REPUBLIC OF LEBANON

MINISTRY OF PUBLIC HEALTH

PRIMARY HEALTHCARE DEPARTMENT

LEBANON HEALTH RESILIENCE PROJECT

ENVIRONMENTAL AND SOCIAL SAFEGUARDS MANAGEMENT FRAMEWORK

(Addendum to ESMF for the Inclusion of Component 4: Strengthen capacity to respond to COVID-19)

BEIRUT

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Revision History		
Version	**Date**	**Description or Reason for Change**
00	23/04/2020	Initial Release
01	28/06/2020	Revision after Consultations
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Prepared by: Ministry of Public Health

Abbreviations and Acronyms

AEC	Arcenciel
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
AUB	American University of Beirut
CBRN	Chemical Biological Radio Nuclear Program
CDR	Council for Development and Reconstruction
CEO	Chief Executive Officer
COVID-19	Coronavirus Disease
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
ESM	Environmental and Social Management
ESMF	Environmental and Social Management Framework = Environmental and Social Safeguard Framework
ESMP	Environmental and Social Management Plan
ESSF	Environmental and Social Safeguard Framework = Environmental and Social Management Framework
GOL	Government Of Lebanon
GRM	Grievance Redress Mechanism
HC	Health care
HCWMP	Health Care Waste Management Plan
HDF	Hotel Dieu de France (Hospital)
ICU	Intensive care Unit
IHR	International Health Regulations
IPC	Infection Prevention and Control
IsDB	Islamic Development Bank
IT	Information Technology
LAU	Lebanese American University
LHRP	Lebanon Health Resilience Project
LU	Lebanese University
MoE	Ministry of Environment
MoEHE	Ministry of Education and Higher Education
MoPH	Ministry of Public Health
NGO	Non-Governmental Organization
OHS	Occupational Health and Safety
OP	Operational Policy
PCR	Polymerase Chain Reaction
PHCC	Primary Health Care Centers
PMT	Project Management Team
PMU	Project Management Unit
POE	Point Of Entry
PPE	Personal Protective equipment
RHUH	Rafik Hariri University Hospital
SAFE	Sustainable Alternative For the Environment
SARS	Severe Acute Respiratory Syndrome
UN	United Nations
UNICEF	United Nations International Children's Emergency Fund
UNHCR	United Nations High Commissioner for Refugees
USJ	University Saint Joseph
UVGI	Ultraviolet Germicidal Irradiation
WB	World Bank
WHO	World Health Organization
WMP	Waste Management Plan
WWTP	Waste Water Treatment Plant

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I- Restructuring of Lebanese Health Resilience Project

Lebanon Health Resilience Project (LHRP) was initiated by the Ministry of Public Health (MoPH) in 2017 with the support of the World Bank (WB). LHRP will undergo a restructuring to support the Government Of Lebanon (GOL) to mitigate the impact of the COVID-19 outbreak. The restructuring responds to a request from the GOL dated March 27, 2020 to add a new component to the Project on COVID-19 preparedness and response (Component 4) that will allow for immediate support to assess country preparedness, multi-sectoral response capabilities, and to finance the procurement of medical goods and equipment, and capacity-building and training of health workers and front-line responders. An Environmental and Social Management Framework (ESMF) was prepared for the Project, consulted on, disclosed and cleared by the World Bank (WB) in May 2019 [1]. The WB team requested an update of the ESMF in the form of an addendum that tackles the additional environmental, health and safety measures that need to be considered to cover the environmental and social risks under Component 4.

II- Description of Component 4

The new component includes:

i. **Case detection and surveillance.** This will include support for:
   a. Procuring essential commodities for case detection and surveillance
   b. Capacity building in testing and surveillance; and
   c. Strengthening IT system for surveillance.

ii. **Case management and protection of health workers and response personnel.** This will include:
   a. Procuring equipment and supplies for COVID-19 case management;
   b. Capacity building and training;
   c. Procuring Personal Protective Equipment (PPE), disinfectants and other commodities for Infection Prevention and Control (IPC) as well as healthcare waste management;
   d. Contracting supplementary health workers;
   e. Paying for fees related to COVID-19 services; and,
   f. Capacity building in COVID-19 case management and in IPC.

iii. **Multi-sectoral response.** This will finance:
   a. The operations of command rooms at the central and regional levels,
   b. Implementation of risk commutations and community engagement campaigns,
   c. Implementation of containment strategies, including port-of-entry interventions, and
   d. Operation of rapid response teams.

III- Baseline Information for COVID-19

On March 10, 2020, the MoPH prepared "Coronavirus Disease 2019 (COVID-2019) National Health Strategic Preparedness and Response Plan. This plan establishes a national plan of action to scale up preparedness and response capacities in Lebanon for prevention, early detection, and rapid response to coronavirus disease 2019. The plan can be summarized as follows:

[1] **The ESMF was disclosed as Environmental and Social Safeguard Framework (ESSF). In this document both terms ESMF and ESSF refer to the same report disclosed on May 2019 on the WB website.**

- First Line: The MoPH adopts Rafik Hariri University Hospital (RHUH) as a primary reference hospital during the outbreak of the new corona. RHUH includes: 120 beds and 11 respirators at Phase 1 and 350 beds at Phase2.
- Second Line: Regional Public Hospitals. For the first phase: 12 hospitals will be involved including 343 beds (among which 120 at RHUH). For the second phase 1,197 beds will be available.
- Third Line: Seventeen Public hospitals and Private Hospitals Classified T1 will be added (860 additional beds in public hospitals).

On March 19, 2020, the Ministry of Public Health (MoPH) published on its website the "Health sector readiness in Lebanon to respond to the Coronavirus" [2]. It states that a specialized committee was formed in cooperation with Rafik Hariri University Hospital to assess the needs for medical supplies for one-month period for 12 public hospitals that will receive COVID-19 patients in the first stages of the virus spread. These needs were divided into (i) Personal Protective Equipment (PPEs) and consumables and (ii) Medical equipment needed for the Intensive Care Units (ICUs).

The MoPH has also several initiatives some of them in coordination with other institutions to inform the population of the current situation of COVID-2019 and raise awareness. Such institutions include the Ministry of Information, UN agencies, NGOs, Scientific Communities, Syndicates etc.

IV- Institutional Framework for Environmental and Social Management

The Institutional responsibilities as mentioned in the original ESMF still apply. In addition to the role detailed in the ESMF, the MoPH will supervise and monitor all the activities under Component 4. Considering the limitations in the supply chain of required medical goods and the global involvement of relevant UN Agencies in the procurement and distribution of these goods, the procurement plan will be agreed upon between the MoPH and the UN Agencies.

V- Stakeholders Consultations relevant to Component 4

Starting February 29, 2020, several decisions were taken by Lebanese Ministries and the GOL to ban gathering and practice social distancing. These measures are all intended to slow the spread of COVID-19 by limiting people's movement and exposure to crowded environments where the disease can easily be spread from one carrier to many other people nearby. These measures also limit the Project's ability to use traditional methods of public consultations and stakeholder engagement. In line with this national restriction and the recently-available resources for carrying out stakeholder engagement in the context of COVID-19 and the WB's recent Technical Note [3], the project avoided public gatherings and minimized physical interaction between people. Consultations took place virtually.

The draft of the addendum to ESMF for restructured LHRP was distributed in a digital form to stakeholders on May 11, 2020 through the National Infectious Disease Committee at MoPH that includes representatives from academic institutions in Lebanon such as the American University of Beirut (AUB) and its associated Medical Center, the Lebanese American University (LAU) and its associated Rizk Hospital, the Lebanese Univeristy (LU), University of Saint Joseph (USJ) and its associated HDF Hospital, the Lebanese Order of Physicians, the Lebanese Pediatric Society and to the World Health Organisation (WHO). It was also distributed on May 28, 2020 to the national COVID 19 Committee headed by the Presidency of the Council

[2] Health sector readiness in Lebanon to respond to the Coronavirus dated March 19, 2020 available on www.moph.gov.lb (in Arabic)
[3] Technical Note: Public Consultations and Stakeholder Engagement in WB-supported operations when there are constraints on conducting public meetings" (March 20, 2020)

of Ministers that includes many Ministries and Instituions, to the representative of MoE at the Chemical Biological Radio Nuclear Program (CBRN Program) and to licensed institutions managing medical waste treatment facilities (Arcenciel and Abbassiyeh Municipality/SAFE). The stakeholders were informed about the Grievance Redress Mechanism (GRM) and they were given 10 days to email back their response.

Also, virtual/WebEx meeting meetings were held on March 19, 2020 and June 8, 2020 between MoPH Key staff and the WB Safeguard Team.

An email address (aberry@gmail.com) and a phone number (961 1 843769) were provided in order for stakeholders to give their feedback and suggestions. The addendum to the ESMF was revised in accordance with the consultations and will be disclosed on the MoPH website. After COVID-19 restrictions are lifted, face to face consultations will be conducted and the addendum to ESMF will be updated and then disclosed again. Consultations will include vulnerable groups of potential beneficiaries (such as female and elderly refugees, persons with disabilities or underlying medical conditions).

VI- Environmental and Social Analysis of Component 4

All measures provided in the main Project ESMP apply. Given the nature of this corona virus, exposure to infection and diseases should be given special attention. IPC strategies should be enhanced to prevent or limit transmission inside and outside of the healthcare facility. They shall comprise:

Using environmental and engineering control such as:

- Establishment and equipping quarantine and treatment centers (Preparation of existing spaces for receiving individuals with suspected/confirmed COVID-19. It does not include large civil works but only minor works and scaling up the facility, mainly physical partitions and air-conditioning works). MoPH confirms that actions have already been thoughtfully undertaken in the different hospitals that will receive COVID-19 patients.
- Fire Safety (in accordance with WBG EHS guidelines, and as per MoPH), all the hospitals that will receive funds from LHRP have fire detectors, alarm systems and fire-fighting equipment adequately placed and sized. This as a pre-requisite for the acquisition of a construction and other relevant permits.
- Wastewater Discharges. There is no evidence to date that the COVID-19 virus has been transmitted via sewerage systems with or without wastewater treatment [4]. According to MoPH all the HC institutions that will receive funds from LHRP are connected to a municipal waste water network as a pre-requisite condition to get their construction license. Regarding Waste Water Treatment Plants (WWTPs) workers, there is no evidence to suggest that additional, COVID 19-specific protection is needed. Wastewater treatment plant workers should follow routine practices to prevent exposure to wastewater, including using the engineering and administrative controls, safe work practices, and PPE normally required for work tasks when handling untreated wastewater.

Applying standard and special precautions in OHS

As per the ESMF prepared for the LHRP before its restructuring, MoPH needs to make sure any Health Care facility has an ESMP including a Health Care Waste Management Plan (HCWMP). The HCWMP includes a section on Personnel Protection needs. Given the nature of COVID-19, in addition to the general section on

[4] WHO-UNICEF, Water, sanitation, hygiene and waste management for the COVID-19 virus, Technical brief, dated March 3, 2020

Personnel Protection needs, the HCWMP should comprise a section on use of proper PPE when health workers are exposed to a patient with confirmed/suspected COVID-19 or other sources of COVID-19.

Safe Waste Management

Generally, management of waste that is suspected or known to contain or be contaminated with COVID-19 does not require special precautions beyond those already used to protect workers from the hazards they encounter during their routine job tasks in solid waste. According to MoPH, all the hospitals that will receive funds under the WB Project have already contracted one of the certified institutions that handle medical waste in Lebanon. Both institutions (Arcenciel and the Municipality of Abbassiyeh/SAFE) confirmed in previous and recent communications that they were capable of handling additional loads.

VII- Implementation of the ESMF/ESMF

The implementation of the ESMF remains unchanged in all its sections: (i) Exclusion list, (ii) Pre-screening, (iii) Procedures to be followed by PHCCs, (iv) Procedures for hospitals that have an approved EIA, (v) procedures for hospitals that did not previously submit an EIA to MoE and (vi) capacity building program.

Due to the current situation of confinement, the consultancy firms that are eligible to do environmental studies and laboratories are currently closed. Even public servants at the MoE are advised to work remotely (from home) to keep social distancing measures and take preventive measures against COVID-19. In view of the urgency of COVID-19 related component. PMU shall ensure that all Health Care facilities benefiting from the Project have proven capacities in managing E&S issues. In this regards, the eligible facilities should have at minimum an ESMP including a HCWMP and commit to start the procedures set in the original ESMF within 3 months after signature of contract.

VIII- Monitoring and Evaluation System

The monitoring plan provided in the original ESMF still applies, no modifications are needed

IX- Grievance Redress Mechanism

As mentioned in the original ESMF, an effective Grievance Redress Mechanism (GRM) is in place at MoPH covering PHCCs and Hospitals. However, the restructuring of the project calls for a dedicated hotline specifically for the COVID-19. This has already been implemented at the MoPH and it is being improved and developed as needed regularly as indicated below.

The existing call center with the designated hotline 1214 was put in service to cover the COVID-19 related issues such as people starting to show symptoms and need to be assessed and referred to hospitals. Questions and complaints. The number 76- 595 699 was put in place when the first cases of COVID-19 spread and has been replaced on April 2, 2020, to 01-594 459. The capacity of the hotline has been extended to receive and respond to additional calls. This line is being used by the MoPH epidemiological surveillance unit & volunteers in 2 shifts. The number of operators was increased from 5 to 14. The GRM includes also an appeal process for unresolved grievances that was established before the Project restructuring to the request of the WB.

The respondents were trained and algorithms were developed according to the case definition. A daily report is generated by the call center detailing the names of the callers and the reason for the call. However, anonymous grievances can be raised.

The average number of calls received per day is 120. Since the outbreak of COVID-19, the number of calls increased considerably to reach 2,500 calls per day.

On another note, the department of preventive medicine at the MoPH follows up on patient with COVID-19 symptoms and assesses their compliance to home quarantine. The department of preventive medicine performs a follow up with the suspected on daily basis for 14 days after the date of suspicion and coordinates with the Red Cross for the transportation of suspected, probable or confirmed cases. The number of operators performing this task is 5. An average of 650 calls are made on daily basis.

X- Cost Estimate

No additional cost is to be incurred to the ESMF as a result of the Project restructuring, the cost provided in the ESMF still applies.

1 Restructuring of Lebanese Health Resilience Project

1.1 Context

An outbreak of COVID-19 caused by the 2019 novel coronavirus (SARS-CoV-2) has been spreading rapidly and globally since December 2019. Lebanon is also affected by the COVID-19 outbreak, which poses a threat to its heath system. The first cases of COVID-19 were reported in Lebanon on February 21, 2020. As of March 15, 2020, there have been 99 confirmed cases and 3 deaths, as of April 23, 2020, the total number of cases was 688, recoveries 140, deaths 22 and active cases 526 and as of June 13, 2020, the total number of cases was 1422, recoveries 853, deaths 31 and active cases 538.

The outbreak is expected to grow exponentially, affecting not just the health system but also the economy and security. In response, the Government of Lebanon (GOL) has prepared a COVID-19 Health Sector Response Plan and is developing a National Multi-Sectoral Plan (**See Annex A**). Progress has been made in risk communication to the population, Port of Entry (POE) screening, the setting up of one testing center and of one treatment center. However, the unmet needs are immense. With only one hospital the Rafik Hariri University Hospital (RHUH) prepared to treat cases, Lebanon is under-equipped to respond to such a public health emergency.

The outbreak is coming at a time when Lebanon's economy is already going through the worst crisis in recent history and the GOL has limited resources to respond. The outbreak further clouds an already strained health sector and will further set back Lebanon's efforts in its fight against poverty. There are concerns that the outbreak will particularly hit the poor and the refugee population. Lebanon hosts a large number of refugees. Overcrowding and poor living conditions in camps and settlements could further exacerbate the problem and make these camps a breeding ground for the disease. On April 12, 2020, The United Nations High Commissioner for Refugees (UNHCR) spokeswoman Lisa Abou Khaled said no confirmed coronavirus cases have been registered among the Syrian refugees, most of whom live in informal tented encampments [5]. On May 27, 2020 the same source reported 15 confirmed cases of COVID-19 among Syrian refugees in Majdal Anjar, a town in the Bekaa Valley, and at least six cases among Lebanon's Palestinian refugee population, in a camp in the Bekaa Valley. They were all put under quarantine.

Lebanon Health Resilience Project (LHRP) was initiated by the Ministry of Public Health (MoPH) in 2017 with the support of the World Bank (WB). It has a total budget of 120 M $US and a duration of 6 years (from 23 June 2017 to 30 June 2023. The Islamic Development Bank (IsDB) will provide parallel financing in the amount of 30 M $US.[6]

LHRP will undergo a restructuring to support the GOL to mitigate the impact of the COVID-19 outbreak. The restructuring responds to a request from the GOL dated March 4, 2020 to add a new component to the Project on COVID-19 preparedness and response (Component 4) that will allow for immediate support to assess country preparedness, multi-sectoral response capabilities, and to finance the procurement of medical goods and equipment, and capacity-building and training of health workers and front-line responders.

