Preparedness Pays Off

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The Lebanese ministry of public health started to prepare to respond to Covid-19 pandemic, other communicable diseases outbreaks and disaster risk reduction activities since two decades.
The ministry efforts supported by WHO focused on reinforcing the national surveillance system, capacity building of MoPH emergency preparedness, implementation of International Health Regulations (IHR) and empowering the laboratory preparedness.
It was after the July war in 2006 when the ministry of public health revised its health strategy focusing on improving national emergency health preparedness and response capacity all over the country. Responding to two public health threats that emerged, namely the Avian influenza outbreak and the novel AH1N1 pandemic created opportunities for the ministry of public health to make additional efforts for preparedness and response.

Reinforcing the National Surveillance System:

The Epidemiological Surveillance Unit (ESU) was established in 1994 under the Directorate of Prevention with a direct supervision of the Director General. Since its establishment the ESU has been expanding both in scope of work and in human resources. In addition to the classical analysis of notifiable communicable diseases data, ESU has developed activities focusing on communicable diseases in addition to selected non-communicable diseases such as road traffic accidents, snake bites, and cancer. The ESU work was decentralized in 2005 at Qada level. Ten surveillance subsystems have been initiated: ICU-based surveillance, hospital-based mortality, aggregate laboratory data, reporting from medical centers, school absence reporting, national cancer registry, road traffic injury , snake bite surveillance, chemical surveillance and environmental surveillance.
In 2006, the ministry established the Early Warning Alert and Response System (EWARS), based on epidemiologic surveillance at the level of Primary health care centers network. EWARS system in Lebanon includes priority epidemic prone diseases in humanitarian emergencies including acute watery diarrhea, bloody diarrhea, acute respiratory infections, measles, AFP and viral hepatitis. EWARS was expanded to the private sector and to the armed forces. The paper-based (fax-based) system was upgraded to electronic reporting system to have real time information using the DHIS2 tool. In addition, the ministry developeda web-based reporting system, aiming at solo-practice private physicians.

Capacity Building in Emergency Preparedness:

The Emergency Health Operations Unit (EHOU) was established in 2009 at the Rafic Hariri Governmental Hospital for hospital emergencies coordination with advanced IT and communication equipment.
Various trainings on Emergency Preparedness and Contingency Planning were conducted to create a critical mass of professionals who have the same understanding and basic standard approach to emergency preparedness and response based on the national health emergency preparedness and response field book and MoPH emergency contingency plan in hospitals that were developed by the MoPH in 2002 after the SARS corona outbreak and was updated in 2009 after the H1N1 pandemic.
The initial advanced training workshops were attended by various health and related institutions, including government institutions, armed forces, NGOs and professional health societies.
In addition, WHO country team in collaboration with the MOPH organized workshops in coordination with the Syndicate of Hospitals in Lebanon and the Lebanese Society of Emergency Medicine and were attended by multidisciplinary staff from 90 public and private hospitals across the country. All hospitals were provided with the contingency planning template to prepare their own plans. In total, more than 4,000 health professionals have received training related to emergency preparedness in health.

Implementation of International Health Regulations (IHR):

Implementation of International Health Regulations (IHR, 2005) includes the development and strengthening of the core capacities for surveillance, monitoring, assessment, notification, preparedness and response to events that can constitute a national and international public health emergency. IHR regulations came into effect in June 2007 and Lebanon signed on itofficially in 2010.
Lebanon started the implementation since then and focused on strengthening national disease surveillance, prevention, control and response systems as well asstrengthening public health security in travel and transport (as the control of diseases at border crossings remains a fundamental element of IHR), established a national committee and a technical committee for IHR implementation and a Chemical, Biological, Radiological and Nuclear (CBRN) Committee at prime minister cabinet with a set mechanism for coordination between all committees and relevant sectors as well as with the national supreme commission for relief at the council of ministers level. Other implementation mechanisms that were taken by the ministry include: preparations of Hazmat teams to respond to chemical, biological, radiological, and nuclear events (teams included staff from public and private hospitals, Lebanese army, fire fighters department, civil defense, and Lebanese red cross), training for the management and transport of potentially infectious patients in the community and at points of entry as well as capacity was developed for the Lebanese red cross and civil defense for referral and transport of patients with an infectious disease or contaminated with chemical or radiation hazards, national stockpiling for emergencies with personal protective equipment (PPEs), development of contingency plans for Ebola, cholera, pandemic influenza,

and polio and upgraded communication platforms with the population at community level using ministry website, social media platforms and phone application, training for all relevant staff (medical and non-medical) at all points of entry (airport, land ports and sea ports).
As for strengthening the preparedness of Rafic Hariri University Hospital (RHUH) and in addition to the establishment of the EHOU, the ministry contracted with RHUH for all time preparedness for Ebola cases and any other case management of any outbreak in 2015. For that, the hospital was equipped with isolation capacity and negative pressure for 4 patients specialized in treating infections caused by emerging viruses, equipped with PPEs and trained all relevant staff. In 2009, and to enhance the national diagnostic capabilities, the national influenza laboratory was hosted at the Department of Laboratory Medicine at RHUHas well the Measles laboratory and was recognized by WHO as a reference lab.

