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A Collection of Reports Concerning the
Coronavirus

The Operation of the Array of Institutional Antigen Testing and Recognizing It as Diagnostic Testing for Covid-19



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Background

Establishing the testing array for diagnosing infection with the Coronavirus and its operation were a key component in coping with the Coronavirus worldwide and in Israel, both to treat patients and prevent harm to the economy. The test for diagnosing Covid-19 involves taking a sample from the subject and examining the sample. The time until the test results are received impacts the possibility of breaking the chain of infection and eradicating the pandemic. At the beginning of the Covid-19 pandemic in Israel, from the end of February 2020, the PCR test (Polymerase Chain Reaction) was the primary test for diagnosing Covid-19. The maximum daily capacity for performing PCR tests in Israel starting in the second quarter of 2021 was 200,000 tests, according to the maximum capacity of the laboratories in Israel to perform the tests, and particularly their ability to provide the test subject with a response within up to 48 hours from the sample taking.

Throughout the Covid-19 waves, the use of PCR tests was increased, and in September 2021, during the fourth wave (the 'Delta' wave), the number of daily PCR tests was the highest at about 229,000 tests. Later on, the spread rate of the fifth wave in December 2021–January 2022 (the 'Omicron' wave¹) was fast compared to the previous Covid-19 waves: the maximum daily number of verified people in the Omicron wave was 85,283 compared to 11,343 in the Delta wave. To break the chain of infection and return to normality, it was necessary to employ a system for Covid-19 tests, addressing everyone who needs to be tested, with a scope depending on the anticipated involvement in the number of daily tests during the pandemic.

Accordingly, beginning on December 30, 2021, the Ministry of Health approved the use of institutional antigen tests to diagnose Covid-19, through providers operated by the Ministry². The antigen test has advantages both due to the quick response in the case of positive identification – the test results are received within about fifteen minutes, and thus it is possible to reduce the contacts of the subject who enters immediate isolation; And due to economic aspects – there is no need for laboratory services to decipher the tests, thus saving the need

- 1 Omicron is a variant of SARS-CoV-2, the Coronavirus, which causes the corona disease. The World Health Organization defined it as a "Variant of Concern" in November 2021, naming it after the Greek letter omicron.
- 2 Initially, from August 2021, the institutional (supervised) antigen tests were used to obtain a temporary green pass. The temporary green pass was given for 24 hours to enter public places, upon presentation of a negative supervised antigen test result.



for transportation; The cost of the antigen test is cheap compared to the PCR test (about a third of the price of PCR). Furthermore, the antigen test will detect the disease during most of the period when the virus multiplies in the body. However, it should be noted that the PCR test has a higher analytical sensitivity than the antigen test, and it detects the virus even when the viral load is low.

Key Figures

**200,000
PCR tests**

the maximum daily capacity of PCR tests in Israel starting in the second quarter of 2021

**about
173,000
antigen
tests**

the average daily institutional antigen tests in January 2022

**NIS 245
million**

the state payment to providers for performing institutional antigen tests in January–February 2022 (about NIS 40 per test)

**about
78%**

of the discourse on social media regarding the institutional antigen testing array had a negative sentiment (387 out of 497 references analyzed)

over 1 hour

the waiting time for an institutional antigen test, according to a fifth of the parents who responded to the State Comptroller Office's survey

**about
70%**

the antigen sampling stations rate (67 out of the 96 stations examined) with no separated queues – between those exposed and those verified with symptoms, and with no appropriate signage

**in about
40%**


of the peripheral local authorities with over 10,000 residents with no antigen sampling station on the three dates examined in January 2022 until the New Tender was launched (37–38 local authorities)

**about 2%
only**

the weekly average rate of antigen sampling stations controlled by the Ministry of Health from the end of January to the end of February (61 out of 730 stations that operated on average in that period)



Audit Actions


 From February to October 2022, the State Comptroller's Office audited the institutional antigen testing system. The audit examined the health system's preparedness for the operation of the array, the availability of the antigen sampling stations, and the service provided to the residents. The audit was carried out at the Ministry of Health. Completion examinations were carried out at the Ministry of Finance.

The audit used accepted tools based on information and documents from all relevant sources. Moreover, since this is a topic that personally concerns most of the public, two tools were added to the audit that presented the public's perspectives during the Covid-19 period:

1. Parents' survey – in July 2022, the State Comptroller's Office surveyed the attitudes of parents whose children study in grades 1 through 12 in the regular educational frameworks. As part of the survey, parents of pupils in grades 1 through 6 were asked about the antigen sampling stations; 382 parents – constituting a representative sample – answered these questions.
2. Analysis of discourse on social media – in July–August 2022, the State Comptroller's Office examined and analyzed the discourse on social media to explore the public's service experience regarding the array of institutional antigen testing and its availability. The examination pertains to the period between January and February 2022 (during the Omicron wave) and includes a qualitative and quantitative analysis of the relevant discourse monitored on the subject. As part of this analysis, 6,179 posts were read, of which 497 posts and comments directly related to the topics relevant to the examination.