While there will be no changes to activities to be delivered under Components 1, 2, and 3, the total cost of each component will be reduced due to the change in the period of coverage from 5 years to 3 years due to delays in project implementation. Changes in Components 1, 2, 3 and 4 will be as per the following table.

[5] Ref. The Arab Weekly issued on April 12, 2020 and available online on https://thearabweekly.com/measures-reinforced-prevent-covid-19-spread-lebanons-refugee-camps.
[6] Project Appraisal Document for Lebanon Health Resilience Project, WB, June 13, 2017

Table 1: Restructured Project Components

	Original Budget Allocation (Million USD)	Budget Allocation after the Restructuring (Million USD)	Original Number of Target Groups	Revised Number of Target Groups after Restructuring (% of the original)
Component 1	76.5	51.24	-Contracted PHCCs: 204 -Lebanese Beneficiaries: 340,000 -Syrian Beneficiaries: 375,000	-Contracted PHCCs: 170 (83.3%) -Lebanese Beneficiaries: 250,000 (73.5%) -Syrian Beneficiaries: 250,000 (66.6%)
Component 2	36.4	23.52		
Component 3	6.86	5.00		
Component 4	0	40.00		
Front-end Fee	0.24	0.24		

An Environmental and Social Management Framework (ESMF) was prepared for the Project, consulted on, disclosed and cleared by the WB in May 2019 (7). It included guidelines and principles to prepare site specific safeguard instruments by the Project Management Team (PMT). It also identifies the environmental and social risks and impacts associated with the Project and recommends mitigation measures.

1.2 Objectives

The WB team requested an update of the ESMF in the form of an addendum that tackles the additional environmental, health and safety measures that need to be considered to cover the environmental and social risks under Component 4. Given that COVID-19 is a new disease, additional mitigation measures will need to be included in the ESMF related to (i) health and safety measures, (ii) waste management, (ii) fire safety, (iv) wastewater management, (v) occupational health and safety aspects related to exposure to infection and diseases, and (vi) emergency preparedness and response plan and exposure control plan and infection control policies and procedures in line with World Health Organization guidelines and WBG Environmental, Health and Safety guidelines. The Grievance Redress Mechanism shall also be strengthened to include a designated line for COVID-19 intake and processing. In addition, Component 4 will be implemented by UN Agency(ies) who will follow World Bank Safeguards Policies.

This addendum is structured as follows:

- Chapter 1: Restructuring of Lebanese Health Resilience Project
- Chapter 2: Description of Component 4
- Chapter 3: Baseline Information for COVID-19
- Chapter 4: Institutional Framework for Environmental Management
- Chapter 5: Stakeholders Consultations relevant to Component 4
- Chapter 6: Environmental and Social Analysis of Component 4
- Chapter 7: Implementation of the ESMF
- Chapter 8: Monitoring and Evaluation System
- Chapter 9: Grievance Redress Mechanism
- Chapter 10: Cost Estimate

7 The ESMF was disclosed as Environmental and Social Safeguard Framework (ESSF). In this document both terms ESMF and ESSF refer to the same report disclosed on May 2019 on the WB website.

2 Description of Component 4

Component 4 of LHRP will allow for immediate support to the GOL to enhance the country preparedness, to finance the procurement of medical goods and equipment, and to build capacities of health workers and front-line responders.

The new component includes:

i. **Case detection and surveillance.** This will include support for:
   a. Procuring essential commodities for case detection and surveillance such as Polymerase Chain Reaction (PCR) machines, sample collection kits, test kits, and other equipment and supplies for COVID-19 testing and surveillance;
   b. Capacity building in testing and surveillance; and
   c. Strengthening IT system for surveillance.

ii. **Case management and protection of health workers and response personnel.** This will support the strengthening of selected health facilities and establishment and equipping of quarantine and treatment centers, so that they can manage COVID-19 cases, including:
   a. Procuring beds, furniture, ventilators, pulse oximeters, laryngoscopes, oxygen generators, other equipment and supplies for COVID-19 case management;
   b. Capacity building and training;
   c. Procuring Personal Protective Equipment (PPE), disinfectants and other commodities for infection prevention and control (IPC) as well as healthcare waste management;
   d. Contracting supplementary health workers for COVID-19 treatment centers;
   e. Paying for fees related to COVID-19 services according to a fee schedule and eligible criteria to be developed and agreed with the World Bank; and,
   f. Capacity building in COVID-19 case management and in IPC.

iii. **Multi-sectoral response.** This will finance goods, services, training and operational costs to support multi-sectoral activities such as:
   a. The operations of command rooms at the central and regional levels,
   b. Implementation of risk commutation and community engagement campaigns,
   c. Implementation of containment strategies, including port-of-entry interventions, and
   d. Operation of rapid response teams.

3 Baseline Information for COVID-19

This chapter presents the description of the existing baseline conditions relevant to Component 4 only. Other baseline information can be found in the original ESMF.

The first case of COVID-19 was reported in Lebanon on February 21, 2020. Until March 1, 2020: A total of 231 people were tested at RHUH, with results being 221 negatives and 10 positives.

On March 10, 2020, the MoPH prepared the "Coronavirus Disease 2019 (COVID-2019) National Health Strategic Preparedness and Response Plan" as required under the International Health Regulations and using the WHO global 2019 Novel Coronavirus Strategic Preparedness and Response Plan as foundation [8]. This plan establishes a national plan of action to scale up preparedness and response capacities in Lebanon for prevention, early detection, and rapid response to coronavirus disease 2019 (COVID-2019).

As per the above mentioned plan and based on the current available epidemiological data, the following is estimated: for a population of 6 million, approximately 600 thousand persons (10%) will contract symptomatic infection, over a period of 2-3 months. Of these cases, 90,000 (15%) will seek healthcare, out of which 18,000 (20%) would require hospital admission and 2,700 (3%) would be admitted to the intensive care unit. The death toll is estimated at a maximum of 1,800, 2% of those seeking healthcare. A pandemic that lasts eight weeks and has an attack rate of 10% will require at its peaks (4th and 5th week), to use of 61% of the ICUs over all the Lebanese territory and around 36% of the hospital beds.[9]

At the current stage of the evolution of COVID-19 in Lebanon, the main objective of the National Health Strategic Preparedness and Response Plan is the attempt to contain the epidemic, through the implementation of the following measures:

- Monitoring land, sea and air borders, through heat detector and questioning of arrivals and travelers
- Banning travel to infected places
- Conducting a laboratory examination of each suspect, exclusively in Rafik Hariri University Hospital laboratory, or in the laboratories accredited by the MoPH, namely: The American University of Beirut, The Saint George Hospital, The Rizk Hospital/Lebanese American University, The Rodolphe Merieux Laboratory at the Saint Joseph University/Hotel Dieu Hospital)
- Putting all positive cases by examination not showing any symptom in home confinement, and following up with them daily by the MoPH to check for symptoms
- Admitting all positive cases with symptoms to Rafik Hariri University Hospital, corona ward
- Conducting an investigation of all cases in contact with positive cases
- Implementing the epidemic prevention methods in all health centers and hospitals
- Activating non-health institutions and devices to support the MoPH, especially in the application of Public health measures:
    - Municipalities to monitor domestic isolation
    - Ministry of Interior and Municipalities, Public Security, Port Administration and the Army to apply airport control and land crossings.
    - Ministry of Information to contribute to raising awareness
    - The civil and private sector to spread awareness
    - Ministry of Finance, High Relief Council to secure the necessary funds

[8] The Coronavirus Disease 2019 (COVID-2019) National Health Strategic Preparedness and Response Plan available on www.moph.gov.lb
[9] Idem 8

- Conducting an assessment of the capacity of government hospitals to accommodate cases
- Equipping government hospitals with necessary medical equipment and materials (respirators, monitoring devices, protective equipment for health workers, ...)
- Allocation of funds to relevant government hospitals to increase the number of health workers, particularly nurses
- Allow university hospitals (which scored Level 2 in the Assessment of External Biosafety Quality) to do the PCR tests for Corona within the price maximum determined by the MoPH[10]. **(See Annex B for extracts from WHO Laboratory Biosafety Manual)**
- Ask private university hospitals to support relevant public hospitals for Corona related issues in the field of training health personnel and the application of disease prevention methods
- Activate the emergency plan for the private hospitals that are preparing themselves for stage four "Countries experiencing larger outbreaks of local transmission (Community transmission)"

On March 19, 2020, MoPH published on its website the "Health sector readiness in Lebanon to respond to the Coronavirus" [11] document to explain further the MoPH Plan and set its general outline that is based on the following lines:

3.1 First Line: The MoPH adopts Rafik Hariri University Hospital

The MoPH adopts Rafik Hariri University Hospital (RHUH) as a primary reference hospital during the outbreak of the new corona. RHUH includes:

a. Independent Emergency Department
b. 11 rooms for intensive care
c. 64 rooms capable of accommodating light to medium cases
d. 56 rooms to accommodate light cases
e. Some rooms can accommodate two people in some cases
f. No of beds for COVID-19 Patients (Phase 1): 120 beds and 11 respirators
g. No of beds for COVID-19 Patients (Phase 2): 350 beds

3.2 Second Line: Regional Public Hospitals

Eleven (11) additional public hospitals will be adopted by the MoPH. These hospitals were selected based mainly on their location as such, one hospital was selected in each geographical area.

The regional Public Hospitals that were selected as second line are listed in the following Table [12].

[10] Laboratory facilities are designated as (i) basic – Biosafety Level 1, (ii) basic – Biosafety Level 2, containment – (ii) Biosafety Level 3, and (iv) maximum containment – Biosafety Level 4. Biosafety level designations are based on a composite of the design features, construction, containment facilities, equipment, practices and operational procedures required for working with agents from the various risk groups
[11] Health sector readiness in Lebanon to respond to the Coronavirus dated March 19, 2020 available on www.moph.gov.lb (in Arabic)
[12] Idem 11

Table 2: Regional Public Hospitals selected as second line [13]

SN	Governmental Hospital	Readiness	No of beds for COVID-19 Patients (Phase 1)	No of beds for COVID-19 Patients (Phase 2)
1	Tripoli	Qualified to receive suspected cases with an equipped external screening room	16 beds 7 respirators in ICU	170 beds
		Receives cases that do not require intensive care (16 beds)		
		Needs PCR testing Unit for COVID-19		
2	Elias Herawi-Zahle	Use the independent emergency department and receive cases that do not require intensive care	19 beds 3 respirators for COVID-19	49 beds
		Needs PCR testing Unit for COVID-19		
3	Nabih Berri University-Nabatiyeh	Use the independent emergency department for emergency areas with isolation department and intensive care department	22 beds 5 respirators	127 beds
		Needs PCR testing Unit for COVID-19		
4	Hermel	Use the independent emergency department to receive emergency cases with the department of intensive care	20 beds 3 respirators	58 beds
		Needs PCR testing Unit for COVID-19		
5	Baalbek	Use of the independent emergency department	22 beds 6 respirators	103 beds
		Receives cases that do not require intensive care on the first floor		
		The ICU includes 6 beds ready to receive patients		
6	Saida	Receives cases that do not need intensive care	8 beds 4 respirators	80 beds
		There is an independent emergency room		
		The ICU includes 4 beds ready to receive patients		
7	Beint Jbeil	There is an independent emergency room	25 rooms 6 respirators	60 beds
		Receives cases that do not need intensive care		
		The ICU includes 6 beds ready to receive patients		
8	Machghara	There are independent emergency rooms (5 rooms and 2 outside the hospital)	40 beds 4 respirators	40 beds
		Receives cases that do not need intensive care beds)		
		Intensive care (4 beds)		
9	Bcharreh	There is one independent emergency department	22 beds 2 respirators	36 beds
		Receives cases that do not require intensive care		
		The ICU includes 2 beds		
10	Halba	There is an independent emergency department	9 beds 3 respirators	84 beds
		Receives cases that do not require intensive care		
		The ICU includes 3 beds		
11	Ftouh Kesserwan - Al Bouar	To use an independent emergency department and set up an external screening room	20 beds 3 respirators	40 beds
		Receives cases that do not require intensive care on the first floor (12 rooms)		
		TOTAL	**223**	**847**

In summary:

[13] Idem 11

- For the first phase: RHUH and 11 hospitals will be involved including 343 beds currently available for COVID-19 patient (120 at RHUH and 223 in Regional Public hospitals)
- For the second phase 1,197 beds will be available (350 at RHUH and 847 in Regional hospitals)

All the selected hospitals were accredited by the MoPH in 2011 [14]. The accreditation includes chapters on the Practice, Patient safety, the Building, Engineering maintenance, Environmental services, fire safety, Human Resources, Infection Control, OHS and Waste Management.

3.3 Third Line: Other Public Hospitals and Private Hospitals Classified as highest Tariff (T1)

Seventeen (17) public hospitals, can additionally be involved. These hospitals can be used when the capacity of the public hospitals, selected at the first and second stages described above, is exceeded. The hospitals selected for the third line are distributed throughout the Lebanese territory and listed in the following Table.

Table 3: Public Hospitals selected as third line [15]

SN	Public Hospital	Total No. of beds
1	Qana	8
2	Baabda	62
3	Minieh	40
4	Sibline	90
5	Jezzine	21
6	Kherbet Qanafar	25
7	Marjaoun	45
8	Hasbaya	55
9	Ehden	10
10	Dahr el Bashek	73
11	Tebnine	86
12	Mais el Jabal	61
13	Orange Naso	72
14	Rashaya	80
15	Tannourine	62
16	Sour	30
17	Al Shohar Al Gharbi	40
TOTAL		**860**

It is clear that RHUH, the regional public hospitals selected as second line and other public hospitals selected as third line totalize 2,057 beds. Therefore, the support of the private hospitals classified as T1 may be needed, because the potential peak demand in beds may reach 18,000 beds.

The Classification of Hospitals as T1 takes into account the accreditation and patient satisfaction, that are a reflection of quality, accounting for 40% and 10% respectively of the total contracting score. Other factors

[14] Personal communication with Dr. Abboud on March 19, 2020
[15] Idem 11

are a reflection of performance, and together account for 50% of the total contracting score **(Refer to Annex C for details).**

The funding of the COVID-2019 National Health Strategic Preparedness and Response Plan relies on several sources:

- The WB Loan - 40 million dollars of which have been allocated for corona cases (restructuring of LHRP). This loan will be used to cover the settlement or procurement of (i) Materials for about 28 million (ii) Salaries of health team's nurses and doctors, (iii) Hospital bills for patients for about 2 million and (iv) Training for about 1 million. The procurement process under this loan will be through WHO and UNICEF. The main purpose is to secure the materials that may become rare and unavailable.
- The High Relief Council will purchase needs for an amount of $10 million. This amount will be compensated from the WB Loan mentioned above.
- A fund at UNICEF that will be partially used to fulfill the needs to fight COVID-19. The MoPH and UNICEF will work on the restructuring of the fund.
- The MoPH will secure approximately $3 million that are available in the Ministry's account at the Central Bank and that were transferred in previous years from a WB loan. The disbursement of this fund will follow the WB disbursement procedures.
- The budget of the MoPH through solicitation of offers.
- The budget for each hospital.

A specialized committee was formed in cooperation with Rafik Hariri University Hospital to assess the needs for medical supplies for one-month period for each of public hospital that are listed under stage 2.

The needs were identified for one month and divided into materials to be worn by the health workers (PPEs) when treating cases and medical equipment needed for the ICUs. A dynamic mechanism was developed to identify needs periodically to meet needs and when there is any shortage as shown in the following table.

Table 4: List of PPEs and consumables needed for one month for 1 hospital [16]

#	Description	Unit	Number
A	N95: Particulate respirator compliant with NIOSH N95 or EN 149 FFFP2 and fluid resistant (1/2 medium, 1/2 Large)	Piece	5,000
B	3 ply surgical face mask, compliant with EN 14683 type IIR or ASTM F2100 level2 or level 3 or equivalent	Box of 50	2,000
C	Disposable gown: single use, long sleeves, fiber made non-woven, thumb loop, tape tab for neck closure, water and liquids proof, compliant with the EN 13795 high performance level, or AAMI level 3 performance	Piece	60,000
D	Goggles / eye protection compliant with EU standard directive 86/686/EEC, EN 166/2002 or ANSI/ISEA Z87.1-2010 or equivalent	Piece	65,000
E	Disposable coverall: compliant with EN 943-1:2002 such TYVEK or equivalent (1/3L, 1/3XL, 1/3XXL)	Piece	30,000
F2	Latex gloves free powder	Box of 100	4,000
H	Hand sanitizer 1liter	Piece	5,000
O	Cover shoes for tyvek coverall or equivalent	Pair	1,000
S	Cadaver bags (Double cover)	Piece	300
Z10	Alcoholic, Hand Rub-(Sterilium) 500 ml / A liter	Piece	5,000
Z13	Towel Roll	Piece	5,000
Z27	Hydro soluble bags - Rolls	piece	500

A procurement committee was established in order to prepare tenders and launch them quickly on the MoPH website and under the supervision of the WB. Procurement documents were launched on March 28, 2020 for the procurement of 70 respirators for the use of other public hospitals and 10 PRC for the use of Public hospitals under stage 2.

