

Office of the State Comptroller | 2020

The State of Israel Response to the COVID-19 Crisis Special Interim Report

Epidemiological Studies to Break the Chain of Transmission

The final report will be published in 2021

Abstract

BACKGROUND

A central and essential component of the struggle against COVID-19 is a reduction of the infection rate by breaking the chain of infection. Running a fast and effective array of epidemiological studies helps to prevent widespread outbreaks of viruses and to break the infection chain before it spins out of control. The cumulative results from the studies provide a picture of the spread and scale of morbidity, in order to identify hotspots and estimate their extent. This data is essential for decision makers who have to deal with the spread of the pandemic, and enables them to give the public informed guidance: entering quarantine, advice on social distancing, lockdown, and so on. An effective and rapid set of studies is particularly essential during COVID-19 pandemic in order to reduce the load on doctors and hospital wards, and to enable the health system to cope better.

The audit in this report was done in the period May-August 2020, as COVID-19 spread significantly, with far-reaching effects on the economy, society and every individual in Israel and the whole world. The audit was carried out at a time when the data was constantly changing and decisions had to be taken constantly in the light of developing circumstances. The findings presented in this report are interim findings, based mainly on the audit period.

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KEY FIGURES

106,888

Number of epidemiological studies from the outbreak of the pandemic until 25.8.20.

5,622 (5.3%)

Unfinished epidemiological studies from the outbreak of the pandemic until 25.8.20.

1 to 9,000

Ratio between the number of researchers and the population of Israel (compared to 1 to 4,000 in Germany and 1 to 2,200 in England) from the start of September 2020

Based on data from the Home Front-Alon Command¹ in mid-September 2020, the average number of reported contacts in their studies is 4.9; in Ministry of Health studies the average reported number is 3.4. The Alon Command target is to reach an average of 10 reported contacts.

3.4, 4.9

About 74%

Rate of patients located as contacts of confirmed cases² by epidemiological studies or actions by the General Security Service in the period 1.7.20-26.8.20

About 64%

Percentage of 76 studies reviewed by the State Comptroller's office in the Jerusalem district office for June/July 2020 that began more than four days after receipt of positive lab test results. Hours – most effective time for performing an epidemiological study of a patient, after receipt of a positive lab test result to finally ordering quarantine for the patient's contacts.

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1 The Home Front is a unit of the Israeli army responsible for civilian defense affairs. The Alon Command is a unit in the Home Front dedicated to curtailing the chain of infection from COVID-19.

2 People who have tested positive for COVID-19.

Key Findings

- Computerized management system for epidemiological studies At the time of the audit, the Ministry of Health had no effective system for quality management of epidemiological studies. In September 2020, after linking with Alon Command, assimilation of an updated system for managing studies began, which will help in the performance of quality studies and their management. The system is planned to start full operation at the start of November 2020.
- Locating patients to study and obtaining their cooperation Out of 76 studies from June-July 2020 that were examined in the Jerusalem district office, 22 documented only the subject's contacts with family members, or no contacts were reported. In 4 studies it was stated that the subject did not cooperate; according to Ministry of Health data as of 25.8.20, out of 106,888 epidemiological studies on patients, 5,622 were unfinished most (61%) were not contacted and the rest either objected to being studied or were not located.
- Time elapsed until the start of the study About 4% of the 76 studies that were examined by the audit started within a day of receiving a positive lab test result; slightly more than 5% of studies began within 48 hours; about 64% of studies began after four or more days.
- Documenting study data Documentation of studies in July-August 2020 was done on manual forms in many district offices. It was only after increases in the number of researchers that some district offices moved to direct computer input of details. Some details were input into the study form as free text and not as on a "smart" computer form, by selection from a list. This method is slow, inefficient, not controlled, requires double the personnel and has high error potential.
- Locating family members of subjects Due to the lack of a systematic study process, sometimes family members were studied concurrently by different researchers, unaware that they belonged to the same family, and without producing new knowledge about infection of family members.
- Linking the study management system to Ministry of Education data the Ministry of Health's computerized study management system is not linked to the Ministry of Education pupil data management system. Therefore it is not possible to retrieve online data about pupils who may have been exposed to an infected pupil in their class or school or in any other institution they attend (kindergartens, yeshivas, boarding schools etc.) and researchers must approach the institutions directly.
- Shortage of teams for epidemiological studies even after an increase in the number of researchers, in September 2020, their number in relation to the population was small compared to the ratio in other countries. The number of researchers affects the time needed to complete the studies, to locate potential contacts in order to limit the chain of infection.

