**Israel's Coronavirus Vaccine Program**

**Abstract**

In December 2020, Israel began vaccinating its population against the coronavirus. Currently, Israel has the highest rate of vaccination in the world, thanks to a number of salient features, primarily related to the size of the country, its governmental structure, and its healthcare system. Along with the increase in the rate of people vaccinated, the health authorities in Israel are conducting studies that have so far indicated the effectiveness of the Pfizer-BioNTech vaccine, the main vaccine used in the country.

The vaccination campaign to combat this disease has rekindled the debate over the imposition of a mandatory vaccination against infectious diseases among the general population and especially among medical staffs. The Israeli government is currently pursuing a policy that links the abolition of coronavirus-related restrictions and providing relief to the public with vaccination against the disease. The progress of the vaccination program, therefore, is helping to open up the economy. Immunization is being made a condition for returning to a normal life in order to encourage Israelis who have not yet been vaccinated to do so soon.

**Background**

The coronavirus pandemic originated with the novel coronavirus (Sars-CoV-19) outbreak in Wuhan city of China in December 2019. From there it spread rapidly around the world, with the first verified case of coronavirus in Israel detected in February 2020. With the increase in morbidity, and around the time that the World Health Organization declared the coronavirus a global pandemic in March 2020, Israel, like other countries around the world, began to take various measures to prevent the spread of the disease. Restrictions imposed on the public in the fight against the pandemic included: restricting gatherings, reducing public transportation, partially closing the economy and the educational system, and, later, imposing a mandate to wear masks covering the mouth and nose whenever outside the home.

Between March and October, 2020, Israel underwent two severe closures, during which restrictions were tightened and it was even forbidden to travel more than one kilometer from one’s place of residence. In the summer of 2020, the Israel Ministry of Health announced that morbidity in Israel was among the highest in the world, with dozens of patients dying every day.[[1]](#footnote-1) By the end of 2020, Israel had not been able to control the pandemic to an extent that would allow for the removal of restrictions and a return to normal life while coping with the coronavirus disease. Like other countries, it had to declare a third closure in December. During this period, there was a significant jump in morbidity, from 3,500 verified cases daily at the end of December to over 8,000 verified daily at the beginning of January 2021. The number of hospitalized patients quadrupled, with 20% of them on respirators.[[2]](#footnote-2) Gradual relief began during February 2021, with the launch and execution of the vaccination campaign, which will be described in this article.

The coronavirus pandemic has claimed many lives worldwide, and continues to do so. In addition, there is a growing body of evidence of severe and long-term systemic damage caused by this virus. Moreover, the disease increases the existing burden on healthcare systems, and therefore impairs the quality of service and medical care in general, including for those who are not ill from the coronavirus. While closures and restrictions may reduce the extent of infection, at least in the short term, their consequences can be devastating economically, socially, medically, and psychologically. Against this background, and under the assumption that eventually and inevitably countries around the world would need to return to and maintain some routine of life in the shadow of the coronavirus, intensive global efforts began in 2020 to find a medical solution that would change the rules of dealing with the coronavirus. The race to develop a vaccine for this disease was the primary manifestation of these efforts, and research institutes and pharmaceutical companies took on this task.

On December 10, 2020, the U.S. Food and Drug Administration (FDA) granted the first emergency permit to Pfizer and its partner BioNTech for a vaccine they had developed against the coronavirus. Shortly afterwards, an emergency permit was also issued for a vaccine developed by the Moderna company. A third emergency permit was issued for a Johnson & Johnson vaccine in February 2021. Additional vaccines have been developed in Russia and China. About 60 other vaccines are currently in various stages of clinical trials, according to the World Health Organization, including a vaccine being developed by an Israeli company.[[3]](#footnote-3)

**The Vaccination Program in Israel**

Authorization for the Pfizer and Moderna vaccines was a critical milestone in the race to curb the virus. The Israel government announced in early December that it had entered into agreements with both Pfizer and Moderna to ensure an adequate supply of vaccines for Israeli residents. After the imposition of the third closure, Israel began vaccinating its population, using mainly the Pfizer vaccine (it is not clear to what extent the Moderna vaccine was used, if at all). Currently, Israel ranks first in the world in its vaccination rate, with a rate of 11 vaccine doses per 100 people. Behind Israel are Bahrain, with a rate of 3.5 doses per 100 people, and the United Kingdom, with a rate of 1.4 doses of vaccine per 100 people. All other countries have vaccinated at a rate of less than one vaccine dose per 100 people.