In parallel, the MoPH has asked the 53 private hospitals, that are classified T1 to be prepared to receive COVID-2019 patients in case the capacity of the public hospitals is exceeded. These are hospitals distributed throughout the entire Lebanese territory.

3.4 Other Initiatives by MoPH

The MoPH had several initiatives some of which in coordination with other institutions of the Public sector to inform the population of the current situation of COVID-2019 and raise awareness. Such initiatives are listed below:

- Information and statistics systems

[16] Idem 11

    - An information system has been developed to collect information related to the diagnosis and treatment of COVID-19 cases from all hospitals
    - A schedule has also been set up to collect information periodically at the national level, with everything related to COVID-19 in order to determine any potential deficiency: available medical equipment, health workers, number of patients entering the hospitals, etc.
- Awareness campaigns and a communication plan
    - The MoPH launched a campaign entitled "With the awareness we face Corona" that aimed at providing citizens with the necessary information and guidance to prevent the emerging COVID-19 and to correct false information in circulation. For this end, the Ministry launched a special hashtag for the campaign on all social media
    - The MoPH produced 8 short educational films, 3 for children and 5 for adults on all topics related to Corona: methods of prevention, method of washing hands, symptoms, household confinement, tips for health workers and tips for travelers. All of this material was sent to television stations to broadcast them extensively
- Partnership with communication channels
    - In cooperation with the Ministry of Telecommunications, SMS are being sent to all citizens with awareness messages
    - The Ministry of Administrative Reform undertook an initiative to circulate all the educational material issued by the MoPH to all the administration employees through an online learning site
    - The MoPH is working in partnership with international social media platforms to promote advertisements and educational material that were developed by MoPH at no cost (Facebook-Twitter-Google-YouTube-WhatsApp)
- MoPH's cell phone application. The Ministry's cell phone application was developed to include a special section on Corona that will aim at:
    - Publishing all data and instructions related to CoVID-19
    - Geographical distribution of hospitals and the publication of information on the number of vacant beds allocated for Corona patients and the means of communication with these hospitals
    - Integration with informational systems related to corona patients
- Corona self-diagnosis application on cell phone
    - A self-diagnosis of the symptoms of corona in order to relieve the load on the Ministry's hotline and to alleviate citizen's anxiety was also launched
- Additional sections were created on the MoPH's website to cover information and advice related to the emerging COVID-19
    - A special section was created to publish all epidemiological monitoring data in addition to data and reports for citizens, health professionals and travelers.
- A Health Advice section was also created to publish educational materials and awareness on prevention from COVID-19.
- The MoPH hotline 1214:
    - Was made available 24 hours a day 7 days a week
    - The number of employees was increased from 5 to 14
    - The number of calls received on the hotline from February 21 through March 18, 2020 was 21,830
    - The number of calls answered on the hotline from February 21 through March 18, 2020 was 8,641

- A comprehensive national plan was developed and implemented by the National Program for Psychological Health at the MoPH in partnership with WHO, UNICEF and all interested parties. Its objectives are to:
    - Address stigma and discrimination against infected persons and health workers
    - Promote mental health and prevent stress related to the current situation
    - Provide psychological support to people in quarantine in the hospital or at home
    - Provide guidance to support children and the elderly in dealing with psychological stress
    - Training and supporting health workers in self-care and managing patients' psychological crises
    - Strengthening the work of the National Hotline for Psychological Support and Suicide Prevention 1564 -Embrace Lifeline

As of March 28, the total number of registered persons infected by COVID-19 was 412 as of April 23, 2020, the number reached 688 and as of June 13, 2020, the total number of cases was 1422 [17],. Lebanon is classified under "Countries experiencing cases clusters in time, geographic location and/or common exposure (Clusters of cases)" as per WHO transmission scenarios for COVID-19.

[17] https://www.moph.gov.lb/en/Media/view/27196/1/daily-report-on-covid-19-

4 Institutional Framework for Environmental and Social Management

The Institutional responsibilities as mentioned in the ESMF still apply. This section of the report describes the additional responsibilities that are likely to result from the implementation of Component 4.

Ministry of Public Health

The MoPH supervises and monitors all the activities under Component 4. MoPH will:

- Monitor the good implementation of Component 4
- Carry out procurement agreements with UN agencies
- Contract additional health workers and build their capacities
- Prepare for regulatory approval, market authorization and post-market surveillance of COVID-19 products (e.g. laboratory diagnostics, therapeutics, vaccines), when available
- Implement a plan for monitoring health personnel exposed to confirmed COVID-19 cases for respiratory illness and for reporting healthcare-associated infections
- Dedicate communication staff to raise awareness on the risk of contamination and community engagement and to disseminate national case definitions for surveillance to the public and private health sectors and communicate changes when needed.
- Implement surveillance strategies to monitor and report disease trends, disease severity and impacts on health and other systems
- Maintain, monitor, and develop the call center that was established at MoPH

UN Agencies (WHO, UNICEF, UNHCR and UNOPS)

- Considering the limitations in the supply chain of required medical goods, the global involvement of relevant UN Agencies (i.e.) in the procurement and distribution of these goods, the procurement plan will be agreed upon between the MoPH and the UN Agencies.
- Provide technical support to the MoPH
- Coordinating awareness raising activities

5 Stakeholders Consultations relevant to Component 4

5.1 Objectives and limitations

In accordance with WB policies, stakeholder's consultation was conducted during the preparation of the ESMF and was requested for Component 4 of the LHR restructured Project.

On February 29, 2020, the MoHE suspended courses in schools and universities for two weeks. This period was extended on March 9, 2020 until March 15, 2020. On March 15, 2020, the GOL announced "the public mobilization to counter the spread of Corona virus" for 15 days, period extended until April 26, 2020. Large gatherings of people are banned, and citizens are encouraged to practice social distancing. The country closed its sole airport until further notice. On April 5, 2020, the MoI laid out rules when cars, public vehicles and trucks can be driven based on their plate number. Vehicles with plate numbers ending with an odd number are allowed on the street on Mondays, Wednesdays and Fridays while those with plate numbers ending with an even number are allowed on only Tuesdays, Thursdays and Saturdays. All vehicle circulation is prohibited on Sunday.

These measures are all intended to slow the spread of the disease by limiting people's movement and exposure to crowded environments where the disease can easily be spread from one carrier to many other people nearby. These measures also limit the Project's ability to use traditional methods of public consultations and stakeholder engagement.

In line with the above mentioned national restriction and the recently-available resources for carrying out stakeholder engagement in the context of COVID-19 and the WB's "Technical Note: Public Consultations and Stakeholder Engagement in WB-supported operations when there are constraints on conducting public meetings" (March 20, 2020), the project will avoid public gatherings and minimize physical interaction between people. **(Refer to Annex D)**.

5.2 Stakeholders Consultation Process

In order to fulfill the WB requirements, and as per the national restrictions, public gathering was avoided and consultations were done virtually as per the following steps:

1. The draft of the addendum to the ESMF for restructured LHRP was distributed in a digital form to stakeholders on May 11, 2020 through the National Infectious Disease Committee at MoPH that includes representatives from academic institutions in Lebanon such as the American University of Beirut (AUB) and its associated Medical Center, the Lebanese American University (LAU) and its associated Rizk Hospital, the Lebanese Univeristy (LU), Saint Joseph University and its associated HDF Hospital, the Lebanese Order of Physicians, the Lebanese Pediatric Society and to the World Health Organisation (WHO). The addendum to the ESMF was also distributed on May 28, 2020 to the national COVID 19 committee at the Presidency of the Council of Ministers that includes many Ministries and Instituions, to the representative of MoE at the Chemical Biological Radio Nuclear Program (CBRN Program) and to licensed institutions managing medical waste treatment facilities (Arcenciel and Abbassiyeh Municipality/SAFE). The stakeholders were informed about the Grievance Redress Mechanism (GRM) and they were given 10 days to email back their response. The following email address aberry@gmail.com and the following phone number 01- 843769 were provided to the stakeholders in order for them to give their feedback and suggestions if they wish to do so.
2. Also, virtual meetings were held on March 19, 2020 and June 8, 2020 with MoPH Key staff and the WB Safeguard Team.
3. Feedback was received only from the representative of MoE at the Chemical Biological Radio Nuclear Program (CBRN Program).
4. After COVID-19 restrictions are lifted, face to face consultations will be conducted and the addendum to ESMF will be updated and then disclosed again. Consultations will include vulnerable groups of potential beneficiaries (such as female and elderly refugees, persons with disabilities or underlying medical conditions).

5.3 Stakeholders Consulted

Below is a list of the stakeholders consulted and the main comments provided.

Table 5: Stakeholders Consulted

Date	Stakeholder	Contacted Person
May 11	National Infectious Disease Committee	Dr Walid Ammar (Director General of the MoPH) Dr Rasha Hamra (Head of Health Education Department at MoPH) Ms Hilda Harb (Head of Statistics Department at MoPH) Dr Iman Shankiti (WHO Representative to Lebanon) <shankitii@who.int>, Dr Alissar Rady (Senior Officer at WHO) <radya@who.int>
May 28	National COVID-19 Committee	Dr. Jacques Mokhbat (Chairman of Internal Medicine Department at LAU) <jacques.mokhbat@gmail.com>, Dr.Abdul Rahman Bizri (AUB) <ab00@aub.edu.lb>, Dr. Wafaa Jurayj (AUB)<drjreige@hotmail.com>, Dr. Nada Melhem (AUB) <melhemn@aub.edu.lb>, Dr. joseph rachkidi <rachkidi@yahoo.fr>, Dr.Nada Ghosn (MoPH, LU, Balamand University) <esumohleb@gmail.com>, Dr. Pierre AbiHanna (RHUH) <boutrosh@hotmail.com>, Nadine Yared (AUB) <nay04@mail.aub.edu>, Dr. Jacques choucair (USJ/HDF) <jacqueschoucair@hotmail.com>,
	Representative of MoE at CBRN National Committee	Ms. Viviane Sassine (for unofficial review) <v.sassine@moe.gov.lb>
	Arcenciel	M. Robin Richa (CEO) <robin.richa@arcenciel.org>
	Municipality of Abbasiyeh/SAFE	Ms. Leyla Farhat (Head of Projects) <head.projects1@miragewm.com>

The main comments provided:

Comments were received from Ms. Viviane Sassine only. They can be summarized as follows:

1. The discharge of hospital effluents directly in the municipal sewer network without any prior treatment is not accepted. However, MoPH responded that a prior treatment of the hospital effluents is desirable but such an intervention is beyond the scope of the Project in terms of time and budget.
2. It has been confirmed the the proposed treatment methods by the waste operators serving the Project beneficiary hosiptals are using treatment methods complying with the requirements of Decree 1338/2004.
3. There were comments on the waste management and they were addressed in the ESMF addendum.
4. There were some editorial comments that have been taken into consideration in the ESMF addendum.

6 Environmental and Social Analysis of Component 4

All measures provided in the original ESMF apply. The following section analyses the additional mitigation measures (addendum) that might be required to avoid negative impacts on the environment caused by Component 4. Given the nature of this corona virus, exposure to infection and diseases should be given special attention. For this end, section 10 "Health Care Waste Management Plan" of the ESMF should reflect the WHO interim guidance on **Infection Prevention and Control during health care when novel coronavirus (nCOV) infection is suspected (January 25, 2020)**. IPC strategies should be enhanced to prevent or limit transmission inside and outside of the healthcare.

6.1. Using environmental and engineering control

These controls cover the basic infrastructure of the health care facility. The aim being to ensure the HC facility is using effective and sufficient measures to prevent and control infection within its premises and the environment.

6.1.1 Establishment and equipping quarantine and treatment centers

The facility should ensure triage for assessing all patients at admission allowing early recognition of possible COVID-19 infection and immediate isolation of patients with suspected COVID-19 infection in an area separate from other patients (source control). This activity entails preparation of existing spaces for receiving individuals with suspected/confirmed COVID-19. It does not include large civil works but only minor works and scaling up the facility. Engineering controls includes the installation of physical barriers or partitions in triage areas to guide patients, curtains separating patients in semi-private areas. A separation of at least 1 meter should be maintained between all patients[18]. This activity should also consider Airborne Infection Isolation Rooms (AIIRs) with proper ventilation or if AIIRs are not available, isolation of the patient in a private room and equipping of room for aerosol-generating procedures with proper ventilation.

Isolation tents or other portable containment structures may serve as alternative patient-placement facilities when AIIRs are not available and/or examination room space is limited. However, the responsible person/entity must ensure that the room air exhausts directly to the outside, or passes through proper filters, if recirculated.[19]. For general ward rooms with natural ventilation, adequate ventilation is considered to be 60 l/s per patient. For aerosol-generating procedures, natural ventilation with air flow shall be at least 160 l/s per patient. Negative pressure rooms should have at least 12 air changes per hour and a controlled direction of air flow when using mechanical ventilation.[20]

Engineers can support emergency planning by understanding the design, operations, and maintenance adequacy of buildings for which they are responsible and helping emergency planners mitigate vulnerabilities or develop interventions. For instance, there may be means to increase dilution ventilation, increase relative humidity, or quickly apply upper room Ultraviolet Germicidal Irradiation (UVGI) in an emergency room, and crowded rooms. In other situations, reducing ventilation or creating pressure differentials may be the appropriate strategy. .[21]

As directed by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), when a new outbreak occurs and is caused by a microorganism that spreads by the airborne route, fast action affecting building operations will be needed. Accordingly, MoPH directed hospitals that have central air conditioning to undergo a separation procedure and this activity is being implemented. Other hospitals that have independent air conditioning for Corona units have negative pressure rooms equipped with HEPA filters[22]. MoPH confirms that actions have already been thoughtfully undertaken in all the hospitals that will receive COVID-19

[18] WHO, Infection prevention and control during health care when novel coronavirus (nCOV) infection is suspected, Interim guidance (25 January 2020)
[19] Operational Safety and Health Administration - https://www.osha.gov/SLTC/mers/control_prevention.html
[20] Idem 18
[21] ASHRAE Position Document on Airborne Infectious Diseases, Approved by ASHRAE Board of Directors Reaffirmed by Technology Council February 5, 2020 - Expires August 5, 2020 – available online - www.ashrae.org
[22] Personal Communication with Dr. Attika Berry (MoPH) on March 27, 2020

patients in collaboration with infection control professionals and based on knowledge of the system and its operation and the nature and source of the threat from MoPH budget [23]. If a facility would need to introduce the measures under this section, the associated environmental and social risks and correspondent mitigation measures are detailed in the original ESMF for the LHRP before its restructuring, in Section 8 entitled "Environmental and Social Analysis of the proposed Project".

6.1.2 Fire Safety

In accordance with WBG EHS guidelines, the hospitals should be equipped with fire detectors, alarm systems, and fire-fighting equipment. The equipment should be maintained in good working order and be readily accessible. It should also be adequate for the dimensions and use of the premises, equipment installed, physical and chemical properties of substances present, and the maximum number of people present. The hospital shall be provided with manual firefighting equipment that is easily accessible and simple to use. Fire and emergency alarm systems shall be installed and shall be both audible and visible.

According to the MoPH, all the hospitals that will receive funds from LHRP have fire detectors, alarm systems and fire-fighting equipment adequately placed and sized. This as a pre-requisite for the acquisition of construction and other relevant permits.[24]

6.1.3 Wastewater Discharges

There is no evidence to date that the COVID-19 virus has been transmitted via sewerage systems with or without wastewater treatment [25].

According to MoPH all the HC institutions that will receive funds from LHRP are connected to a municipal wastewater network as a pre-requisite condition to get their construction permit[26]. As part of an integrated public health policy, wastewater carried in sewerage systems should be treated in well-designed and well-managed centralized wastewater treatment plants. Each stage of treatment (as well as retention time and dilution) results in a further reduction of the potential risk.