Covid-19 Health response in Lebanon:

The MoPH has been proactive in taking the necessary measures to enhance and activate the country preparedness, surveillance for corona and response capacities before the first case was detected in Lebanon in January 30, 2020, and even before WHO declared covid-19 outbreak as a public health emergency of international concern. MoPH worked on ensuring better preparedness and response

through numerous activities; issuance of memos for case definition and identifying countries with local transmission to follow up on travelers coming from these countries for 2 weeks, screening at points of entry, activation of national committee on infectious disease and coordination with experts from different specialties for situation analysis, and procurement of necessary medical supplies and testing kits with the help of WHO. A national strategy has been developed in line with the WHO global covid-19 strategic preparedness and response plan. On February 20, and based on reported data on corona cases in certain countries, the ministry of health sent to the airport a health team to screen passengers on a plane to discover the first Covid-19 case in February 21. This was followed by forcing quarantine for all passengers coming from affected countries in their homes for 14 days, admission of all cases to the hospital till they were negative, case investigation and contact tracing for every confirmed case.
Other activities included awareness raising, risk communication and development of mobile applications for self-assessment. All of these efforts focused on flattening the curve of cases that would require hospitalization while increasing the capacity of the health care system to adequately respond to the pandemic.

In addition, other measures were taken by the government: school closure in February 29, partial lockdown and curfew announced on March 15 including closure of mosques and churches, suspension of flights and border closure, border checks for returning expats, limit products import/export,close monitoring of refugee camps as well as regulating vehicles movement according to plate numbers (odds/even) took place on April 5.

Coordination has been established through which concerned stakeholders and partners are continuously communicating and collaborating. Meeting with national scientific committees, syndicates and orders, UN agencies are done on regular basis.

With the gradual lifting of the lockdown measures by the government that were announced on April 27, the ministry will increase the epidemiological vigilance by increasing number of tests to reach more than 3500 per day to better understand the extent of the virus circulation in the community, continue testing to all expatriates upon arrival to airport, testing of all persons with respiratory symptoms, field random testing where sporadic cases are identified, field testing in silent districts targeting front liners and continuing to follow up on daily basis the epidemic curve, cases characteristics and the evolution of chains of transmission and clusters as well as close observation of prisons, elderly homes and refugees camps.

Although the Lebanese heath system is characterized by a dominant private sector, a very active NGO sector and progressively growing public sector (there is around 140 private hospitals and 27 active public hospitals and more than 10,000 medical doctors and the majority are specialists) the frontlines for Covid-19 response were the public health sector; the governmental hospitals mainly Rafic Hariri university hospital who took in most of the case management load at the onset of the outbreak in Lebanon, in addition to10 public hospitals that are ready to receive cases whenever the number of cases would peak. The timely response was led by the ministry of health various teams and supported by many volunteers in close coordination with WHO Lebanon office. The speed and good application of all containment measures is the result of building the ministry's capabilities over several years in the field of epidemiological surveillance, rapid case detection, investigation of contacts and following up with them, implementation of International Health Regulations measures as well as the preparedness of Rafic Hariri university hospital for diagnosis and case management.
The existing surveillance and response system was and is capable of facing any epidemic and strengthening and improving the system further will in the longer run be of a public health asset to face any public health emergency in the future as we witnessed with timely response to Covid-19.

Lessons to be learned, investing in the public health sector (ministry as well as public hospitals) and capacity building are key to face future threats. Investing in decentralization and peripheral mechanisms for alert detection as well as establish a network of laboratories in the public hospitals to be designated for epidemic diagnosis and detection and perform other public health functions should be the next steps in strengthening our public health preparedness and response systems.

Lebanon was classified among the top 15 countries who responded well to covid-19 outbreak, this is because the public health system lead by the ministry of health was prepared over the years to respond to such pandemics and was ready to respond to Covid-19. A pandemic is expected at any time that is why, preparedness pays off.