Therefore, Israel’s immunization program is considered a model for global success. According to published reports, as of the end of February 2021, Israel had already vaccinated about half of its citizens with the first vaccine dose and about 36% had received two doses of the vaccine. At the same time, it should be noted that there are significant gaps in the immunization rates among various population sectors. The immunization rates among Arab-Israelis and ultra-Orthodox Jews are lower than among the general population. Additionally, the rate of vaccination decreases with age.[[4]](#footnote-4)

The CEO of Pfizer called Israel and its advanced immunization program the “laboratory of the world” in light of its advanced immunization program. This follows an agreement under which Israel provides Pfizer with statistical-medical data on vaccinated people in Israel, in order to extensively assess the effect of the vaccine on various populations. The data are anonymous and without any identifying personal details.[[5]](#footnote-5)

Israel has a number of advantages that enabled it to launch the vaccination campaign relatively quickly and efficiently.[[6]](#footnote-6) First, Israel is a small country, both in terms of its geographic size and its population of about 9 million people. Further, Israel is characterized by one central government, which directly controls the entire territory of the country. This is in contrast to decentralized or federation states, which consist of multiple jurisdictions, among which significant differences may exist in various aspects of law, regulation and bureaucracy. Israel’s unique features made it an easier starting point for the transport, administration and control of vaccines.

In Israel, there are four large health maintenance organizations (HMOs) that all operate under one regulator—the Ministry of Health—that insure all residents of the country. All the HMOs have organized electronic medical records, which are managed in a way that maintains the privacy and confidentiality of the insured. This offers a huge advantage in terms of obtaining an appointment to be immunized and registering immunization rates, in comparison to countries lacking Israel’s type of infrastructure, and with healthcare systems that are distributed among various insurers. During this period of launching and carrying out the vaccination program, supplementary staff had to be added to the infrastructure of the healthcare system in Israel, such as immediately available nurses in all four HMOs in order to provide vaccines to the general public simultaneously and immediately. The effective cooperation of the HMOs with the government authorities, along with the availability of nurses in the community, are other significant parameters in Israel’s success.

One of the most important logistical aspects of the vaccination program is the storage and supply infrastructure of vaccines. This is not an issue that is usually at the heart of public healthcare interests. Israel has a main supply center and an efficient infrastructure, which was able to supply vaccines for the benefit of remote areas and enabled vaccinations to be given simultaneously in numerous areas and to diverse populations. The main supply center in Israel is located near its main airport, and millions of packages can be stored there in a freezer. When storage packets are required to be moved to more remote areas, the vaccines are repackaged into parcels of the appropriate size, depending on the target population and its size.

The immunization program began by securing the necessary doses of the vaccine, and continued with the optimal allocation of vaccines to the population. First, the populations in Israel who were most vulnerable to the disease were vaccinated: residents in nursing homes, people aged 60 and over, people at high risk due to medical conditions, and healthcare workers. Subsequently, and in accordance with meeting targets, the general population was invited to receive the vaccine, in decreasing age cohorts. The responsibility for administering the vaccines to each of these groups was clear and pre-defined, with Israel’s four HMOs responsible for administering the vaccine to those aged 60 and over, people at high risk due to background medical conditions, and the general population. Vaccination of the elderly in nursing homes was carried out by Magen David Adom (MDA), and vaccination of healthcare teams was the responsibility of the hospitals.

The Israeli vaccination program is structured but flexible. While being orderly and organized according to the degree of risk of the various populations, the authorities in Israel are making an effort to vaccinate everyone as quickly as possible. Thus, although the effort was initially directed at the high-risk members of the public, citizens of other age groups who arrived at vaccination centers with the aim of trying to receive the vaccine as early as possible were admitted and vaccinated without any fines or sanctions. The HMOs allowed all insured people who wished to be vaccinated to arrive at the end of each day to receive any unused vaccine doses, so that no unused vaccine doses had to be discarded. Currently, some Israeli HMOs allow immunization for any insured person aged 16 and over.