Regarding WWTPs workers, there is no evidence to suggest that additional, COVID 19-specific protections are needed. Furthermore, there is no evidence that sewage or wastewater treatment workers contracted severe acute respiratory syndrome (SARS), which is caused by another type of coronavirus that caused a large outbreak of acute respiratory illness in 2003 [27]. Wastewater treatment plant operations, should continue to follow routine practices that prevent exposure to wastewater, including using the engineering and administrative controls, safe work practices, and PPE normally required for work tasks when handling untreated wastewater. [28]

6.2. Applying standard and special precautions in OHS

The ESMF for the LHRP sets that any PHCC or Hospital, to be eligible to receive funds from LHRP, should have an ESMP including a Health Care Waste Management Plan (HCWMP). This is a condition that is made part of the contract between the health institution and the MoPH before any disbursement of funds. The HCWMP includes a section on Personnel Protection ensuring the personnel is well informed, wears protective equipment, waste workers are duly immunized, establishing a training for personnel protection and a plan for the provision of protective equipment.

Given the nature of COVID-19, in addition to the Personnel Protection established in the Health Care Waste Management Plan, MoPH needs to make sure the ESMP including the HCWMP comprises a section on use of proper PPE when health workers are exposed to a patient with confirmed/suspected COVID-19 or other sources of COVID-19. The HC facility shall be implementing additional precautions

[23] Idem 22
[24] Idem 22
[25] WHO-UNICEF, Water, sanitation, hygiene and waste management for the COVID-19 virus, Technical brief, dated March 3, 2020
[26] Idem 22
[27] Idem 25
[28] Ref.: Centers for Disease Control and Prevention -https://www.cdc.gov/coronavirus/2019-ncov/hcp/faq.html

for suspected cases such as contact and droplet and airborne precautions for aerosol-generating procedures, in accordance with WHO guidelines.

It is recommended that this section states clearly that when novel coronavirus (nCOV) infection is suspected, healthcare workers shall wear:

- Gowns: single use, long sleeves, fiber made non-woven, thumb loop, tape tab for neck closure, water and liquids proof, compliant with the EN 13795 high performance level, or AAMI level 3 performance or equivalent. If there are shortages of gowns, they should be prioritized for aerosol-generating procedures, care activities where splashes and sprays are anticipated, and high-contact patient care activities that provide opportunities for transfer of pathogens to the hands and clothing of HCP
- Disposable respirators compliant with NIOSH N95 or EN 149 FFFP2 and fluid resistant or better respirators. Based on local and regional situational analysis of PPE supplies, facemasks are an acceptable alternative when the supply chain of respirators cannot meet the demand. Those masks should be 3 ply surgical face mask, compliant with EN 14683 type IIR or ASTM F2100 level 2 or level 3 or equivalent. Then, during this time, available respirators (which filter inspired air, offer respiratory protection) should be prioritized for procedures that are likely to generate respiratory aerosols, which would pose the highest exposure risk to Health Care Practitioner (HCP).
- Eye/face protection (e.g., goggles, face shield) that protect the wearer from splashes and sprays compliant with EU standard directive 86/686/EEC, EN 166/2002 or ANSI/ISEA Z87.1-2010 or equivalent
- Latex Gloves, powder free, hypo allergic, tear resistant, sterile and for single use.

In some particular cases, there might be a need for:

- Disposable coverall. Those should be compliant with EN 943-1:2002 such TYVEK or equivalent
- Cover shoes for TYVEK coverall or equivalent (closed, impermeable, length to below knee, washable and disinfected if reusable

Note that all these PPEs will be procured under the WB Loan.[29]

6.3. Safe Waste Management

Generally, management of waste that is suspected or known to contain or be contaminated with COVID-19 does not require special precautions beyond those already used to protect workers from the hazards they encounter during their routine job tasks in solid waste. Workers and employers should manage solid waste contaminated with COVID-19 as they would other regulated medical waste as detailed in section 10 "The Health Care Waste Management Plan" of the ESMF. Hospitals shall use typical engineering and administrative controls, safe work practices, and PPE, such as puncture-resistant gloves and face/eye protection, to prevent worker's exposure to medical waste, including sharps and other items that can cause injuries or exposures to infectious materials [30].

According to the MoPH, all the hospitals that will receive funds under the WB Project have already a Health care Waste Management Plan and have contracted one of the companies that handles medical waste in Lebanon (Abbasiyeh Municipality/SAFE or ARCENCIEL)[31]. Both institutions confirmed in previous communications that they were capable of handling additional loads.

Arcenciel (that handles 85% of the medical waste treatment in Lebanon) has equipped one of its medical waste treatment centers with a microwave machine instead of autoclaving. This technology permits a continuous flow reducing the need for storage and requires less operators. Currently, Arcenciel has the capacity of handling 23 t/day of infectious medical waste. During March 2020, the total quantity of COVID-19 related infectious waste received was 20.5 t, averaging 1.2 t/day, the bulk of 17 t being from

[29] Personal Communication with Dr. Attika Berry (MoPH) on March 27, 2020
[30] United States Department of Labor Occupational Safety and Health Adminstrationhttps://www.osha.gov/SLTC/covid-19/controlprevention.html #solidwaste
[31] Personal Communication with Dr. Attika Berry (MoPH) on March 27, 2020

RHUH. Furthermore, due to the current spread of the corona virus, all other non-urgent operation were put on hold, consequently, on average, the total daily quantity of infectious waste received remained almost constant comparing to previous months[32]. Arcenciel has also increased its fleet by 2 trucks.

6.4. Implementing administrative controls

MoPH started implementing measures and imposing on HC facilities to implement administrative controls for the prevention and control of transmission of COVID-19 infections such as (i) provision of adequate training for HCW, (ii) ensuring an adequate patient-to staff ratio, (iii)establishing a surveillance process for acute respiratory infections potentially caused by COVID-19 among HCW, (iv) ensuring that HCWs and the public understand the importance of promptly seeking medical care and (v) monitoring HCW compliance with standard precautions and providing mechanisms for improvement as needed.

6.5. Emergency Preparedness and Response plan

In line with WHO guidelines[33] the MoPH prepared the Coronavirus Disease 2019 (COVID-2019) National Health Strategic Preparedness and Response Plan that was published on the MoPH's website on March 13, 2020.[34]

This document was developed to establish a national plan of action to scale up preparedness and response capacities in Lebanon for prevention, early detection, and rapid response to coronavirus disease 2019 (COVID-2019) as required under the International Health Regulations (IHR 2005) using the WHO global 2019 Novel Coronavirus Strategic Preparedness and Response Plan as the foundation. This plan includes an Infection Prevention and Control section. (See **Annex A**).

6.6. Preventing Sexual Exploitation and Abuse and Harassment

The Project should focus on putting in place the following, minimum set of measures to prevent Sexual Exploitation and Abuse and (sexual) Harassment (SEA/H)[35] to be reflected in the ESMF.

- Staff in PMT will sign Codes of Conduct.
- Publicly post or otherwise disseminate messages clearly prohibiting SEA/SH during the provision of health care, whether healthcare providers are perpetrators or survivors.
- Make information available to health service providers on where Gender Based Violence (GBV) psychosocial support and emergency medical services can be accessed (within the health system).
- Promote two-way communication between health authorities and communities that would allow information on instances of SEA/H to surface and inform strengthening of SEA/H measures as needed.
- This could include the development of additional rapid guidance on how to deal with SEA/H complaints in operations with existing GRMs or using hotlines.

[32] Personal Communication with Mario Ghoraeib (Head of the Environmental Program at Arcenciel), 3 April 2020.
[33] WHO, Critical preparedness, readiness and response actions for COVID-19, Interim guidance, 7 March 2020.
[34] Available on https://www.moph.gov.lb/userfiles/files/News/Leb%20nCoV%20Strategic%20Response%20Plan%20MARCH%202020-converted.pdf
[35] WB, Technical Note on SEA/H for HNP COVID Response Operations

7 Implementation of the ESMF

The implementation of the ESMF remains unchanged in all its sections: (i) Exclusion list, (ii) Pre-screening, (iii) Procedures to be followed by PHCCs, (iv) Procedures for hospitals that have an approved EIA, (v) procedures for hospitals that did not previously submit an EIA to MoE and (vi) capacity building program.

Due to the current situation of confinement, the consultancy firms that are eligible to do environmental studies and laboratories are currently closed. Even public servants at the MoE are advised to stay at home to prevent getting contaminated by the Corona virus. In view of the urgency of COVID-19 related component. PMU shall ensure that all Health Care facilities benefiting from the Project have proven capacities in managing E&S issues. In this regards, the eligible facilities should have at minimum an ESMP including a HCWMP and commit to start the procedures set in the original ESMF within 3 months after signature of contract.

8 Monitoring and Evaluation System

The monitoring plan provided in the original ESMF still applies, no modifications are needed.

9 Grievance Redress Mechanism

As mentioned in the ESMF, an effective Grievance Redress Mechanism (GRM) is in place at MoPH covering PHHCs and Hospitals.

The existing call center with the designated hotline 1214 was put at the service to cover the COVID-19 related issues such as people starting to show symptoms and need to be assessed and referred to hospitals, questions and complaints. The designated number 76- 595 699 was put in place when the first cases of COVID-19 spread and has been replaced on April 2, 2020, to 01-594 459. The capacity of the hotline has been extended to receive and respond to additional calls. This line is being operated by the MoPH epidemiological surveillance unit & volunteers in 2 shifts. The number of operators was increased from 5 to 14. A daily report is being kept for the calls being received at COVID-19 line. Names and numbers of the callers are taken and registered. However, anonymous grievances can be raised and addressed. The Project also records the complaints received related to the Project in general such as environmental concerns. The GRM includes also an appeal process for unresolved grievances that was established before the Project restructuring to the request of the WB.

The respondents and are regularly trained on how to handle the calls. Algorithms were developed according to the case definition. Caller reporting forms were put in place they include: Information about Investigator, date time of call, symptoms, risk factors, date of onset. For those asking for the results of tests done in RHUH, they were referred to the call center at RHUH 01-832-020. A daily report is generated by the call center detailing the names of the callers and the reason of the call as shown in the following figure.

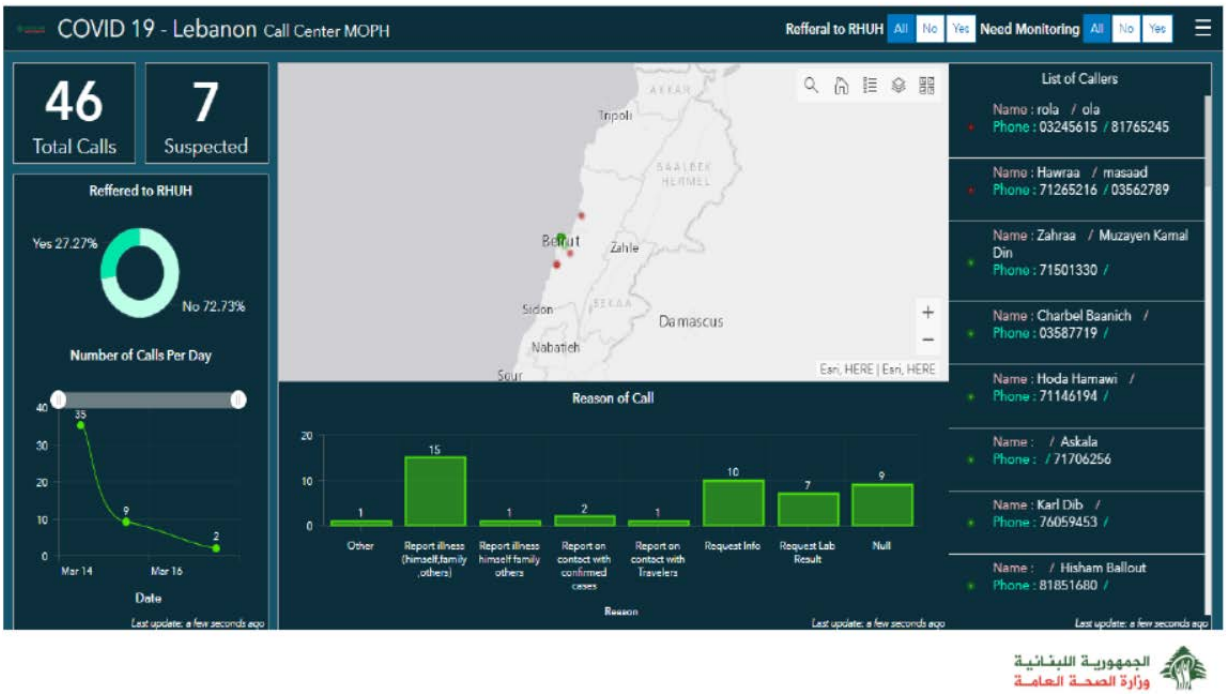

Figure 1: COVID-19 call center log (MoPH)

The average no of calls received per day before the COVID-19 spread was 120. Since the outbreak, the number of calls increased considerably to reach 11,224 calls as of June 23, 2020.

On another note, the department of preventive medicine at the MoPH follows up on patient with COVID-19 symptoms and assesses their compliance to home quarantine. The department of preventive medicine performs a follow up with the suspected on daily basis for 14 days after the date of suspicion

and coordinates with the Red Cross for the transportation of suspected, probable or confirmed cases. The number of operators performing this task is 5. An average of 650 calls are made on daily basis.

10 Cost Estimate

No additional cost is to be incurred to the ESMF as a result of the Project restructuring, the cost provided in the ESMF still applies.

Annexes

Annex A: Coronavirus Disease 2019 (COVID-2019) Health Strategic Preparedness & Response Plan

Annex B: Basic Laboratories – Biosafety Levels 1 and 2

Annex C: Hospital Performance Contracting 2014- MoPH – Lebanon

Annex D: Technical Note: Public Consultations and Stakeholder Engagement in WB-supported operations when there are constraints on conducting public meetings

Annex A: COVID-2019 Health Strategic Preparedness and Response Plan

REPUBLIC OF LEBANON
MINISTRY OF PUBLIC HEALTH

Coronavirus Disease 2019 (COVID-2019) Health Strategic Preparedness and Response Plan

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Lebanon

10 March 2020

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I. Purpose of the Document

This document has been developed to establish a national plan of action to scale up preparedness and response capacities in Lebanon for prevention, early detection, and rapid response to coronavirus disease 2019 (COVID-19) as required under the International Health Regulations (IHR 2005). Using the WHO global 2019 Novel Coronavirus Strategic Preparedness and Response Plan as the foundation, this plan was developed for Lebanon.

II. Background, PHEIC declaration and Situation Analysis

Coronaviruses are zoonotic viruses that circulate amongst animals. Some have been identified in humans, causing illness ranging from mild symptoms to severe illness.

On 31 December 2019, WHO was alerted to several cases of pneumonia of unknown origin in Wuhan City, Hubei Province of China. One week later, on 7 January 2020, Chinese authorities confirmed that they had identified a new virus as the cause of the pneumonia cluster. The new virus is a coronavirus, belonging to the same family of viruses that cause the common cold, as well as viruses that cause Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS). This new virus is currently referred to as the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2).

Since the first cases were reported, WHO has been working with Chinese authorities and global experts to learn more about the virus, including source of infection, how it spreads, severity, high-risk groups, how best to treat patients, and what countries can do to prepare for and respond to the situation or to the epidemic.

The Emergency Committee on the COVID-19 under the International Health Regulations (IHR 2005) was first convened on 22-23 January, and subsequently reconvened on 30 January 2020. The Director General of WHO declared the COVID-19 outbreak to be a public health emergency of international concern (PHEIC) after the second meeting. The Emergency Committee has provided recommendations to WHO, to the People's Republic of China, to all countries, and to the global community, on measures to control this outbreak. The Committee believes that it is still possible to interrupt virus spread, provided that countries establish strong measures to detect disease early, isolate and treat cases, trace contacts, and promote social distancing measures commensurate with risk.

As of 1 March 2020, the total number of reported confirmed cases of COVID-19 stood at 87,161 cases reported from 60 countries and 2980 associated deaths (CFR 3.4%). Of the total number of confirmed cases, 79,968 were reported from China, 3,736 from Republic of Korea, 1,128 from Italy, and 593 from Iran. The number of confirmed/suspected cases and affected countries continues to rise.

Most cases of COVID-19 are mild in nature, but some have progressed to severe illness and death. Human-to-human transmission has been confirmed in many of the affected countries. There is not enough information about the epidemiological profile of COVID-19 to draw definitive conclusions about the full clinical features of disease, the intensity of the human-to-human transmission, and the original source of the outbreak. However, WHO is working closely with affected countries to compile more epidemiological data to answer the unknown questions.

Given high volumes of domestic and international travel both to and from affected countries and the observed human to human transmission, it is not unexpected that new confirmed cases will continue to appear in other areas and countries. With the information currently available for the novel coronavirus, WHO advises that measures to limit the risk of exportation or importation of the disease should be implemented without unnecessary restrictions of international traffic and trade.

