Israel’s COVID-19 endgame

As several countries now confront COVID-19 surges, Israel may be crossing over to other side of the pandemic. Whereas 5.5 million new severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infections were reported globally last week, Israel reported only 398 (compared with >50,000 in January). Already, 54% of Israel’s 9.2 million citizens have been fully vaccinated, considerably more than in most other countries. In the coming months, as restrictions continue to ease, the country should be optimistic, yet cautious, as risks of resurgence persist. Israel thus may well be an early case study for favorable outcomes of a mass-vaccination campaign.

In January 2021, faced with a third pandemic wave driven by the newly dominant B.1.1.7 variant, Israel enforced a 4-week strict lockdown in conjunction with rapid mass vaccination. By early February, 38% of the population had received at least one vaccine dose (80% of those over age 50), and an additional 7.5% had documented past infection (thought to confer some protection). In view of high vaccine uptake rates, and because interim analyses of a large cohort showed high (>90%) vaccine effectiveness, the risk of resurgence and its expected burden was deemed sufficiently hedged. The lockdown was therefore lifted, despite a stagnated high incidence (over 8000 daily infections).

Exceeding predictions, a sharp 90-day continuous decline in new infections followed—a >100-fold decrease in documented infections and a >50-fold decrease in severe cases—despite gradual removal of most restrictions. Several indications suggest that this was driven mainly by the vaccination campaign rather than seasonality or residual lockdown effects. The decline in severe cases was first evident among the elderly (earliest-vaccinated group) and only weeks later among younger, mostly unvaccinated age groups. By late March, over 55% of daily COVID-19 mortality occurred among a small (<1.6%) subgroup—unvaccinated adults over 60 years old.

It is difficult to extrapolate from the Israeli experience a universally “safe” vaccine uptake threshold at which countries can safely reopen their economies, because such a threshold is likely setting-specific. By mid-April, the United Kingdom had experienced a similar decline in infections after a single vaccine dose campaign, whereas Chile and Seychelles experienced a surge of COVID-19 despite relatively high vaccine uptake (48, 39, and 67%, respectively, of each country’s population having received at least one dose).

Israel’s rapid vaccination campaign reaped the benefits of a decades-long investment in its community-focused universal health care system, including its digital health infrastructure. Led by Israel’s four public nonprofit health organizations, hundreds of vaccination clinics administered vaccines for up to 2.5% of Israel’s population daily. Their preparedness highlights several best practices: proactive outreach through call centers and easy-to-use mobile device apps; electronic health records to expedite intake at vaccination sites; and offering vaccines left over at the end of each day to people of all ages so that doses did not go to waste.

Vaccine hesitancy hindered early vaccination efforts, particularly in ultra-Orthodox and Arab communities. Opening vaccination sites in these communities and encouraging respectful discussions between health experts and community leaders have helped increase uptake. Israel’s COVID-19 National Expert Advisory Panel has suggested that Israel consider proactive steps to increase vaccine access to the Palestinian Authority population, and Israel has, thus far, vaccinated over 100,000 Palestinian workers employed in Israel.

With nearly 40% of the total population still unvaccinated—mostly younger than 16, plus 15% of vaccine-eligible age groups—Israel will likely not reach herd immunity soon. Interrupting viral transmission by mass vaccination (“indirect protection”) has thus far sustained a continuous decline in incidence rates in all age groups. But as the remaining nonpharmaceutical interventions—indoor masks, quarantining, and a vaccination certificate policy (which limits access to high-risk indoor settings to vaccinated and recovered individuals only)—are gradually removed, the risk of COVID-19 resurgence will persist. In the absence of these interventions, outbreaks could be driven by increased vulnerability in low-vaccine uptake localities, as well as by viral variants that could partially evade the protective effects of vaccines. Even in one of the most vaccinated nations, the pandemic is not yet over, and Israel must remain vigilant. Its mass-vaccination success should not be squandered and could serve as a model strategy for other countries.

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Published by AAAS
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Science 372 (6543), 663.
DOI: 10.1126/science.abj3858

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