1.0</th>
<th>Reproductive Number (R) &lt; 1.0</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level 4</td>
<td>Level 3</td>
</tr>
<tr>
<td>Current COVID-19 transmission is NOT sustainable and is currently or projected to quickly overwhelm the healthcare system.</td>
<td>Current COVID-19 transmission is still high and expanding but Relatively Sustainable, and is not currently or projected to overwhelm the healthcare system soon</td>
<td>Current COVID-19 transmission is low and limited and easily controllable and Sustainable by contact tracing, testing, and isolation; and is not at levels that would overwhelm the healthcare system</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Epidemic Curve Status</th>
<th>Reproductive Number (R) &gt; 1.0</th>
<th>Reproductive Number (R) &lt; 1.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Considerable increase in new cases and deaths</td>
<td>• Increase in new cases and deaths</td>
<td>• Considerable decrease in new cases and deaths by at least 50% from peak on a weekly rolling average</td>
</tr>
<tr>
<td>• $R_0 &gt; 1$</td>
<td>• $R_0 &gt; 1$</td>
<td>• $R_0 &lt; 1$</td>
</tr>
<tr>
<td>• DT* &lt; 2 weeks</td>
<td>• DT &gt; 2 weeks &amp; &lt; 4 weeks</td>
<td>• DT &gt; 4 weeks</td>
</tr>
<tr>
<td>• Home + community + unknown transmission</td>
<td>• Home + community transmission</td>
<td>• Predominantly home transmission</td>
</tr>
<tr>
<td>• Test positivity &gt; 5%</td>
<td>• Test positivity &gt; 5%</td>
<td>• Test positivity &lt; 5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health System capacity</th>
<th>Reproductive Number (R) &gt; 1.0</th>
<th>Reproductive Number (R) &lt; 1.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>• ICU capacity projected to reach COVID-19 occupancy &gt;50% within 3-4 weeks or less</td>
<td>• ICU capacity projected to reach COVID-19 occupancy of 25-50% within 4 weeks or less</td>
<td>• ICU COVID-19 occupancy &lt;25%</td>
</tr>
<tr>
<td>• PPE not sufficient</td>
<td>• PPE shortage</td>
<td>• PPE sufficient</td>
</tr>
<tr>
<td>• Healthcare worker not sufficient</td>
<td>• Healthcare worker shortage</td>
<td>Healthcare worker sufficient</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Public Health capacity</th>
<th>Reproductive Number (R) &gt; 1.0</th>
<th>Reproductive Number (R) &lt; 1.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Contact tracing unable to cover most cases</td>
<td>• Contact tracing able to cover some cases</td>
<td>• Contact tracing able to cover most cases</td>
</tr>
<tr>
<td>• PCR Test unavailable for most cases</td>
<td>• PCR Tests unavailable for some cases</td>
<td>• PCR Tests available for all cases</td>
</tr>
<tr>
<td>• Surveillance system is ineffective</td>
<td>• Surveillance system is stressed</td>
<td>• Surveillance system is effective</td>
</tr>
</tbody>
</table>

Quantitative and Qualitative Indicators by level of COVID19 alert
### Examples of Quantitative and Qualitative Indicators by level of COVID-19 alert

<table>
<thead>
<tr>
<th>Category</th>
<th>Indicators</th>
<th>Description</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Assessment</strong></td>
<td><strong>COVID-19 transmission</strong></td>
<td>Overall assessment of COVID-19 transmission</td>
<td>1</td>
</tr>
<tr>
<td><strong>Epidemic Curve Status</strong></td>
<td><strong>new cases and deaths</strong></td>
<td>The assessment of the daily new cases and deaths</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>The basic reproduction number (R0)</strong></td>
<td>The contagious or transmissibility of infectious agents</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Covid-19 doubling time</strong></td>
<td>The number of days it takes of the count of cases to double</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Testing positivity rate</strong></td>
<td>The % of positive cases from the total number of the tested cases</td>
<td>5</td>
</tr>
<tr>
<td><strong>Health System capacity</strong></td>
<td><strong>ICU bed capacity</strong></td>
<td>ICU bed occupancy rate</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td><strong>COVID bed capacity</strong></td>
<td>COVID bed occupancy rate</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td><strong>Personal protective equipment (PPE)</strong></td>
<td>The availability of personal protective equipment</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td><strong>Healthcare workers</strong></td>
<td>The availability of the healthcare workers</td>
<td>9</td>
</tr>
<tr>
<td><strong>Public Health capacity</strong></td>
<td><strong>PCR testing capacity</strong></td>
<td>The ability of performing the PCR testing for the cases</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td><strong>Contact tracing</strong></td>
<td>The ability of performing contact tracing for the cases</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td><strong>Surveillance system</strong></td>
<td>How effective is the surveillance system</td>
<td>12</td>
</tr>
</tbody>
</table>