CoVID 19 is transmitted by droplet, from an infected person. It can remain infective up to several days on inert material. The main mode of prevention remains: distancing at least 1.5 meters from an infected person, frequent hand hygiene and cough etiquette practices. Based on the current data, one person infects on average 4 persons, and the mortality is around 3%

a. Situation in the WHO Eastern Mediterranean Region

Regional health system context

Almost two-thirds of the Region's countries are experiencing directly or indirectly complex emergencies, with fragile health systems, weak disease surveillance, poor response capacities, and a sub-optimal level of public health preparedness – all factors making them particularly vulnerable to any emerging infectious diseases. Major religious mass gatherings are taking place in the region which pose unique risks to public health security.

Detecting and responding to emerging infectious diseases have become an important public health priority for Eastern Mediterranean Region. Majority of the countries in the region have adequate influenza and other respiratory disease surveillance system through extended network of sentinel sites. 20 out of the 22 countries in the region have functioning reference laboratories with the ability to detect and confirm seasonal influenza virus, MERS-CoV and other high threat pathogens. Furthermore, all countries in the region have trained national multidisciplinary rapid response teams for timely investigation and response to any public health threat. Countries with complex emergencies in the region have functioning early warning surveillance system with the ability to detect epidemic-prone diseases. Therefore, it's important to leverage the existing respiratory disease surveillance and laboratory capacities for the current surveillance and investigation and response to COVID-19 outbreak.

Regional epidemiological context

The epidemiology of the region is constantly changing. As of march 1 2020, 11 countries in the WHO Eastern Mediterranean Region (EMR) have reported COVID-19 cases. A total of 1,122 laboratory confirmed cases, of which 978 are from Iran, have been reported in the EMR. All death in the region totaling 54, have been reported from Iran.

Due to the global nature of travel, it is expected that further cases of COVID-19 may appear in other countries in the Region. EMRO dashboard can be accessed on:

https://app.powerbi.com/view?r=eyJrIjoiN2ExNWI3ZGQtZDk3My00YzE2LWFjYmQtNGMwZjk0OWQ1MjFhIiwidCI6ImY2MTBjMGI3LWJkMjQtNGIzOS04MTBiLTNkYzI4MGFmYjU5MCIsImMiOjh9

Number of countries in the region have taken steps to repatriate their citizens from Wuhan or other cities affected by the outbreak, and those repatriated nationals were isolated for 14 days. WHO/EMRO has developed an interim guidance to countries for evacuation and quarantine of travelers returning from China. Thus far, WHO recommends no restrictions on travel and trade while some countries in the Region decided to take restrictive measures at Points of Entries, including suspension of flight coming from/to China, South Korea, Italy, and Iran. Such restrictive legal enforcements are currently considered and decided by each state.

III. COVID-19 Risk Analysis

a. **Overall Risks**

As of 28 February, WHO assessed the COVID-19 risk to be very high for China, very high at the regional level, and very high at the global level.
Sitrep: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200228-sitrep-39-covid-19.pdf?sfvrsn=5bbf3e7d_2

Overall Risk		
China	**Regional**	**Global**
Very High	Very High	Very High

This assessment takes into consideration:

- ***High likelihood of further spread:*** Human-to-human transmission, including transmission within healthcare settings, has been confirmed within Wuhan and cities outside of China. The outbreak continues to grow within China at a rapid rate. In addition, 7193 confirmed cases have been

reported by 59 countries outside China as of 1 March 2020. Local transmission has been confirmed in many countries other than China.

- ***Potential impact on human health:*** The virus can cause severe illness and death. However, many uncertainties remain, including the full extent of the current outbreak within China, and the full clinical spectrum of illness.
- ***Effectiveness of current preparedness and response measures:*** Until now, countries that have reported an imported case have demonstrated efficient and effective disease surveillance and response measures. Many countries that are yet to report a case have also demonstrated effective surveillance measures to date, through rapid testing and isolation of suspected cases. However, of great concern are countries that are less prepared to detect and respond to an imported case.

b. **Risk Analysis in Lebanon**

Lebanon has been strengthening and maintaining its national capacities required under the International Health Regulations (IHR 2005). Lebanon has conducted the Joint External Evaluation (JEE) and developed national action plans for health security to meet their core capacity requirements under the IHR. The following JEE technical areas were used for measuring capacity; (1) IHR coordination, (2) Infection prevention and control, (3) Laboratory and Biosecurity / Biosafety, (4) Surveillance, (5) Reporting, (6) Preparedness, (7) Emergency Response, (8) Risk Communications, and (9) Points of Entry. All the countries of the region scored between 2/5 and 5/5. Lebanon preparedness and readiness relatively good, scoring 4/5.

Lebanon's geographic location makes it a busy hub for travel to and from all the world. Although it does not have direct flights with China, the initial epicenter for the outbreak, it does have direct fights to most regional countries, and to all Europe. Based on the epidemiologic data, the first case of COVID 19 was imported to Lebanon through travelers coming back from Iran/ Qom, believed to be the epicenter in Iran. The first case was confirmed on 21 February 2020; a Lebanese women who was aboard a plane coming from Iran. Until March 1, 2020: A total of 231 people were tested at RHUH, with results being 221 negatives and 10 positives. 8 of the COVID-19 cases had travel history to Qom city in Iran, while 2 had direct contact with persons who have been to Iran. Local transmission is confirmed but remains limited to these 2 cases.

Taking into consideration the mode of transmission, the risk of exposure, the readiness of the health system, as well as the likelihood and the severity of the impact of a local outbreak, the risk of local transmission and spanning outbreak in Lebanon is high.

IV. Preparedness and response interventions based on Transmission Scenarios

Through this plan, the MOH will closely work with the relevant authorities and other partners to build strong capacity to prevent, prepare, detect and respond to any potential COVID-19 outbreak. This plan will address the existing capacity gaps related to the prevention, preparedness, detection and response for emerging infectious diseases.

The overall goal of the national preparedness and response plan is to strengthen surveillance and response for COVID-19 infection to early detect any imported case, rapidly contain local transmission and mitigate the health impact of the outbreak in Lebanon.

WHO has defined 4 transmission scenarios for COVID-19:
1. Countries with no cases (No Cases);
2. Countries with 1 or more cases, imported or locally detected (Sporadic Cases);
3. Countries experiencing cases clusters in time, geographic location and/or common exposure (Clusters of cases);
4. Countries experiencing larger outbreaks of local transmission (Community transmission).

I. Preparedness Measures for Scenario 1

The main measures that were implemented in Lebanon before the 21st of February when no COVID-19 cases were detected yet included:

- Awareness raising activities, development and dissemination of IEC material
- Intensive dissemination of risk communication and community engagement messages
- Screening at POEs of travelers coming from outbreak countries
- Ensuring a functional surveillance system with clear SOPs for case detection and confirmation

II. Outbreak Containment Measures for Scenarios 2 and 3

The transmission scenario that we are currently witnessing remains contained. The cases reported have been imported by exposure from a country with local transmission or through contact with infected household member.

The main measures to be taken include:

- Intensive risk communication and community engagement
- At POE, screening travelers coming from outbreak countries
- Ensuring a functional surveillance system with clear SOPs for case detection and confirmation
- Ensuring patient care and quarantine facilities with clear SOPs for patient referral
- Ensuring adequate reference diagnostic lab capacity, with standard safety and quality SOPs.
- Provision of PPEs at health facility level
- National coordination mechanisms established
- Assessment of capacities and gaps for potential local spread and outbreak explosion

III. Outbreak Mitigation Measures for Scenario 4

In case of an outbreak and based on the current available epidemiological data, the following is estimated: for a population of 6 million, approximately 600 thousand persons (10%) will contract symptomatic infection, over a period of 2-3 months. Of these cases, 90,000 (15%) will seek healthcare, out of which 18,000 (20%) would require hospital admission and 2,700 (3%) would be admitted to the intensive care unit. The death toll is estimated at a maximum of 1,800, 2% of those seeking healthcare. A pandemic that lasts eight weeks and has an attack rate of 10% will require at its peaks (4th and 5th week), to use 61% of the ICUs in all the Lebanese territories and around 36% of the hospital beds.

- Awareness raising activities should continue and be reinforced
- Surveillance activities should be maintained
- Risk communication and community engagement activities should continue
- IPC programs should be rigorously implemented especially in all hospitals and health facilities
- Designation of additional referral hospitals
- Development of new SOPs for patient diagnosis and referral and home care
- Develop protocols for quarantine (self-quarantine, isolation canters etc.)
- Ensure sufficient stock of PPEs with focus on the health care workers
- Support referral laboratories by MOPH and partners with the needed testing kits and PPEs.

V. Areas of work and priority actions

i. Partnership and coordination

a. Establishment of the national COVID19 Task Force to mobilize resources and monitor country level activities to facilitate coordination with relevant ministries

b. Strengthen multi-sectoral coordination, as well as coordination with WHO local office, by sharing updated information and contingency planning
c. Conduct quick mapping of human resource needs for the implementation of the national plan
d. Set up and activate Emergency Operation Centers (EOC) at national and sub-national levels to better coordinate the response
e. Coordination of activities of all health and relevant non-health partners
f. Establish and maintain the COVID19 national platform for national data collection, provide appropriate support or guidance, and closed-loop communication of answers in timely manner
g. Coordinate between relevant stakeholders (including the National CD Committee) to support priority research activities in order to close knowledge gaps

ii. Points of Entry and IHR (2005)

a. Establishment of multi-sector POE contingency plans and establishment of referral protocols from POE to designated health facilities
b. Provide guidance regarding issues of travel and trade based on current public health advice
c. Coordinate provision of needed technical support for related IHR capacities
d. Provide and update overview of global traffic/trends in regard to COVID-19 and the EMR, as well as specific capacities at PoE
e. Share technical guidance related to IHR capacities
f. Provide targeted technical support/assessment to specific PoE (Beirut Rafic Hariri International Airport, Sea ports, and Border Crossing Points)
g. Organize trainings for health and non-health authorities at POEs

iii. Health Information Management

a. Disseminate standard case definitions, case investigation and follow up for active surveillance of COVID-19 to all surveillance sites (Health Facilities, Lebanese Order of Physicians, Syndicate of Hospitals, Order of Nursing…)
b. Collect daily information relevant to COVID-19 through social media, local newspapers, community (event-based surveillance)
c. Establish active case finding
d. Ensure that national surveillance system covers laboratories, health facilities in public and private sector, points of entry, and other relevant health providers with a direct line of communication with the national IHR Focal point
e. Ensure timely notification of confirmed and probable cases to WHO (within 24 hours of identification), as well as reporting of suspected cases of COVID-19 preferably through EMFLU or using WHO interim case reporting form.
f. Enhance/establish existing acute respiration infection surveillance system, as needed, including indicator-based surveillance, event-based surveillance, and sentinel surveillance
g. Develop dashboards, repositories and situation reports (as needed)
h. Provide information required to guide all aspects of the operations – including communications, risk and needs assessment, priority setting, planning, information management, health operations and health logistics
I. Produce and disseminate daily briefing and weekly updates to all levels

iv. Case management

a. Ensure healthcare service continuity (facilities, personnel, medicines, supplies, medical devices) and surge plans including establishment of a referral system to designated hospitals.
b. Provide case management technical expertise and guidance to health facilities in Lebanon
c. Provide trainings on healthcare/ambulatory teams in the management of COVID-19 cases, Infection control, PPE donning and doffing …
d. Facilitate implementation of international/WHO protocols for research/clinical trials at country level if there are opportunities

v. Infection Prevention and Control (IPC)

a. Provide IPC technical expertise and guidance to Health facilities when needed, particularly regarding triage, early recognition, standard precautions, isolation procedures, and referral mechanisms in line

with WHO guidelines

b. Organize refresher trainings on IPC and capacity building for all health facilities

vi. Rapid Response Teams (RRTs)

a. Establish multidisciplinary rapid response teams (RRTs) and ensure the RRTs are in place at national and subnational levels

b. Ensure the mechanism of activation and deployment of national RRTs is in place

c. Conduct refresher trainings among national RRT teams in case management, specimen collection and transport, contact tracing, decontamination, investigation, social mobilization and safe and dignified burials.

d. Ensure RRTs are trained and equipped to investigate suspected cases, especially regarding the provision of appropriate investigation protocols and case definitions, systems for contact tracing, and surveillance mechanisms as outlined

e. Coordinate with WHO local office for collaboration on outbreak investigation and response

f. Organize field-based simulation exercise to ensure the functionality of RRTs.

vii. Laboratory diagnostics

a. Establish and sustain laboratory confirmatory capacity for COVID-19 (at RHUH and other designated hospitals at Mohafazat level)

b. Adapt and disseminate SOPs for specimen collection, management and transportation for COVID-19 diagnostic testing

c. Strengthen national diagnostic capacity through in-service training and mentoring among lab technicians.

d. Ensure availability of testing kits and other essential supplies at the national reference laboratory at RHUH and at laboratories of designated hospitals at Mohafazat level.

e. Build capacity for collection, storage and transportation of samples and establish a process for shipment of specimens to international reference laboratories when needed.

f. Establish surge plans in to be used in times of increased testing demands

viii. Risk communication and community engagement

a. Develop and implement national emergency risk communication and community engagement strategies for COVID-19

b. Identify and designate media spokesperson(s) at the national level and organize regular interviews with traditional and non-traditional media organizations

c. Ensure timely and credible information is made available to the public, health professionals and other key audiences in appropriate formats through different accessible platforms addressing different audiences including the general public

d. Disseminate press releases regularly highlighting the latest situation and national response

e. Hold press briefings to raise media awareness on the latest situation, address media queries and ensure media are aware of correct facts and information.

f. Reinforce national rumor and misinformation detection and management mechanisms g. Update regularly the covid-19 page of the MOH website

h. Develop and disseminate Information, education and communication materials in coordination with concerned stakeholders (UN agencies, NGOs, Scientific Communities, Syndicates etc.)

ix. Operations support and logistics

a. Consolidate requests and share with the PMO's national committee for quantification and prioritization

b. Survey for IPC and Laboratory Reagent stocks available and identify gaps

c. Develop a list of items needed for resupply or procurement (National and subnational, POE…)

x. Programme Management

a. Allocate funds for the execution of the National plan in collaboration with WHO country office

b. Manage and support financial allocation for all operating costs

c. Support fast track procurement requests

V. Operationalizing the plan

Implementation of this plan will require significant and extensive coordination and collaboration which includes but is not limited to national technical meetings, and workshops between health authorities and other partners and ministries.

VI. Monitoring and evaluation

Monitoring and evaluation of the national preparedness and response will be conducted at regular intervals by the MOH. **Key performance and impact indicators can be used to monitor and evaluate the implementation of the planned activities**, as well as to assess the overall performance of the programme, derive evidence & lessons learnt to correct and adjust the program and operations. A progress report will be generated and shared regularly with the national committee highlighting the progress and level of operational readiness, the strengths, weakness, gaps and recommendations on how to address the challenges.

