COVID-19 Results Briefing

Lebanon

December 15, 2022

This document contains summary information on the latest projections from the IHME model on COVID-19 in Lebanon. The model was run on December 15, 2022, with data through December 12, 2022.

Infections are slightly increasing in Lebanon due to waning immunity from vaccines and previous infections and high mobility. Due to the coming holidays and travel to and within Lebanon, there is always a potential for a surge. We estimated that about 98% of the population in the country have been infected by COVID at least once. Detection rate remains very low in the country (about 4%) due to limited testing.

The change of policy in China away from zero-COVID will result in a rapid rise of infections and deaths, Clearly, the policy environment in China, with a population with lower immunity than essentially all other countries, will likely determine the global epidemic in the next four months.

We do not project a stress on hospitals from COVID-19 in Lebanon in the coming months from COVID. However, the country is in the middle of a cholera outbreak and the economic situation has put a lot of stress on the medical system and the ability of health officials to address the challenges due to limited resources. There are reports of increased infections of RSV and influenza in many parts of the world and region. Combined with COVID-19 and cholera these may pose stress on the lebanese medical systems.

Our reference scenario does not include the emergence of new Omicron subvariants. The emergence of a new variant with immune escape and increased severity is the most concerning possibility. Even without increased transmissibility, a variant with sufficient immune escape could replace Omicron, and increased severity could return the world to the much higher death rates of 2021. Continued waves of Omicron subvariants that increase immunity levels in the population may actually reduce the risk of such an event.

From a policy perspective, global surveillance is critical so that the emergence of a new variant that is more severe is identified early, allowing various governments to prepare and respond. Global surveillance, however, is becoming less intense. The best measure of transmission now is hospital admissions, but there is less reporting, not more, of COVID-19 hospital admissions. Existing tools (vaccination, monoclonals, and antivirals) should be widely available and will help mitigate the impact of COVID-19

Current situation

- Daily infections in the last week increased to 5,500 per day on average compared to 5,200 the week before (Figure 1.1).

- Daily reported cases in the last week increased to 57 per day on average compared to 47 the week before (Figure 2.1).

- Daily hospital census in the last week (through December 12) decreased to 21 per day on average compared to 27 the week before.

- Reported deaths due to COVID-19 in the last week decreased to zero per day on average compared to one the week before (Figure 3.1).

- Total deaths due to COVID-19 in the last week decreased to one per day on average compared to two the week before (Figure 3.1). This makes COVID-19 the number 18 cause of death in Lebanon this week (Table 1). Estimated total daily deaths due to COVID-19 in the past week were 3.5 times larger than the reported number of deaths.

- The daily rate of reported deaths due to COVID-19 is greater than 4 per million in no countries (Figure 4.1).

- The daily rate of total deaths due to COVID-19 is greater than 4 per million in no countries (Figure 4.2).

- We estimate that 98% of people in Lebanon have been infected at least once as of December 12 (Figure 6.1). Effective R, computed using cases, hospitalizations, and deaths, is greater than 1 in 15 countries and five subnational locations. Effective R in Lebanon was 1.0 on December 1 (Figure 7.1).

- The infection-detection rate in Lebanon was close to 4% on December 12 (Figure 8.1).

- Based on the GISAID and various national databases, combined with our variant spread model, we estimate the current prevalence of variants of concern (Figures 9.1-9.6). We estimate that the Alpha variant is circulating in 14 countries and seven subnational locations, that the Beta variant is circulating in one country and no subnational locations, that the Delta variant is circulating in 19 countries and six subnational locations, that the Gamma variant is circulating in no countries and no subnational locations, that the BA.1/BA.2 variants are circulating in 21 countries and seven subnational locations, and that the BA.5 variant is circulating in 21 countries and seven subnational locations.

Trends in drivers of transmission

- Based on self-reported mask use data collected in the COVID-19 Trends and Impact Survey, an estimated 5% of people are projected to always wear a mask when leaving their home. Mask use after June 24, 2022 is a statistical forecast.

- As of December 12, seven countries and no subnational locations have reached 70% or more of the population who have received at least one vaccine dose, and five countries and no subnational locations have reached 70% or more of the population who are fully vaccinated (Figures 12.1 and 12.2). 53% of people in Lebanon have received at least one vaccine dose, and 49% are fully vaccinated.

- In our current reference scenario, we expect that 2.7 million people will be vaccinated with at least one dose by April 1 (Figure 14.1). We expect that 50% of the population will be fully vaccinated by April 1.

