The Coronavirus: Morbidity, the Economy, and Public Medicine—Facts and Policies

This report, “The Coronavirus: Morbidity, the Economy, and Public Medicine,” has been prepared by a broad multidisciplinary team, and encompasses the core issues facing decision-makers in selecting short-, medium-, and long-term measures for addressing the crisis. It deals with important lessons that can be learned from epidemics that occurred over the past century; analyzes the development of the coronavirus pandemic in Israel as well as measures taken to curb the spread of the virus and to lift the government-imposed lockdown; examines economic effects of the measures taken to curb the spread; assesses the coronavirus-ICU capacity, and the capacity of testing and epidemiological tracing systems; examines the criteria that were applied to exit the full lockdown imposed in mid-March; and proposes criteria and strategies to deal with various in-between stages that will develop going forward.

The main conclusions are as follows:

1. It is fundamental to acknowledge the unique nature of every epidemic that is engendered by a new virus and the uncertainty that surrounds it; this must be at the basis of decisions regarding health-related and public conduct.
2. Uncertainty about the duration and scale of the pandemic, the tendency of individuals and groups to overreact, moral hazard, scorning of instructions, and distrust of policymakers make the social and economic aspects of the crisis much more difficult to cope with.
3. It is crucial for the state to formulate action plans in advance, as did other countries that coped successfully with the current outbreak.
4. When an action plan is drafted, it is important for the state to adopt several “peer” countries, for example, Austria, which is roughly as populous as Israel and experienced the coronavirus outbreak at an early stage and with a similar intensity. It is crucial to stay in touch with experts in these countries in order to learn from them about the development of the pandemic, corrective measures taken, which of these measures were useful, and which were not. A situation in which we race ahead of these countries should be avoided.
5. Analysis of the epidemiological outcomes of the first wave yielded insights, which were translated into a reasonable basis for a model that can help forecast possible directions the pandemic may take in future waves.
6. Restraint based on rapid contact tracing, investigation, and detection (within forty-eight hours at the most) averts the grave economic damage that a sweeping lockdown creates.
7. Economic policy should be based on a clear and transparent set of rules that remain in effect for several months, giving economic stakeholders certainty both in entering the crisis and in exiting it.
8. The current analysis indicates that the country has a maximum capacity of 250 beds and intensive-care teams that are prepared today to deal with ventilated COVID-19 patients. It is necessary to promptly organize and train teams capable of administering care amid a large second wave, particularly one that may arrive in tandem with an influenza epidemic.
9. To break the chain of infection, test results should be obtained within twenty-four hours at most. Investigation, detection, and isolation should follow within another twenty-four hours. The insight that, in this case, speed matters more than perfection, should be understood and integrated across the board in the epidemiological system.
10. Criteria for intervention should be dependent on the characteristics of the outbreak, critical resources, and the limits of interplay between existing resources and the actual parameters of the epidemic. A hierarchy of actions (e.g., local measures and “smart lockdown”) should be constructed that, once adopted, would minimize the need to impose a full lockdown.
11. **It is crucial that an integral, synchronized government program be prepared, addressing a period of several months and dealing with all aspects of the coronavirus pandemic or similar epidemics. The program must be anchored in evaluation points as well as clear and transparent criteria for the public, which will serve to clarify the aspects involved in transitioning from one stage to the next as the epidemic evolves and progresses.**

Summary and Conclusions

This report, “The Coronavirus: Morbidity, the Economy, and Public Medicine,” is a joint effort by twelve researchers and physicians from various research disciplines (medicine, history of medicine, epidemiology, physics, and economics) and reflects the diversity of its members.[[1]](#footnote-2) Its purpose is to analyze the various aspects of this topic as researched by the team members, so that decision-makers may utilize it when discussing potential measures in the short-term (the next few weeks—as the first wave recedes and in view of an upturn in carriers), the medium-term (the next few months, ahead of a second wave in the winter), and the long-term (the years ahead). The topics we chose to address are core issues facing decision-makers today. In particular, we asked what lessons can be gleaned from epidemics that occurred over the past century, analyzed the development of the coronavirus pandemic in Israel and measures taken to curb it and to exit the lockdown, examined the economic repercussions of measures taken to suppress the epidemic, assessed the capacity of the coronavirus ICU and the epidemiological systems, and reviewed the criteria that were applied to exit the full lockdown imposed in mid-March in order to propose criteria for the treatment of various in-between stages that will develop going forward. The resulting report includes several chapters that the team members composed according to their respective professional specializations; however, it also reflects the team’s broad interdisciplinary discussions. We hope that the report encourages the formation of a series of in-depth discussions in multidisciplinary forums (that would also include, for example, psychologists, educators, epidemiologists, and medical professionals, in order to avoid a situation in which physicists or computer scientists, skilled in writing and solving equations and models, are those who determine how schoolchildren will study and how the detection and testing of “contacts” will take place).

The coronavirus pandemic, triggered by the SARS-CoV-2 virus that causes the disease known as COVID-19, began in December 2019 in Wuhan, Hubei Province, China, and then spread to most countries including Israel, where the first cases were discovered in February 2020. Most of the individuals who contract the virus present mild symptoms or none at all. In some 5 percent of cases, respiratory insufficiency and the need for mechanical ventilation and protracted intensive care are the main characteristics. The symptoms of the illness are not yet fully known. The outbreak, as stated, was detected in Wuhan, China, in December 2019; the World Health Organization declared it a global emergency on January 30, 2020, and a pandemic on March 11, 2020. At the present writing (June 1, 2020), more than 6.2 million cases and 375,000 deaths have been reported worldwide. In Israel, 17,106 persons have been infected and 285 have died.

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