Monitoring framework

Type	Indicator	Target containment scenario	Target mitigation scenario
Point of entry and IHR	Number of POE that have capacity to detect suspected/confirmed cases	3	0
	Number of POE that have isolation	4	0
Health Information Management	% of HCF where surveillance guidelines are disseminated to healthcare workers including private sector	100%	100%
Case management	Public designated hospitals to treat COVID-19 cases	1	5
	%Nb of Hospitals where case management were disseminated	100%	100%
Infection Prevention and Control	% of acute healthcare facilities with triage capacity	50%%	100%
	% of acute healthcare facilities with isolation capacity	5%	100%
Rapid Response Teams	Nb trained multidisciplinary rapid response teams at Mohafazat level	4	4
	% of hospitals that have adequate supplies including PPEs	100%	100%
	% of alerts have been verified and investigated within 48 hours	100%	100%
Laboratory diagnostics	Nb of laboratory that can provide results within 72 hours	1?	5
	Number of national reference laboratories with capacity to test COVID-19	1	1
	Number of national laboratories with trained laboratory technicians on COVID-19 testing	1	5

	Number of national reference laboratories reporting virological data through EMFLU or FluNet	1	5
Risk communication and community engagement	Presence of health communication plan that was updated according to the new situation	1	1
	frequency of media interviews and press release in different languages	daily	Weekly
Operations support and logistics	Number of hospitals experiencing stock-outs of critical items	0	0
	Number of labs receiving IPC medical supplies and laboratory reagents in response to COVID-19	1	5
Programme Management	% of surge deployment resources from the external and internal rosters of experts	0%	TBD

VII. Timeline

Areas of work	Activities	Timeline
1. Partnership and Coordination	a. Establishment of a National COVID19 technical committee to mobilize resources and monitor country level activities to facilitate coordination with relevant authorities, ministries and WHO country office b. Strengthen multi-sectoral coordination, by sharing updated information and contingency planning for joint actions c. Coordinate and collaborate with WHO country office to cover gaps in preparedness and response as the outbreak evolves in order to complete and implement the national preparedness and response plan for COVID-19 d. Conduct quick mapping of human resource needs for the implementation of the national plan e. Set up and activate Emergency Operation Centers (EOC) at national and sub-national levels to better coordinate the response f. Support and guide the coordination of activities of all health and relevant non-health partners g. Establish and maintain the national platform to provide appropriate support or guidance, and closed-loop communication of answers in timely manner h. Coordinate between relevant stakeholders to support priority research activities in order to close knowledge gaps	Ongoing
2. Point of entry (PoE) and IHR	a. Provide technical expertise to inform operations for IHR and PoE issues, including guidance on establishing multi-sector PoE contingency plans and establishment of referral protocols from PoE to designated health facilities b. Provide guidance regarding issues of travel and trade based on current public health advice and in alignment with global strategy c. Coordinate provision of needed technical support for related IHR capacities d. Provide and update overview of global traffic/trends in regards to COVID-19, as well as specific capacities at PoE e. Share technical guidance related to IHR capacities f. Provide targeted technical support/assessment to specific PoE	Feb - April

Areas of work	Activities	Timeline
3. Surveillance and reporting systems	a. Disseminate standard case definitions, case investigation and follow up for active surveillance of COVID-19 to all surveillance sites b. Collect daily information relevant to COVID-19 through social media, local newspapers, community (event-based surveillance) c. Establish active case finding d. Ensure national surveillance systems cover laboratory, private sector, points of entry, and other relevant health providers with direct line of communication with the national IHR Focal point e. Ensure timely notification of confirmed and probable cases to WHO (within 24 hours of identification), as well as reporting of suspected cases of COVID-19 preferably through EMFLU or in using WHO interim case reporting form. f. Enhance/establish existing acute respiration infection surveillance system, as needed, including indicator -based surveillance, event-based surveillance, and sentinel surveillance g. Keep national and subnational country levels informed on the evolution of the outbreak in the region h. Develop dashboards, repositories and situation reports i. Provide information required to guide all aspects of the operations – including communications, risk and needs assessment, priority setting, planning, information management, health operations and health logistics j. Monitor available research, knowledge and product development to inform the operations k. Produce and disseminate daily briefing and weekly updates to national and subnational levels	Ongoing
4. Case Management	a. Ensure healthcare service continuity (facilities, personnel, medicines, supplies, medical devices) and surge plans including establishment of a referral system b. Provide case management technical expertise and guidance to health facilities c. Provide trainings on healthcare/ambulatory teams in the management of COVID-19 cases d. Coordinate with stakeholders (National CD Committee) to address unknown about clinical characterization, challenges in clinical care and collaboration to innovate and problem solve together e. Facilitate implementation of international/WHO protocols for research/clinical trials at country level if there are opportunities	Ongoing
5. Infection Prevention and Control (IPC)	a. Provide IPC technical training and guidance to Health facilities when needed, particularly regarding triage, early recognition, standard precautions, isolation procedures, and referral mechanisms in line with WHO guidelines b. Share up-to-date interim WHO IPC guidance documents with HC professionals c. Provide IPC training and capacity building if at national and subnational levels if needed d. Strengthen triage and isolation capacity in referral hospital(s)	February- April

Areas of work	Activities	Timeline
6. Rapid Response Teams (RRTs)	a. Coordinate with Mohafazat and Caza physicians to activate/reactivate the multidisciplinary rapid response teams (RRTs) and ensure the RRTs are in place at national and subnational levels b. Ensure the mechanism of activation and deployment of national RRTs is in place c. Conduct refresher trainings among national RRT teams in case management, specimen collection and transport, contact tracing, decontamination, investigation, social mobilization and safe and dignified burials. d. Provide technical guidance to ensure RRTs are trained and equipped to investigate suspected cases, especially regarding the provision of appropriate investigation protocols and case definitions, systems for contact tracing, and surveillance mechanisms as outlined e. Coordinate with WHO country office for any international collaboration on outbreak investigation and response f. Organize field-based simulation exercise to ensure the functionality of RRTs.	March-May
7. Laboratory diagnostics	a. Support reference lab to establish and sustain laboratory confirmatory capacity for COVID-19 b. Adapt and disseminate SOPs for specimen collection, management and transportation for COVID-19 diagnostic testing c. Provide technical assistance to strengthen national diagnostic capacity through in-service training and mentoring among lab technicians. d. Ensure availability of testing kits and other essential supplies in national reference laboratories. e. Establish access to a designated international COVID-19 reference laboratories f. Build capacity for collection, storage and transportation of samples and establish a process for shipment of specimens to international reference laboratories until national capacity can be established. g. Establish surge plans in to be used in times of increased testing demands	Ongoing
8. Risk communication and community engagement	a. Provide support to develop and implement national emergency risk communication and community engagement strategies and/or action plans for COVID-19 b. Identify and designate media spokesperson(s) at national and subnational levels and organize regular interviews with traditional and non-traditional media organizations c. Support timely and credible information is made available to the public, health professionals and other key audiences in appropriate formats through different accessible platforms addressing different audiences including vulnerable populations d. Disseminate press releases regularly highlighting the latest situation and national response e. Hold press briefings to raise media awareness on the latest situation, address media queries and ensure media are aware of correct facts and information. f. Reinforce national and subnational rumour and misinformation detection and management mechanisms g. Update regularly the nCoV info and the MOPH website	Ongoing

Areas of work	Activities	Timeline
	h. Conduct regional traditional and social media surveillance for listening and understanding perception of target audience and provide technical support to subnational levels i. Develop and disseminate Information, education and communication materials	
9. Operations support and logistics	National Level a. Consolidate requests and share for quantification and prioritization b. Survey for IPC and Laboratory Reagent stocks available and identify gaps c. Develop a list of items needed for resupply or procurement Subnational a. Receive, inspect, consolidate, kit, and dispatch emergency medical supplies b. Report on available supplies and dispatches completed c. Liaise with the central level to monitor and report on global supply availability and forecast (request for new supplies) d. Monitors and reports on supply chain disruptions or blockages	Ongoing
10. Programme Management	a. Support referral hospitals with resource allocation and management b. Ensure budget monitoring of the allocated funds with WHO country office and the National nCov technical and ministerial committees c. Manage and support financial allocation for all operating costs d. Support the surge deployment resources from the private sector and public sector rosters of experts e. Support fast track procurement request for national and subnational health facilities	Ongoing

Annexes

Annex 1_surveillance documents and forms in attached zipped folder:

- Case Definition
- Hospital Reporting Form
- Specimen collection
- Laboratory request form
- Call center
- Caller form
- Patient and data flow
- The First Few X (FFX) Cases and contact investigation protocol
- Household transmission investigation protocol

Annex 2_laboratory documents and forms in attached zipped folder:

- Receiving and processing samples suspected for COVID-19
- Instructions of donning and removing of PPEs using gown
- Instructions on donning and doffing of PPEs using coverall
- Real time RT PCR
- Receiving and processing samples suspected for COVID-19
- Sequence of donning PPE audit checklist
- Sequence of removing PPE audit checklist
- Sequence of removing PPE using coverall audit checklist
- Specimen collection and handling guidelines of suspected novel coronavirus
- Recommendations for sample transportation
- Waste management of contaminated materials
- Reception of samples suspected of novel coronavirus

Annex 3_Self Isolation guidelines

English
Self-Isolation **Upon your return from an affected country, or in case you had close contact with a suspected or confirmed COVID-19 case, you need to self-isolate for 14 days even if you do not have any symptoms** **From the airport to your house:** • Wear a facemask before you exit the plane • Do not hug and kiss any of your friends or family receiving you at the airport • Use a private car to drive home • One of the plane passengers should drive the car • Leave car windows open • Go directly to your house or to the place where you will self-isolate **At your house:** • Stay home; in your room, your apartment, or your house. Do not go to work, classes, athletic events, or other religious or social gatherings until 14 days after the date of your departure from the affected country. • Stay in a well-ventilated room with a window that can be opened, separate from other people in your home. Keep the door closed • Ask friends, family members or delivery services to carry out errands for you – such as getting groceries, medications or other shopping • Wash your hands. This should be done often and thoroughly with soap and water, for at least 20 seconds, rinse and dry thoroughly. Avoid touching your eyes, nose, and mouth with unwashed hands. • Do not invite or allow visitors to enter. If it urgent to speak to someone who is not a member of your household, do this over the phone. • It is important that you separate yourself from other people in your home and if you share facilities like toilets and bathrooms, regular cleaning will be required. • Ensure you use separate towels from other household members, both for drying yourself after bathing or showering and for hand hygiene purposes. • Do not share drinking glasses, towels, eating utensils, bedding, or any other items until you are no longer asked to self-isolate. • All waste that has been in contact with the individual, including used tissues, and masks if used, should be put in a plastic rubbish bag and tied when full. The plastic bag should then be placed in a second bin bag and tied.

Annex 4_ Interventions Implemented So Far in Lebanon

	What is already done	**In progress**	**Partners to MOPH**
coordination	-a National Crisis Multi- Ministerial committee is established -National inter- ministerial crisis Task force is established -a standing National Infectious Diseases Committee is activated	-More active engagement of non-health stakeholders (Crisis response funding, self-quarantine monitoring, points of Entry screening)	WHO, UNCT, OCHA, DRM
Points of entry	-Written SOPs for travelers screening -Updated travelers screening form -Awareness roll ups and brochures -PPEs for airport and land crossing health and security staff -PM decision regarding measures at Airport -Surged additional staff for screening travelers (9 RNs by WHO, 3 MDs volunteers) -Repurposed 23 RNs (UNICEF)for land crossings -Training Land crossing health and security staff	-Stock piling of PPEs for all POE -More political commitment for implementation of prevention measures	WHO, UNICEF, ministry of public works, academic institutions, professional orders
surveillance	-Team trained and equipped -Call center activated -Case investigation SOPs updated -Contact tracing and referral SOPs updated -FFX investigation	-Logistics support (drivers for coordination in all Mohafazat of surveillance activities) -Human resources for call center, and patient and contact tracing and investigation -PPEs	WHO, heath societies: Infectious diseases, epidemiology, pulmonary; academic institutions, professional orders and syndicates

Diagnosis and treatment	-Reference Lab at RHUH fully and safely equipped for testing -4 isolation rooms, 128 beds dedicated, additional 64 beds under preparation at RHUH -Stock of PPEs for one month at RHUH -Guidelines for testing, referral, case management and IPC disseminated to all health professionals, and to UN medical team (ESCWA and UNIFIL) -assessment of 5 public hospitals for potential	-Securing sufficient quantities of reagents and primers and lab supplies at reference lab -Update all hospitals contingency plans -Designate and upgrade referral hospitals in each Mohafazat -Clarify role of private sector in crisis response and case management -ensure a national contingency stock of advanced PPEs for hospital case management	WHO, heath societies: infectious diseases, epidemiology, pulmonary; academic institutions, professional orders and syndicates
Risk communication	-Awareness brochures for general public and travelers -TV radio and social media interviews -Daily sitrep by WHO, periodical preparedness briefs -Sensitization meeting to Scientific societies at order of physicians -Community volunteers (NGOs and LEMSIC) for	-Media support staff at MOPH for daily communication and updates -More community sensitization and active engagement	WHO, UNICEF, UNCT, RCO, Media, ministry of Information, DRM.

Annex B: Basic Laboratories – Biosafety Levels 1 and 2

Extracted from "WHO Laboratory biosafety manual - Third edition- 2004" available online through https://www.who.int/csr/resources/publications/biosafety/Biosafety7.pdf

3. Basic laboratories- Biosafety Levels 1 and 2

For the purposes of this manual, the guidance and recommendations given as minimum requirements pertaining to laboratories of all biosafety levels are directed at microorganisms in Risk Groups 1-4. Although some of the precautions may appear to be unnecessary for some organisms in Risk Group 1, they are desirable for training purposes to promote good (i.e.safe) microbiological techniques (GMT).

Diagnostic and health-care laboratories (public health, clinical or hospital-based) must all be designed for Biosafety Level 2 or above. As no laboratory has complete control over the specimens it receives, laboratory workers may be exposed to organisms in higher risk groups than anticipated. This possibility must be recognized in the development of safety plans and policies. In some countries, accreditation of clinical laboratories is required. Globally, standard precautions (2) should always be adopted and practiced.

The guidelines for basic laboratories – Biosafety Levels 1 and 2 presented here are comprehensive and detailed, as they are fundamental to laboratories of all biosafety levels. The guidelines for containment Laboratories-Biosafety Level3 and maximum containment laboratories- Biosafety Level 4 that follow (Chapters 4 and 5) are modifications of and additions to these guidelines, designed for work with the more dangerous (hazardous) pathogens.

Code of practice

This code is a listing of the most essential laboratory practices and procedures that are basic to GMT. In many laboratories and national laboratory programmes, this code may be used to develop written practices and procedures for safe laboratory operations.

Each laboratory should adopt a safety or operations manual that identifies known and potential hazards, and specifies practices and procedures to eliminate or minimize such hazards. GMT are fundamental to laboratory safety. Specialized laboratory equipment is a supplement to but can never replace appropriate procedures. The most important concepts are listed below.

Access

1. The international biohazard warning symbol and sign (Figure 1) must be displayed on the doors of the rooms where microorganisms of Risk Group 2 or higher risk groups are handled.

Figure 1. Biohazard warning sign for laboratory doors

BIOHAZARD

ADMITTANCE TO AUTHORIZED PERSONNEL ONLY

Biosafety Level:

Responsible investigator:_____ In

case of emergency call: _ _ _ _ _ _ _ _

Daytime phone:_____Home phone:_____

2. Only authorized persons should be allowed to enter the laboratory working areas.
3. Laboratory doors should be kept closed.
4. Children should not be authorized or allowed to enter laboratory working areas.
5. Access to animal houses should be specially authorized.
6. No animals should be admitted other than those involved in the work of the laboratory.

Personal protection

1. Laboratory coveralls, gowns or uniforms must be worn at all times for work in the laboratory.
2. Appropriate gloves must be worn for all procedures that may involve direct or accidental contact with blood, body fluids and other potentially infectious materials or infected animals. After use, gloves should be removed aseptically and hands must then be washed.
3. Personnel must wash their hands after handling infectious materials and animals, and before they leave the laboratory working areas.

4. Safety glasses, face shields (visors) or other protective devices must be worn when it is necessary to protect the eyes and face from splashes, impacting objects and sources of artificial ultraviolet radiation.
5. It is prohibited to wear protective laboratory clothing outside the laboratory, e.g. in canteens, coffee rooms, offices, libraries, staff rooms and toilets.
6. Open-toed footwear must not be worn in laboratories.
7. Eating, drinking, smoking, applying cosmetics and handling contact lenses is prohibited in the laboratory working areas.
8. Storing human foods or drinks anywhere in the laboratory working areas is prohibited.
9. Protective laboratory clothing that has been used in the laboratory must not be stored in the same lockers or cupboards as street clothing.

Procedures

1. Pipetting by mouth must be strictly forbidden.
2. Materials must not be placed in the mouth. Labels must not be licked.
3. All technical procedures should be performed in a way that minimizes the formation of aerosols and droplets.
4. The use of hypodermic needles and syringes should be limited. They must not be used as substitutes for pipetting devices or for any purpose other than parenteral injection or aspiration of fluids from laboratory animals.
5. All spills, accidents and overt or potential exposures to infectious materials must be reported to the laboratory supervisor. A written record of such accidents and incidents should be maintained.
6. A written procedure for the clean-up of all spills must be developed and followed.
7. Contaminated liquids must be decontaminated (chemically or physically) before discharge to the sanitary sewer. An effluent treatment system may be required, depending on the risk assessment for the agent(s) being handled.
8. Written documents that are expected to be removed from the laboratory need to be protected from contamination while in the laboratory.

Laboratory working areas

1. The laboratory should be kept neat, dean and free of materials that are not pertinent to the work.
2. Work surfaces must be decontaminated after any spill of potentially dangerous material and at the end of the working day.
3. All contaminated materials, specimens and cultures must be decontaminated before disposal or cleaning for reuse.
4. Packing and transportation must follow applicable national and/or international regulations.
5. When windows can be opened, they should be fitted with arthropod-proof screens.

Biosafety management

1. It is the responsibility of the laboratory director (the person who has immediate responsibility for the laboratory) to ensure the development and adoption of a biosafety management plan and a safety or operations manual.
2. The laboratory supervisor (reporting to the laboratory director) should ensure that regular training in laboratory safety is provided.
3. Personnel should be advised of special hazards, and required to read the safety or operations manual and follow standard practices and procedures. The laboratory supervisor should make sure that all personnel understand these. A copy of the safety or operations manual should be available in the laboratory.
4. There should be an arthropod and rodent control programme.
5. Appropriate medical evaluation, surveillance and treatment should be provided for all personnel in case of need, and adequate medical records should be maintained.

Laboratory design and facilities

In designing a laboratory and assigning certain types of work to it, special attention should be paid to conditions that are known to pose safety problems. These include:

1. Formation of aerosols
2. Work with large volumes and/or high concentrations of microorganisms
3. Overcrowding and too much equipment
4. Infestation with rodents and arthropods
5. Unauthorized entrance
6. Workflow: use of specific samples and reagents.