Projections and scenarios

We produce three scenarios when projecting COVID-19. The **reference scenario** is our forecast of what we think is most likely to happen:

- Vaccines are distributed at the expected pace. Brand- and variant-specific vaccine efficacy is updated using the latest available information from peer-reviewed publications and other reports.

- Future mask use will decline to 50% of the minimum level it reached between January 1, 2021, and May 1, 2022. This decline begins after the last observed data point in each location and transitions linearly to the minimum over a period of six weeks.

- Mobility increases as vaccine coverage increases.

- Mandates will be reimposed at the maximum level of mandates in the post-ancestral period once the death rate has reached an algorithmic minimum threshold of daily reported deaths for a given location.

- 80% of those who are fully vaccinated (two doses for most vaccines, or one dose for Johnson & Johnson) receive an additional dose six months after becoming fully vaccinated, and 80% of those who receive an additional dose receive a second additional dose six months later.

- Antiviral utilization for COVID-19 risk prevention has reached 80% in high-risk populations and 50% in low-risk populations between March 1, 2022, and June 1, 2022. This applies in high-income countries, but not low- and middle-income countries, and this rollout assumption follows a similar pattern to global vaccine rollouts.

The **80% mask use scenario** makes all the same assumptions as the reference scenario but assumes all locations reach 80% mask use within seven days. If a location currently has higher than 80% use, mask use remains at the current level.

The **antiviral access scenario** makes all the same assumptions as the reference scenario but assumes globally distributed antivirals and extends coverage to all low- and middle-income countries between August 15, 2022, and September 15, 2022.

Infections

- Daily estimated infections in the **reference scenario** will rise to 19,390 by February 12, 2023 (Figure 16.1).

- Daily estimated infections in the **80% mask use scenario** will rise to 10,770 by April 1, 2023 (Figure 16.1).

- Daily estimated infections in the **antiviral access scenario** will rise to 19,390 by February 12, 2023 (Figure 16.1).

Cases

- Daily estimated cases in the **reference scenario** will rise to 590 by February 26, 2023 (Figure 16.2).

- Daily estimated cases in the **80% mask use scenario** will rise to 320 by April 1, 2023 (Figure 16.2).

- Daily estimated cases in the **antiviral access scenario** will rise to 590 by February 26, 2023 (Figure 16.2).

Hospitalizations

- Daily hospital census in the **reference scenario** will rise to 80 by March 7, 2023 (Figure 16.3). At some point from December through April 1, no countries will have high or extreme stress on hospital beds (Figure 18.1). At some point from December through April 1, no countries will have high or extreme stress on intensive care unit (ICU) capacity (Figure 19.1).

- Daily hospital census in the **80% mask use scenario** will rise to 40 by April 1, 2023 (Figure 16.3).

- Daily hospital census in the **antiviral access scenario** will rise to 70 by March 7, 2023 (Figure 16.3).

Deaths

- In our **reference scenario**, our model projects 11,000 cumulative reported deaths due to COVID-19 on April 1. This represents 130 additional deaths from December 12 to April 1. Daily reported COVID-19 deaths in the **reference scenario** will decline to zero by March 17, 2023 (Figure 16.4).

- Under our **reference scenario**, our model projects 38,000 cumulative total deaths due to COVID-19 on April 1. This represents 450 additional deaths from December 12 to April 1 (Figure 16.5).

- In our **80% mask use scenario**, our model projects 11,000 cumulative reported deaths due to COVID-19 on April 1. This represents 49 additional deaths from December 12 to April 1. Daily reported COVID-19 deaths in the **80% mask use scenario** will decline to zero by April 1, 2023 (Figure 16.4).

- In our **antiviral access scenario**, our model projects 11,000 cumulative reported deaths due to COVID-19 on April 1. This represents 110 additional deaths from December 12 to April 1. Daily reported COVID-19 deaths in the **antiviral access scenario** will decline to zero by March 17, 2023 (Figure 16.4).

- Figure 17.1 compares our reference scenario forecasts to other publicly archived models. Forecasts are widely divergent.

Model updates

We have updated our reference scenario to assume that mandates will be re-imposed at the maximum level of mandates in the post-ancestral period once the death rate has reached an algorithmic minimum threshold of daily reported deaths for a given location.

For the foreseeable future, we will not be updating our model or producing COVID-19 estimates. These will be the final briefing documents we produce until further notice.