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- Ministry actions based on location by the General Security Service (GSS) – the number of people who were in close contact with a patient and located through the assistance of the GSS from 1.7.20 to 26.8.20 was three times greater than the number located in surveys done in-person. Only about 7% of the people located to have been in close contact with a patient were located either by studies in-person or with GSS assistance.
- Call centers for clarification and objections about 62% of the objections to an instruction to quarantine submitted to the Ministry of Health call centers from 1.7.20 to 26.8.20 were accepted, and only about 13% were rejected. The rest were closed for various reasons.

Key Recommendations

- The Ministry of Health and Home Front-Alon Command should work in full coordination in order to achieve their defined objective, so that by the beginning of November 2020 there will be an effective, high quality computer system for running and managing the set of epidemiological studies. They should monitor system performance and update as necessary. They should also improve the management of study data and quality control of the data, so that the Ministry has a reliable database which is essential for making grounded decisions and in particular, to break the chain of infection.
- The Ministry of Health and Alon Command should define the proper format for performing the array of epidemiological studies. This includes defining a reasonable number of contacts to be located for each study, depending on the subject's characteristics, and researchers should have the tools to achieve this. They should also formulate technological and other tools to locate contacts, and train researchers to deal professionally with the difficulty of obtaining complete cooperation from the subjects. There should also be regular monitoring of the study outcomes, in quantitative and qualitative terms.
- The Ministry of Health, in collaboration with Alon Command, should analyze the time frame of the studies and identify the causes of delays in performing them, with the emphasis on the critical need to make the study process more efficient, including reducing the time between the various stages of the process, without compromising performance quality.
- The Ministry of Health, in collaboration with Alon Command, should put the emphasis on explaining the importance of the epidemiological studies and their contribution to public welfare, and to the subject's family. They should improve the method of documenting and reporting findings collected in studies, and also complete the assimilation of the updated system for managing studies in all district offices, including direct computer input of the new study form and the self investigation form.

- The Ministry of Health, in collaboration with Alon Command, should complete recruiting additional researchers to the extent required. The Ministry should also, as far as possible, match the researchers to the population under study including cultural background and lingusitic ability, particularly given the gaps in cooperation from the different groups in Israel. The Ministry should also examine the reasons for the significant number of justified objections and take action to optimize the various methods of diagnosis from time to time, in order to reduce the unnecessary burden of quarantine on the public.
- The Ministry of Health should determine rules for identifying which district office should study a patient – where the infection occurred, or where the subject lives. It is also necessary to ensure that the updated computerized study management system allows precise identification of the place of infection (such as the event, educational institution, gym, factory) and geographical location. The Ministry should also complete the expansion of the set of studies in order to work together with local authorities where the infection occurred, as is done in other countries.
- The Ministry of Health and the Ministry of Education must complete the plan for exchange of information, including the protection of privacy according to the Protection of Privacy Regulations (Conditions for Holding and Saving Information and Exchange of Information between Public Bodies), 1986. They should also arrange a direct interface with the Population Register database.
- The Ministry of Health should make full use of epidemiological studies together with the auxiliary actions by the GSS and other actions taken to locate possible infected persons. The Ministry and enforcement bodies should act to ensure that anyone who was in close contact with a patient is isolated from their surroundings, to prevent possible infection, until this possibility is ruled out.