Key Findings



 **The Preparedness of the Health System for the Operation of the Institutional (supervised) Antigen Testing Array** – beginning in September 2021, the need to add institutional antigen tests to the diagnostic Covid-19 tests, was raised. The use of the antigen test in the United Kingdom as a diagnostic test, staff work done in the health system and the government, situation assessment discussions, and the Omega Drill³ –

- 3 A national drill carried out in Israel in November 2021 to examine national preparedness and improve national preparedness for the outbreak of a new deadly strain of the Coronavirus from the stage of discovery to the stage of preventing its spread and its containment.






all, indicated the need to expand the array of testing (beyond the capacity of 200,000 tests per day) and the possibility of using an antigen test as a diagnostic test – as an alternative or as a supplement to the PCR test if a rapid expansion of the array of tests is required. Accordingly, the decision-makers needed to assess the situation and prepare response mechanisms or contingency plans for different scenarios. Nevertheless, until January 2022, the Ministry of Health did not prepare in advance to expand the number of daily tests for diagnosing Covid-19 by adding institutional antigen tests to the PCR tests. It did not prepare an appropriate action plan (contingency plan) to implement immediately when necessary. The lack of a proper action plan resulted in late engagement with providers, a sub-optimal deployment of the antigen sampling stations, and long waiting times.

📌 The Ministry of Health Expanding the Array of Institutional Antigen Tests – in August 2021, during the spread of the Delta strain, the Ministry of Health published two tenders for the sampling of institutional antigen tests, which allow for the receipt of a temporary green pass (the Green Pass Tenders). Under the Green Pass Tenders, the providers also operated at the beginning of the spread of the Omicron strain. On December 29, 2021, the Ministry of Health updated the outline of isolations and tests; In January 2022, it published a new tender with updated conditions according to the performance of the tests that replaced the Green Pass Tenders and allowed additional providers to enter the array (the New Tender). The providers who won the New Tender started operating sampling stations on January 25, 2022. The operation of the New Tender began about a month after the outline was updated – a critical time in an emergency. Thus, in January–February 2022, the number of institutional antigen tests increased to a peak of 281,057 tests on January 16, 2022; On January 23, 2022, with the highest number of verified people (85,283), the number of tests was 278,549. On the other hand, on the same day (January 23, 2022), the number of sampling stations was 519 stations, and it reached its peak only four weeks later, on February 20, 2022, – 834 sampling stations, while the wave of morbidity was already ending the declining trend. Hence, the response of deploying extensive stations to test came at a later stage than required.


📌 Waiting Times in Queues for Institutional Antigen Tests – the conditions in the queues for institutional antigen tests were the main topic (about 70% of surfers) in the social discourse analysis. Out of 330 references in the social discourse regarding the conditions in the queues, about 57% of surfers referred to the waiting times in the queues, and about 90% testified to waiting in very long queues; According to the parents' survey, 68% of the respondents waited in line for over 15 minutes, the time set for provision of the service under the New Tender. Nearly a fifth of all respondents waited over an hour. A prolonged wait for the institutional antigen test increases the risk of infection while waiting at the sampling stations, thus potentially worsening the spread of the disease. Moreover, people who were not feeling well or parents of small children were forced to wait long for the test to be administered, making it difficult for them and

the people next to them. The wait at the sampling stations for the institutional antigen tests during the Omicron wave was excessively long, according to the public's perception.