Although some of these parameters are not unique to Israel, their simultaneous existence, as part of a national effort during an emergency, combined to bring about the success of the immunization program in Israel.

Yet another significant parameter for the success of the immunization program in Israel can be attributed to the effectiveness of the media campaigns encouraging immunization that took place in Israel. These campaigns used a wide range of strategies, such as recruiting influencers, including Israeli Prime Minister Benjamin Netanyahu, who, in front of the cameras, was the first person vaccinated in the country, followed by other senior government officials. Credible messages, tailored to appeal to various segments of the population, including Arabs and the ultra-Orthodox, were delivered by people recruited from the field of health and medicine. The vaccines were already available when these messages were broadcast to all sectors.

At the same time, with advances in coverage of the vaccination program, authorities have also begun conducting studies to test vaccine effectiveness. A major study published in February 2021 confirmed the findings of Pfizer’s clinical trial regarding the effectiveness of the vaccine. It found that one week after receiving the second dose, the vaccine has an efficacy of 94% in preventing symptoms of the disease, 92% in preventing serious illness from the disease and 92% in preventing infection.[[7]](#footnote-7) Data published by the Israel Ministry of Health reinforced these findings, showing that the effectiveness of the vaccine in preventing symptomatic disease, hospitalization, morbidity and mortality stands at 98%–99%. The vaccine has also been found to be effective in reducing morbidity (95.8%). Hence, the Israeli test case not only confirms the effectiveness of the vaccine in preventing the development of symptomatic disease, but it also indicates efficacy in reducing infection.[[8]](#footnote-8)

Moreover, the vaccine appears to change the age composition of patients hospitalized with coronavirus. Since the start of the vaccination campaign, there has been a decrease in the proportion of adults aged 60 and over who are hospitalized, as this population group began to be vaccinated first. At the same time, there was an increase in the rate of hospitalization of younger people, who began to be vaccinated at a later stage, and among whom the rate of vaccination is lower.[[9]](#footnote-9)

**The Question of Mandatory Vaccination against Coronavirus**

The coronavirus vaccine program has rekindled a debate that has taken place in recent years in Israel over the imposition of mandatory immunizations. According to the World Health Organization, in order for a vaccine to be effective and produce herd immunity, 60%–70% of a population must be vaccinated. Thus, the question arises as to whether it is possible to enact a legal obligation for people to be vaccinated and impose sanctions against those who are not vaccinated. Making vaccination mandatory raises a legal difficulty, due to its broad violation of the basic rights of citizens who do not wish to be vaccinated, such as “human dignity and liberty” and “the right to autonomy.”

Currently, in the State of Israel, vaccinations in general and vaccines against coronavirus in particular are not legally mandated. However, in cases when there is a risk of a significant epidemic, the Public Health Ordinance of 1940 grants the Ministry of Health the authority to impose a mandatory vaccine, including financial fines and even imprisonment for those who refuse. This authority has been exercised only a few times over the years.

In addition, current legislation does not prohibit employers from imposing restrictions, including unpaid leave and dismissal, on employees who refuse to be vaccinated. Nor is there any legal impediment to prohibiting the entry of an unvaccinated person into any place. For example, for several years, initiatives of private kindergartens to prohibit the entry of unvaccinated children has been operating in some local authorities throughout Israel.

Rulings by the Supreme Court of Israel during the coronavirus crisis have recognized the need to disproportionately infringe on individual rights for the protection of public health and the fight against the pandemic. The Supreme Court also ruled, before the outbreak of this pandemic, that the violation of rights that result from refusal to be vaccinated is legal and legitimate. While the legislature has not yet explicitly addressed the special state of affairs that exists today, it is recommended that it do so in order to establish a clear, definitive arrangement. However, even in the current situation, there is no legislation that explicitly prohibits harm to the employment terms of workers who refuse to be vaccinated. Thus, in the absence of a legal norm that prohibits this—it is permissible. Employers may encourage employees to be vaccinated through various incentives and hold informational talks on the subject. It is, of course, advisable to try and find solutions, such as allowing employees to work via remote technologies, or requiring presentation of an up-to-date negative coronavirus test at the entrance to the workplace.