Examples of laboratory designs for Biosafety Levels 1 and 2 are shown in Figures 2 and 3, respectively.

Design features

1. Ample space must be provided for the safe conduct of laboratory work and for cleaning and maintenance.
2. Walls, ceilings and floors should be smooth, easy to dean, impermeable to liquids and resistant to the chemicals and disinfectants normally used in the laboratory. Floors should be slip-resistant.
3. Bench tops should be impervious to water and resistant to disinfectants, acids, alkalis, organic solvents and moderate heat.
4. Illumination should be adequate for all activities. Undesirable reflections and glare should be avoided.
5. Laboratory furniture should be sturdy. Open spaces between and under benches, cabinets and equipment should be accessible for cleaning.
6. Storage space must be adequate to hold supplies for immediate use and thus prevent clutter on bench tops and in aisles. Additional long-term storage space, conveniently located outside the laboratory working areas, should also be provided.

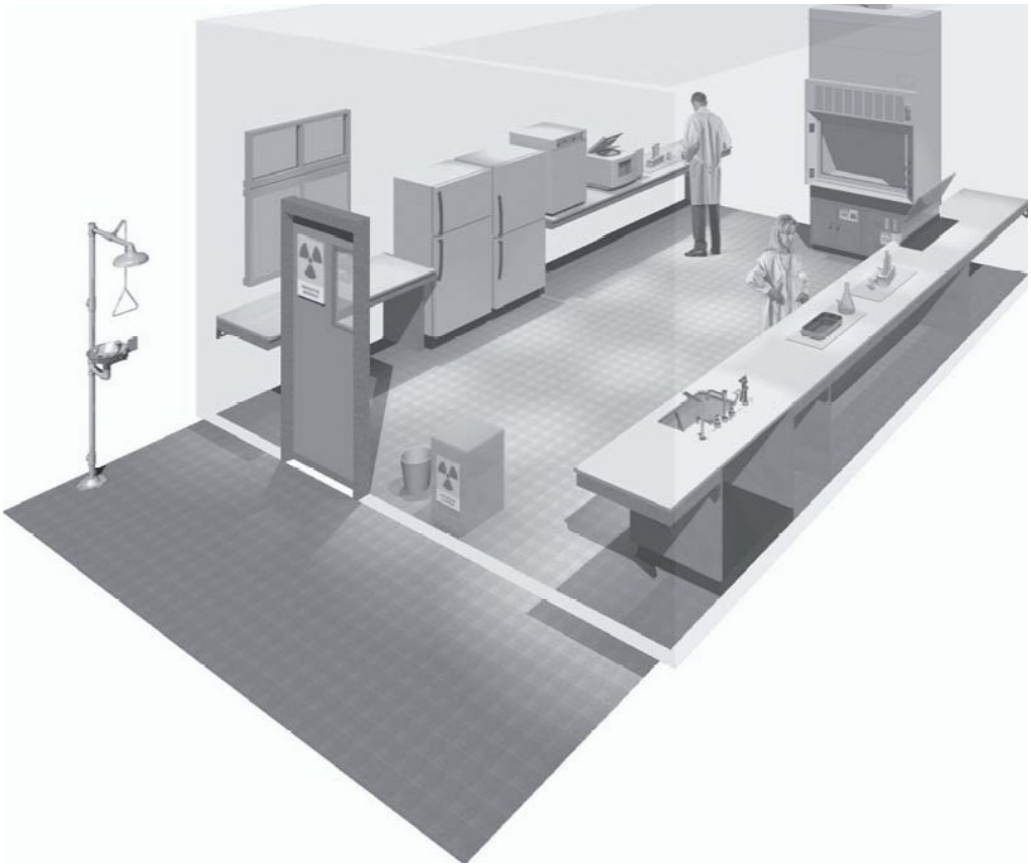

Figure 2. ***A typical Biosafety Level 1 Laboratory***
(graphics kindly provided by CUH2A, Princeton, NJ, USA)

7. Space and facilities should be provided for the safe handling and storage of solvents, radioactive materials, and compressed and liquefied gases.
8. Facilities for storing outer garments and personal items should be provided outside the laboratory working areas.
9. Facilities for eating and drinking and for rest should be provided outside the laboratory working areas.
10. Hand-washing basins, with running water if possible, should be provided in each laboratory room, preferably near the exit door.
11. Doors should have vision panels, appropriate fire ratings, and preferably be self-closing.
12. At Biosafety Level2, an autoclave or other means of decontamination should be available in appropriate proximity to the laboratory.
13. Safety systems should cover fire, electrical emergencies, emergency shower and eyewash facilities.
14. First-aid areas or rooms suitably equipped and readily accessible should be available

15. In the planning of new facilities, consideration should be given to the provision of mechanical ventilation systems that provide an inward flow of air without recirculation. If there is no mechanical ventilation, windows should be able to be opened and should be fitted with arthropod-proof screens.
16. A dependable supply of good quality water is essential. There should be no cross- connections between sources of laboratory and drinking-water supplies. An anti- backflow device should be fitted to protect the public water system.
17. There should be a reliable and adequate electricity supply and emergency lighting to permit safe exit. A stand-by generator is desirable for the support of essential equipment, such as incubators, biological safety cabinets, freezers, etc., and for the ventilation of animal cages.
18. There should be a reliable and adequate supply of gas. Good maintenance of the installation is mandatory.
19. Laboratories and animal houses are occasionally the targets of vandals. Physical and fire security must be considered. Strong doors, screened windows and restricted issue of keys are compulsory. Other measures should be considered and applied, as appropriate, to augment security (see Chapter 9).

Laboratory equipment

Together with good procedures and practices, the use of safety equipment will help to reduce risks when dealing with biosafety hazards. This section deals with basic principles related to equipment suitable for laboratories of all biosafety levels. Requirements for laboratory equipment pertinent to higher biosafety levels are dealt with in the relevant chapters.

The laboratory director should, after consultation with the biosafety officer and safety committee (if designated), ensure that adequate equipment is provided and that it is used properly. Equipment should be selected to take account of certain general principles, i.e. it should be:

1. Designed to prevent or limit contact between the operator and the infectious material
2. Constructed of materials that are impermeable to liquids, resistant to corrosion and meet structural requirements
3. Fabricated to be free of burrs, sharp edges and unguarded moving parts
4. Designed, constructed and installed to facilitate simple operation and provide for ease of maintenance, cleaning, decontamination and certification testing; glassware and other breakable materials should be avoided, whenever possible.

Detailed performance and construction specifications may need to be consulted to ensure that the equipment possesses the necessary safety features (see also Chapters 10 and 11).

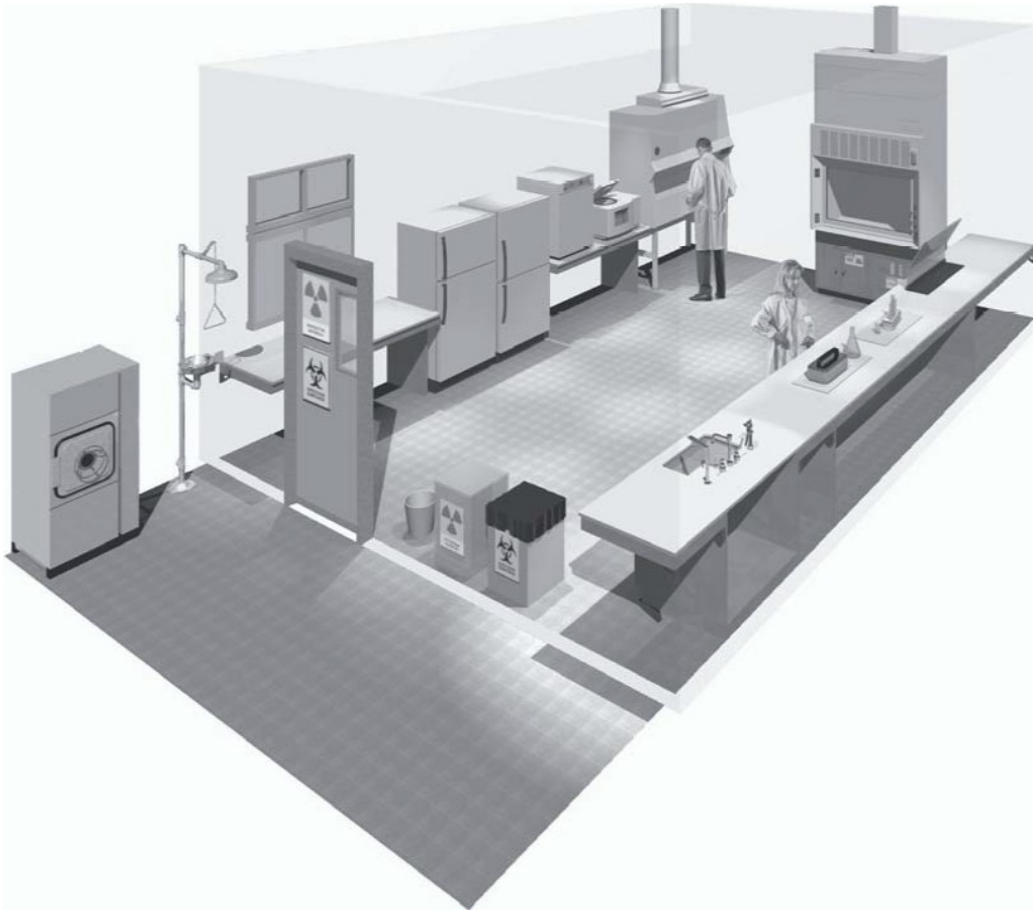

Figure 3. ***A typical Biosafety Level 2 laboratory***
(graphics kindly provided by CUH2A, Princeton, NJ USA). Procedures likely to generate aerosols are performed within a biological safety cabinet. Doors are kept closed and are posted with appropriate hazard signs. Potentially contaminated wastes are separated from the general waste stream.

Essential biosafety equipment

1. Pipetting aids –to avoid mouth pipetting. Many different designs are available.
2. Biological safety cabinets, to be used whenever:
   - infectious materials are handled; such materials may be centrifuged in the open laboratory if sealed centrifuge safety cups are used and if they are loaded and unloaded in a biological safety cabinet
   - there is an increased risk of airborne infection
   - procedures with a high potential for producing aerosols are used; these may include centrifugation, grinding, blending, vigorous shaking or mixing, sonic disruption, opening of containers of infectious materials whose internal pressure may be different from the ambient pressure, intranasal inoculation of animals, and harvesting of infectious tissues from animals and eggs.
3. Plastic disposable transfer loops. Alternatively, electric transfer loop incinerators may be used inside the biological safety cabinet to reduce aerosol production.

4. Screw-capped tubes and bottles.
5. Autoclaves or other appropriate means to decontaminate infectious materials.
6. Plastic disposable Pasteur pipettes, whenever available, to avoid glass.
7. Equipment such as autoclaves and biological safety cabinets must be validated with appropriate methods before being taken into use. Recertification should take place at regular intervals, according to the manufacturer's instructions (see Chapter 7).

Health and medical surveillance

The employing authority, through the laboratory director, is responsible for ensuring that there is adequate surveillance of the health of laboratory personnel. The objective of such surveillance is to monitor for occupationally acquired diseases. Appropriate activities to achieve these objectives are:

1. Provision of active or passive immunization where indicated
2. Facilitation of the early detection of laboratory-acquired infections
3. Exclusion of highly susceptible individuals (e.g. pregnant women or immune compromised individuals) from highly hazardous laboratory work
4. Provision of effective personal protective equipment and procedures.

Guidelines for the surveillance of laboratory workers handling microorganisms at Biosafety Level 1

Historical evidence indicates that the microorganisms handled at this level are unlikely to cause human disease or animal disease of veterinary importance. Ideally, however, all laboratory workers should undergo a pre-employment health check at which their medical history is recorded. Prompt reporting of illnesses or laboratory accidents is desirable and all staff members should be made aware of the importance of maintaining GMT.

Guidelines for the surveillance of laboratory workers handling microorganisms at Biosafety Level 2

1. A pre-employment or preplacement health check is necessary. The person's medical history should be recorded and a targeted occupational health assessment performed.
2. Records of illness and absence should be kept by the laboratory management.
3. Women of childbearing age should be made aware of the risk to an unborn child of occupational exposure to certain microorganisms, e.g. rubella virus. The precise steps taken to protect the fetus will vary, depending on the microorganisms to which the women may be exposed.

Training

Human error and poor technique can compromise the best of safeguards to protect the laboratory worker. Thus, a safety-conscious staff, well informed about the recognition and control of laboratory hazards, is key to the prevention of laboratory-

acquired infections, incidents and accidents. For this reason, continuous in-service training in safety measures is essential. An effective safety programmer begins with the laboratory managers, who should ensure that safe laboratory practices and procedures are integrated into the basic training of employees. Training in safety measures should be an integral part of new employees 'introduction to the laboratory. Employees should be introduced to the code of practice and to local guidelines, including the safety or operations manual. Measures to assure that employees have read and understood the guidelines, such as signature pages, should be adopted. Laboratory supervisors play the key role in training their immediate staff in good laboratory techniques. The biosafety officer can assist in training and with the development of training aids and documentation (see also Chapter 21).

Staff training should always include information on safe methods for highly hazardous procedures that are commonly encountered by all laboratory personnel and which involve:

1. Inhalation risks (i.e. Aerosol production) when using loops, streaking agar plates, pipetting, making smears, opening cultures, taking blood/serum samples, centrifuging, etc.
2. Ingestion risks when handling specimens, smears and cultures
3. Risks of percutaneous exposures when using syringes and needles
4. Bites and scratches when handling animals
5. Handling of blood and other potentially hazardous pathological materials
6. Decontamination and disposal of infectious material.

Waste handling

Waste is anything that is to be discarded.

In laboratories, decontamination of wastes and their ultimate disposal are closely interrelated. In terms of daily use, few if any contaminated materials will require actual removal from the laboratory or destruction. Most glassware, instruments and laboratory clothing will be reused or recycled. The overriding principle is that all infectious materials should be decontaminated, autoclaved or incinerated within the laboratory.

The principal questions to be asked before discharge of any objects or materials from laboratories that deal with potentially infectious microorganisms or animal tissues are:

1. Have the objects or materials been effectively decontaminated or disinfected by an approved procedure?
2. If not, have they been packaged in an approved manner for immediate on-site incineration or transfer to another facility with incineration capacity?
3. Does the disposal of the decontaminated objects or materials involve any additional potential hazards, biological or otherwise, to those who carry out the immediate disposal procedures or who might come into contact with discarded items outside the facility?

Decontamination

Steam autoclaving is the preferred method for all decontamination processes. Materials for decontamination and disposal should be placed in containers, e.g. autoclavable plastic bags, that are colour-coded according to whether the contents are to be autoclaved and/or incinerated. Alternative methods may be envisaged only if they remove and/or kill microorganisms (for more details see Chapter 14).

Handling and disposal procedures for contaminated materials and wastes

An identification and separation system for infectious materials and their containers should be adopted. National and international regulations must be followed. Categories should include:

1. Non-contaminated (non-infectious) waste that can be reused or recycled or disposed of as general, “household" waste
2. Contaminated (infectious) "sharps"- hypodermic needles, scalpels, knives and broken glass; these should always be collected in puncture-proof containers fitted with covers and treated as infectious
3. Contaminated material for decontamination by autoclaving and thereafter washing and reuse or recycling
4. Contaminated material for autoclaving and disposal
5. Contaminated material for direct incineration.

Sharps

After use, hypodermic needles should not be recapped, clipped or removed from disposable syringes. The complete assembly should be placed in a sharps disposal container. Disposable syringes, used alone or with needles, should be placed in sharps disposal containers and incinerated, with prior autoclaving if required.

Sharps disposal containers must be puncture-proof/-resistant and must not be filled to capacity. When they are three-quarters full they should be placed in "infectious waste “containers and incinerated, with prior autoclaving if laboratory practice requires it. Sharps disposal containers must not be discarded in landfills.

Contaminated (potentially infectious) materials for autoclaving and reuse

No preclearing should be attempted of any contaminated (potentially infectious) materials to be autoclaved and reused. Any necessary cleaning or repair must be done only after autoclaving or disinfection.

Contaminated (potentially infectious) materials tor disposal

Apart from sharps, which are dealt with above, all contaminated (potentially infectious) materials should be autoclaved in leak-proof containers, e.g. autoclavable, colour-coded plastic bags, before disposal. After autoclaving, the material may be placed in transfer containers for transport to the incinerator. If possible, materials deriving from health- care activities should not be discarded in landfills even after decontamination. If an

incinerator is available on the laboratory site, autoclaving may be omitted: the contaminated waste should be placed in designated containers (e.g. colour-coded bags) and transported directly to the incinerator. Reusable transfer containers should be leak-proof and have tight-fitting covers. They should be disinfected and cleaned before they are returned to the laboratory for further use.