-  **Reporting on the Ministry of Health's Website and the Internet About Levels of Crowding at the Antigen Sampling Stations** – in about 38% of the controls (in 27 out of 71) conducted by the Ministry of Health in real time on the subject, there was no match between the providers' reports on the Ministry's website about the levels of crowding at the sampling stations and the crowding as stated in the control findings. The audit further raised that the Ministry of Health did not keep the data regarding the levels of crowding at the sampling stations that the providers regularly entered on its website and did not analyze them regularly. The gap between the providers' reports on the Ministry's website and the actual situation at the stations, as raised in the Ministry's control findings, the general failure to reflect the level of crowding data to the public in real-time and the inability to analyze the crowding data reported by the providers could have affected the public's ability to make an informed choice of the sampling station to which it will go and the date of the testing.
-  **The Physical Conditions at the Antigen Sampling Stations** – the physical conditions at the sampling stations were not optimal, including the separation of queues between those with symptoms and those who have only been exposed to a verified person and do not exhibit symptoms, maintaining the distance and even protecting the sampling stations from the elements: according to the Ministry of Health data for January–April 2022, in most (70%) of the controlled sampling stations, there was no separation of the queues between the subjects and no appropriate signage, in contravention of the Ministry of Health's directive to providers. In the parents' survey, about 57% of the parents responded that maintaining a sufficiently large distance between the subjects was ensured to a small extent or even less, and about 66% of the parents responded that separation of queues between the subjects was maintained to a small extent or even less, and about 53% of the parents responded that the protection of the sampling stations from the elements (rain or sun) was little to none at all.
-  **The Deployment of the Antigen Sampling Stations** – the Ministry of Health published a new tender (on January 16, 2022), which improved the deployment of the sampling stations. However, until it came into effect on January 25, 2022, the Ministry did not use its tools as part of the Green Pass Tenders and did not improve the deployment of antigen sampling stations in the periphery. This was even though it had a database, which included data about the deployment of the sampling stations, the number of daily subjects, the number of residents in each local authority, and partial data regarding the level of crowding at the stations. For example, on January 2, 2022, upon the government first updating the testing policy following the spread of the Omicron wave, there were 168 peripheral local authorities, with about 220,000 residents, located over 15 km from the sampling stations. As of January 13, 2022, there was an improvement in residents' accessibility to the sampling stations, but there were still 101 peripheral local authorities, with 150,000 residents, at over 15 km from the sampling



stations; In addition, on January 16, 2022, at the peak of the tests in the Omicron wave, the local authorities of Rahat and Kiryat Ata had no sampling stations at all, while in Yavne and Ness Ziona, local authorities with a smaller number of residents in the central region, four stations were operating on this date; Moreover, on the three dates examined, until the New Tender was launched, in about 40% of the peripheral local authorities (37–38), with over 10,000 residents, there was no sampling station. The lack of sampling stations affected the accessibility of the tests to the residents, who were required to travel for a long time to the sampling stations in other local authorities, and could have increased the level of crowding there, and even to the fact that residents will forgo testing.





 **Supervision and Control of the Array of Institutional Antigen Tests** – during most of January 2022, when the number of institutional antigen tests was the highest, the Ministry of Health did not proactively control the sampling stations, thus failing to guarantee in real time the quality of the service provided to the subjects. It was further found that from the end of January to the end of February 2022, the Ministry of Health performed documented controls on 61 sampling stations out of about 730 stations that were active on average during that period. Only about 2% on average of the total number of stations each week, lower than defined by the Head of the Command Center for the Management of the National Fight against the Coronavirus at the time in his letter to the Tenders Committee (10%). Furthermore, monitoring the rectification of the deficiencies found in the Ministry of Health's controls in January–February 2022 was not systematic, and the Ministry did not ensure that the deficiencies noted in the controls were rectified across all the sampling stations. This could have resulted in unrectified deficiencies, and unimproved service to the residents.



The Schedule for the Publication of the New Tender – the State Comptroller's Office commends the Ministry of Health for the short timetable of about two weeks to publicize the New Tender to expand the array of institutional antigen tests.



Key Recommendations

-  It is recommended that at uncertain conditions, the Ministry of Health consider analyzing all relevant alternatives, examine them and determine the means to implement the best alternative when necessary, through contingency plans for the most likely scenarios or through the use of a rapid engagement mechanism in an emergency that may include engagements with providers during routine times for the operation in times of emergency. It is further recommended that the Ministry of Health prepare a plan that will allow the health system to transition from routine to emergency when a pandemic develops quickly. Meanwhile, it is recommended that possible scenarios for the development of waves of morbidity be prepared and an appropriate response to each such scenario be provided in the activation of the parties involved, determination of work processes, practice of these scenarios, and the like.
-  It is recommended that the Ministry of Health continuously ensure the transparency of information and data necessary for the public to know and to ensure their reliability and high accuracy level. This is especially necessary during unusual events, such as a pandemic epidemic, when the public's trust in the system that manages the event is of primary importance for success in such dealings. It is further recommended that the Ministry of Health retain the current data it receives from the providers to analyze the data, draw conclusions therefrom, and improve the providers' activities. It is also recommended that the Ministry consider establishing a computerized queue management system to optimize queue management and reflect the existing level of crowding to the public.
-  It is recommended that within the framework of tenders in which the Ministry of Health engages providers to perform services, it will regularly examine their compliance with the conditions it defined to ensure that the service is satisfactory and to exhaust its purpose, including surveying public opinion from time to time regarding the quality of the service provided by the providers. Monitoring and control mechanisms are essential during emergencies of a medical crisis when public trust is a critical aspect for contending with such a crisis.
-  It is recommended that the Ministry of Health establish a method for documenting the results of controls it conducts on the providers and for saving the data obtained therefrom. Thus, ensuring that the providers comply with the agreements signed with them, generate continuous control and supervision, analyze the data, draw conclusions, and improve the providers' activities. Regarding the activity carried out at the antigen sampling stations – reliable reporting data on the activity at the stations and their analysis can help the Ministry to map the level of crowding at the sampling stations, reflect the information to the public in real-time, and direct it to less busy stations, and also reflect this information to the providers so that they can regulate the workforce at the stations according to the level of crowding and even add sampling stations at busy ones.