The situation is even more complex regarding mandatory vaccination for healthcare workers, due to the risk of infection of patients and co-workers. Circulars published by the Ministry of Health stipulate that healthcare workers, who may be infected with pathogens by their patients and who may infect their patients, must receive vaccinations against any serious diseases for which there is a safe and effective vaccine, with a special obligation to receive the vaccination against seasonal flu. However, the data show that the immunization rate among physicians and nursing staff is quite low (between 36%–45%). The position of the Israel Medical Association (IMA) is that the public in general, and the medical public in particular, should be encouraged to be vaccinated against infectious diseases. At the same time, the IMA rejects any attempt to force or coerce physicians to get vaccinated, including discrimination or putting pressure on physicians in the workplace.

To date, 10%–15% of the medical staff in the HMOs and about 20% of the staff in hospitals have still not been vaccinated against coronavirus, with some even refusing to do so. In light of these data, the management of Hadassah Medical Center in Jerusalem, one of the largest hospitals in Israel, recently decided that staff members who have not been vaccinated, and who have not received permission to avoid the vaccine, will not be permitted to treat patients at the hospital.

A recent directive issued by the Director General of the Ministry of Health to encourage healthcare workers to be vaccinated against the coronavirus imposes restrictions on the work that can be done by non-vaccinated staff, and prohibits the admission to medical institutions of new employees who refuse to be vaccinated. This directive demonstrates the tension that exists between individual rights and the public and professional responsibilities that apply to health care workers, and the dilemma that coronavirus vaccines pose to employers, managers, regulators and legislators.

**The Green Pass and the Green Passport**

The Israeli government is currently pursuing a policy linking the abolition of restrictions and the provision of relief to the public with immunization against the coronavirus. This is being done by issuing an entry permit or “green pass” to buildings and certain venues, granted to those who have been vaccinated or have recovered from the coronavirus. The green pass is valid only within Israel’s borders, in accordance with the policy of the Ministry of Health. Those with a green pass will have access to services defined as “green-pass required.” In order to enter a place designated as green-pass required, the green pass must be presented along with an identity card. As an alternative to the green pass, a vaccination certificate can be presented, which is issued to anyone who has received both doses of the vaccine. People who have recovered from coronavirus may present a recovery certificate. However, the Ministry of Health recommends using the green pass as much as possible.[[10]](#footnote-10)

The only entity authorized to issue a green pass is the Ministry of Health (not the HMOs, workplaces, or businesses). Issuance of a green pass is possible via a website or an application dedicated to this purpose. The list of businesses to which entry is conditional on presentation of a green pass will be updated from time to time, in accordance with government decisions. Currently, the list of these businesses includes gyms, swimming pools, theaters, cinemas, cultural halls, sports fields, conferences, event parks, and the like. In addition, the government allows the activities of businesses without the need for a green pass within the framework of the permit known as the “purple pass.” Under certain restrictions, such as maintaining distance between people and setting maximum occupancy in the building, it will be possible to enter places such as street shops, food markets, malls, houses of worship, and more.

The Ministry of Health is currently examining the issuance of a “green passport” for those who have received two doses of the vaccine. This is, in essence, an international travel permit, allowing air travel to countries that allow entry for tourists who have received the two vaccine doses.[[11]](#footnote-11)

**Summary**

Israel’s coronavirus vaccination program is currently underway. The rate of vaccination in Israel is the highest in the world today. Israel enjoys a number of significant advantages that enable it to vaccinate its population quickly and efficiently, including its basic national characteristics (size, governmental structure, etc.) and characteristics of its healthcare system. As a result, Israel is considered a global “test case” for assessing the success of the vaccination program, not only in terms of medical aspects, i.e., the vaccine’s safety and effectiveness in the general population, but also in terms of logistical and organizational aspects, such as storage, transportation, distribution of the vaccine and public access to vaccination, via cooperation between all parties in the system, including the government, HMOs, medical institutions, and caregivers in the public sector.

Equally important, the success of the program depends on the willingness of the public, including the medical community and all medical staff, to get vaccinated. This is dependent, among other things, on raising awareness of the importance of vaccines, conveying messages in a credible and convincing manner, and providing incentives that encourage immunization.

1. [↑](#footnote-ref-1)
2. [↑](#footnote-ref-2)
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