Discard containers, pans or jars, preferably unbreakable (e.g. plastic), should be placed at every work station. When disinfectants are used, waste materials should remain in intimate contact with the disinfectant (i.e. not protected by air bubbles) for the appropriate time, according to the disinfectant used (see Chapter 14). The discard containers should be decontaminated and washed before reuse.

Incineration of contaminated waste must meet with the approval of the public health and air pollution authorities, as well as that of the laboratory biosafety officer (see section on Incineration in Chapter 14).

Chemical, fire, electrical, radiation and equipment safety

A breakdown in the containment of pathogenic organisms may be the indirect result of chemical, fire, electrical or radiation accidents. It is therefore essential to maintain high standards of safety in these fields in any microbiological laboratory. Statutory rules and regulations for each of these will normally be laid down by the competent national or local authority, whose assistance should be sought if necessary. Chemical, fire, electrical and radiation hazards are considered in greater detail in Part VI of this manual (Chapters 17 and 18).

Additional information regarding safety equipment is presented in Chapter 11.

Annex C: Hospital Performance Contracting 2014- MoPH – Lebanon[36]

The following factors have been chosen as measures of hospital performance in 2014 [37], for use in setting tariffs for services provided by public and private hospitals contracted with the MoPH:

1. Accreditation
2. Patient satisfaction
3. Case-Mix Index (CMI)
4. Intensive Care Unit (ICU) admissions
5. Proportion of Surgical to Medical admissions
6. Deduction rate

The main purpose is to set a fair pricing system that reflects the complexity as well as the quality of services provided. Some indicators are integrated to provide incentives and disincentives for hospitals to promote good practice and discourage overuse and abuse of the system. The first two factors, accreditation and patient satisfaction, are a reflection of quality, accounting for 40% and 10% respectively of the total contracting score. Factors 3 to 6 are a reflection of performance, and together account for 50% of the total contracting score.

The base data used for indicators of factors 3 to 5 is all regular stay (2-15 days) hospitalizations that took place under the MoPH's coverage in public and private hospitals, between June 2012 and May 2013. This comprises 76% of all admissions in this period, and excludes short-stay (0-1 days; 22%) and long-stay (>15 days; 2%) to enable the calculation of an accurate CMI, a similar practice used in other systems such as the US Centers for Medicare and Medicaid Services (CMS).

1. Accreditation

The results of the 2012 accreditation round of hospitals have been used in developing the contracting score. Accreditation was given a weight of 40% in this score relative to other factors. All hospitals with no reservation result were given an incentive of 5%, by including a multiplier of 1.05, while all hospitals with a simple reservation result had a neutral multiplier of 1.

2. Patient satisfaction

A phone call survey conducted by a professional and independent firm is conducted on a randomly selected sample of 25 patients per hospital. The results of the survey have a weight of 10% of the total contracting score. Therefore, accreditation and patient satisfaction together comprise 50% of the total contracting score.

3. Case-Mix Index (CMI)

Case-Mix Index was first calculated separately for medical and surgical admissions, using discharge diagnosis ICD10 and CPT code respectively. We also excluded mixed admissions that comprise only 4% of hospitalizations, to enable a more accurate CMI calculation. The methodology is similar to that detailed in the article "Ammar W., Khalife J., El-Jardali F., Romanos J., Harb H., Hamadeh G., Dimassi H. (2013). Hospital accreditation, reimbursement and case mix: links and insights for contractual systems.

[36] Proposal submitted on April 15th 2014 by the three committees of the ESPISP-II project, financed by the World Bank. Ref.: https://www.moph.gov.lb/userfiles/files/Programs%26Projects/ESPISP%20II/HospitalPerformanceContracting2014.pdf

[37] The results mentioned in this document are transitory and will be updated upon completion of the patient satisfaction survey.

BMC Health Services Research 13:505", and using a similar formula as that used by the US Centers for Medicare and Medicaid Services and various other national systems throughout the past three decades.

To increase the accuracy of the weights used in calculation of medical CMI, we used cost data based on all admissions from June 2011 to May 2013 (2 years). This is useful as medical admissions, unlike surgical admissions, have non-flat rates and therefore more affected by outliers when the number of admissions is small for certain conditions. A similar reasoning is also behind the exclusion of gastric bypass and cochlear implant in the calculation of surgical CMI, as these were ill-regulated expensive procedures that are performed in very few hospitals, thereby over-influencing their results. Unspecified neurotic disorders, unspecified hemiplegia and unspecified respiratory disorders were similarly excluded, as their distribution was skewed as a result of miscoding.

Once a medical CMI and surgical CMI were calculated for each hospital, they were used to develop a 'combined' CMI by giving each figure a weight based on the relative proportions of medical and surgical admissions to the specific hospital. For example, a hospital with medical CMI of 1.0 and surgical CMI of 1.6, and 100 medical admissions and 200 surgical admissions, would have a combined CMI of 1.4 (i.e. medical CMI is given 33% weight (100/300) and surgical CMI 67% weight (200/300).

Combined CMI was given a weight of 35% in the final contracting score relative to other factors.

4. **Intensive Care Unit (ICU) admissions**

The proportion of admissions to Intensive Care Units (ICU, CCU, NCO, PCU) out of all admissions was calculated for all hospitals. Each hospital admitting more than the average ICU admissions for all hospitals (6.8%) received the full score of the 5% dedicated to the ICU indicators in the final contracting score. Hospitals admitting below this average received a half-score (i.e. 2.5%).

5. **Proportion of surgical to medical admissions**

The proportion of surgical to medical admissions was calculated for each hospital, using the same data set of regular stay (2-15 days) admissions used in CMI calculation. This included 82,901 medical admissions and 95,990 surgical admissions, i.e. 54% of regular stays are surgical admissions. Hospitals in the highest quartile of surgical to medical admissions received a 5% incentive by using a multiplier of 1.05, while the three remaining quartiles had a neutral multiplier of 1.00. The quartiles were defined separately among public and private hospitals. Penalizing the lowest quartile remains a possibility to be considered in the future.

6. **Deduction proportion**

The deduction proportion of each hospital as calculated by the MoPH Auditing Committee has been used as a proportion of total amount billed by the individual hospital. Hospitals with more than 15% deduction are given a -5% disincentive; those between 5.1 and 14.9% are neither given an incentive nor disincentive (neutral); and those with less than 5% deduction are given an incentive of 5% to the final contracting score. It is planned to lower in the future the upper cutoff point to 10% instead of 15%.

Contracting Score

The final contracting score may be expressed as below:

Contracting Score = Accreditation + Patient Satisfaction + Case-Mix Index + Intensive Care Unit proportion + Surgical/Medical proportion + Deduction proportion

CS = Acd + PS + CMI + ICU + Surg/Med + D

These are weighted as follows: 40% Acd, 10% PS, 35% CMI, 5% ICU, 5% Surg/Med and 5% D.

Mean and standard deviation of contracting scores for all hospitals were calculated, and used in a z-score to express the distance of each hospital from the mean. This was done separately for public and private hospitals. Among private hospitals, those with a z-score above 0.00 (i.e. 0 or more standard deviations above the mean) were given highest tariff 1; those between 0 and -0.50 were given middle tariff 2; and those below -0.50 were given lowest tariff 3. Among public hospitals, those with a z-score above 0 were given highest tariff 1; those between 0 and -0.50 were given middle tariff 2; and those below -0.50 were given lowest tariff 3.

This resulted in the below distribution of hospitals:

TARIFF	Private	Public
T1	29	9
T2	45	6
T3	31	9
Total	105	24

Future Contracting Outlook

We anticipate that the evaluation of hospital performance for contracting with MoPH in 2015 will include a greater emphasis on intensive care unit admissions, utilization of respirators, and the deduction proportion from the MoPH auditing committee.

Annex D: Technical Note: Public Consultations and Stakeholder Engagement in WB-supported operations when there are constraints on conducting public meetings

With the outbreak and spread of COVID-19, people have been advised, or may be mandated by national or local law, to exercise social distancing, and specifically to avoid public gatherings to prevent and reduce the risk of the virus transmission. Countries have taken various restrictive measures, some imposing strict restrictions on public gatherings, meetings and people's movement, and others advising against public group events. At the same time, the general public has become increasingly aware and concerned about the risks of transmission, particularly through social interactions at large gatherings.

These restrictions have implications for World Bank-supported operations. In particular, they will affect Bank requirements for public consultation and stakeholder engagement in projects, both under implementation and preparation. WHO has issued technical guidance in dealing with COVID-19, including: (i) Risk Communication and Community Engagement (RCCE) Action Plan Guidance Preparedness and Response; (ii) Risk Communication and Community engagement (RCCE) readiness and response; (iii) COVID-19 risk communication package for healthcare facilities; (iv) Getting your workplace ready for COVID-19; and (v) a guide to preventing and addressing social stigma associated with COVID-19. All these documents are available on the WHO website through the following link: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance.

This Note offers suggestions to World Bank task teams for advising counterpart agencies on managing public consultation and stakeholder engagement in their projects, with the recognition that the situation is developing rapidly and careful regard needs to be given to national requirements and any updated guidance issued by WHO. It is important that the alternative ways of managing consultation and stakeholder engagement discussed with clients are in accordance with the local applicable laws and policies, especially those related to media and communication. The suggestions set out below are subject to confirmation that they are in accordance with existing laws and regulations applying to the project.

Investment projects under implementation. All projects under implementation are likely to have public consultation and stakeholder engagement activities planned and committed as part of project design. These activities may be described in different project documents, and will involve a variety of stakeholders. Commonly planned avenues of such engagement are public hearings, community meetings, focus group discussions, field surveys and individual interviews. With growing concern about the risk of virus spread, there is an urgent need to adjust the approach and methodology for continuing stakeholder consultation and engagement. Taking into account the importance of confirming compliance with national law requirements, below are some suggestions for task teams' consideration while advising their clients:

Task teams will need to review their project, jointly with the PMUs, and should:

- Identify and review planned activities under the project requiring stakeholder engagement and public consultations.
- Assess the level of proposed direct engagement with stakeholders, including location and size of proposed gatherings, frequency of engagement, categories of stakeholders (international, national, local) etc.
- Assess the level of risks of the virus transmission for these engagements, and how restrictions that are in effect in the country / project area would affect these engagements.
- Identify project activities for which consultation/engagement is critical and cannot be postponed without having significant impact on project timelines. For example, selection of resettlement

options by affected people during project implementation. Reflecting the specific activity, consider viable means of achieving the necessary input from stakeholders (see further below).

- Assess the level of ICT penetration among key stakeholder groups, to identify the type of communication channels that can be effectively used in the project context.

Based on the above, task teams should discuss and agree with PMUs the specific channels of communication that should be used while conducting stakeholder consultation and engagement activities. The following are some considerations while selecting channels of communication, in light of the current COVID-19 situation:

- Avoid public gatherings (taking into account national restrictions), including public hearings, workshops and community meetings;
- If smaller meetings are permitted, conduct consultations in small-group sessions, such as focus group meetings If not permitted, make all reasonable efforts to conduct meetings through online channels, including WebEx, zoom and skype;
- Diversify means of communication and rely more on social media and online channels. Where possible and appropriate, create dedicated online platforms and chat groups appropriate for the purpose, based on the type and category of stakeholders;
- Employ traditional channels of communications (TV, newspaper, radio, dedicated phone-lines, and mail) when stakeholders to do not have access to online channels or do not use them frequently. Traditional channels can also be highly effective in conveying relevant information to stakeholders, and allow them to provide their feedback and suggestions;
- Where direct engagement with project affected people or beneficiaries is necessary, such as would be the case for Resettlement Action Plans or Indigenous Peoples Plans preparation and implementation, identify channels for direct communication with each affected household via a context specific combination of email messages, mail, online platforms, dedicated phone lines with knowledgeable operators;
- Each of the proposed channels of engagement should clearly specify how feedback and suggestions can be provided by stakeholders;
- An appropriate approach to conducting stakeholder engagement can be developed in most contexts and situations. However, in situations where none of the above means of communication are considered adequate for required consultations with stakeholders, the team should discuss with the PMU whether the project activity can be rescheduled to a later time, when meaningful stakeholder engagement is possible. Where it is not possible to postpone the activity (such as in the case of ongoing resettlement) or where the postponement is likely to be for more than a few weeks, the task team should consult with the OESRC to obtain advice and guidance.

Investment projects under preparation. Where projects are under preparation and stakeholder engagement is about to commence or is ongoing, such as in the project E&S planning process, stakeholder consultation and engagement activities should not be deferred, but rather designed to be fit for purpose to ensure effective and meaningful consultations to meet project and stakeholder needs. Some suggestions for advising clients on stakeholder engagement in such situations are given below. These suggestions are subject to the coronavirus situation in country, and restrictions put in place by governments. The task team and the PMU should:

- Review the country COVID-19 spread situation in the project area, and the restrictions put in place by the government to contain virus spread;

- Review the draft Stakeholder Engagement Plan (SEP, if it exists) or other agreed stakeholder engagement arrangements, particularly the approach, methods and forms of engagement proposed, and assess the associated potential risks of virus transmission in conducting various engagement activities;

- Be sure that all task team and PIU members articulate and express their understandings on social behavior and good hygiene practices, and that any stakeholder engagement events be preceded with the procedure of articulating such hygienic practices.
- Avoid public gatherings (taking into account national restrictions), including public hearings, workshops and community meetings, and minimize direct interaction between project agencies and beneficiaries / affected people;
- If smaller meetings are permitted, conduct consultations in small-group sessions, such as focus group meetings. If not permitted, make all reasonable efforts to conduct meetings through online channels, including WebEx, zoom and skype meetings;
- Diversify means of communication and rely more on social media and online channels. Where possible and appropriate, create dedicated online platforms and chat groups appropriate for the purpose, based on the type and category of stakeholders;
- Employ traditional channels of communications (TV, newspaper, radio, dedicated phone-lines, public announcements and mail) when stakeholders do not have access to online channels or do not use them frequently. Such channels can also be highly effective in conveying relevant information to stakeholders, and allow them to provide their feedback and suggestions;
- Employ online communication tools to design virtual workshops in situations where large meetings and workshops are essential, given the preparatory stage of the project. WebEx, Skype, and in low ICT capacity situations, audio meetings, can be effective tools to design virtual workshops. The format of such workshops could include the following steps:

    - *Virtual registration of participants*: Participants can register online through a dedicated platform.
    - *Distribution of workshop materials to participants, including agenda, project documents, presentations, questionnaires and discussion topics*: These can be distributed online to participants.
    - *Review of distributed information materials*: Participants are given a scheduled duration for this, prior to scheduling a discussion on the information provided.
    - *Discussion, feedback collection and sharing*:
        - ✓ Participants can be organized and assigned to different topic groups, teams or virtual "tables" provided they agree to this.
        - ✓ Group, team and table discussions can be organized through social media means, such as WebEx, skype or zoom, or through written feedback in the form of an electronic questionnaire or feedback forms that can be emailed back.
    - *Conclusion and summary:* The chair of the workshop will summarize the virtual workshop discussion, formulate conclusions and share electronically with all participants.
- In situations where online interaction is challenging, information can be disseminated through digital platform (where available) like Facebook, Twitter, WhatsApp groups, Project web links/ websites, and traditional means of communications (TV, newspaper, radio, phone calls and mails with clear description of mechanisms for providing feedback via mail and / or dedicated telephone lines. All channels of communication need to clearly specify how stakeholders can provide their feedback and suggestions.

- *Engagement with direct stakeholders for household surveys*: There may be planning activities that require direct stakeholder engagement, particularly in the field. One example is resettlement planning where surveys need to be conducted to ascertain socioeconomic status of affected people, take inventory of their affected assets, and facilitate discussions related to relocation and livelihood planning. Such survey activities require active participation of local stakeholders, particularly the potentially adversely affected communities. However, there may be situations involving indigenous communities, or other communities that may not have access to the digital platforms or means of communication, teams should develop specially tailored stakeholder engagement approaches that will be appropriate in the specific setting. The teams should reach out to the regional PMs for ENB and Social Development or to the ESSA for the respective region, in case they need additional support to develop such tailored approaches.
- In situations where it is determined that meaningful consultations that are critical to the conduct of a specific project activity cannot be conducted in spite of all reasonable efforts on the part of

the client supported by the Bank, the task team should discuss with the client whether the proposed project activities can be postponed by a few weeks in view of the virus spread risks. This would depend on the COVID-19 situation in the country, and the government policy requirements to contain the virus spread. Where it is not possible to postpone the activity (such as in the case of ongoing resettlement) or where the postponement is likely to be for more than a few weeks, the task team should consult with the OESRC to obtain advice and guidance.