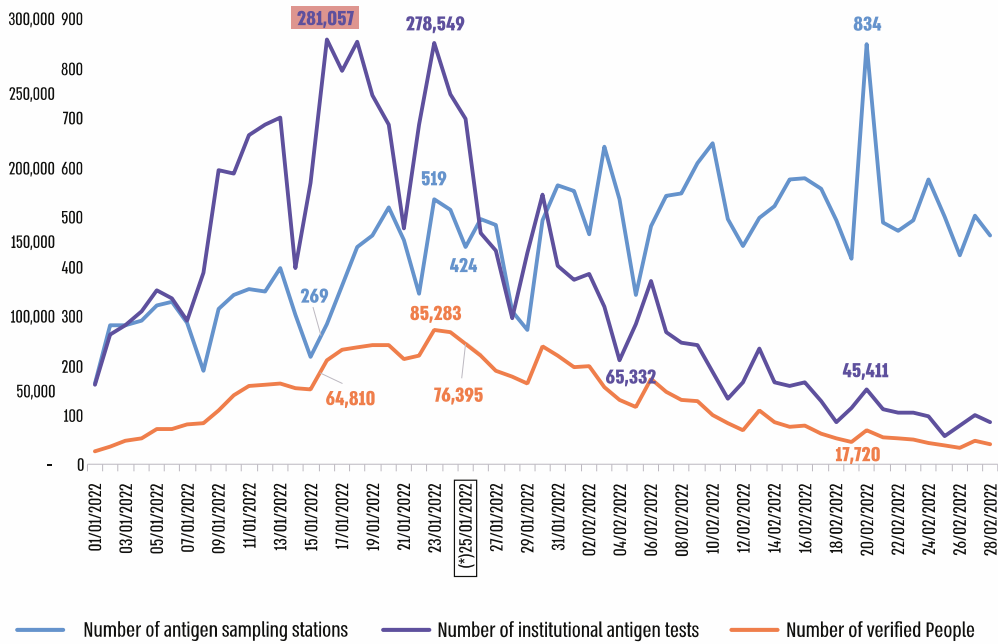
It is recommended that the Ministry of Health ensure orderly follow-up of the deficiencies rectification and ensure that these deficiencies are rectified on time. Thus, it will be able to map the available data and analyze them to draw conclusions and lessons to improve the service to the residents.



It is recommended that the Ministry of Health examines its toolbox from time to time and analyzes in real time the information it has to operate operational systems under its responsibility with maximum efficiency while emphasizing the uniformity of the service, especially in the periphery.



Daily Number of Verified People, of Institutional Antigen Tests and Sampling Stations, January – February 2022



According to the Ministry of Health data on the Ministry of Health website 'Coronavirus in Israel – General Situation Report' and the Ministry of Health data regarding the sampling stations (from August 2022) were processed by the Office of the State Comptroller.

(*) The start of operation of the sampling stations within the framework of the New Tender.



Summary

The Coronavirus broke out in Israel in March 2020. The establishment of the array of tests to diagnose the infection with the Coronavirus and its operation was a key element in contending with this virus throughout the world, including in Israel. The ability to deploy antigen sampling stations quickly to provide the public with an efficient, equitable, and high-quality service was essential for providing a service that affected the entire population and day-to-day life, enabling a return to routine alongside the Coronavirus. The audit raised that despite the increase in the spread rate of the pandemic from wave to wave, the Ministry of Health was not prepared until January 2022 for the expansion of the number of daily tests for diagnosing Covid-19 through the addition of institutional antigen tests to the PCR tests, which led to a suboptimal deployment of the antigen sampling stations and waiting times. Creating an infrastructure that will allow the Ministry of Health to provide a quick and high-quality response in times of emergency is necessary for the health system to cope with future emergencies and will contribute to maintaining public health.