



State of Israel
State Comptroller and Ombudsman
Annual Report 70A | 2020

Ministry of Health

The Healthcare System's Handling of Emerging and Re-emerging Epidemics

Abstract

Ministry of Health

The Healthcare System's Handling of Emerging and Re-emerging Epidemics

Background

An epidemic is the rapid spread of a disease in a population. For the most part, it is a sudden outbreak of an infectious disease spread by a virus or bacteria. To reduce the impact of the outbreak of an infectious disease, it is necessary to take preventive action. Responsibility for this lies primarily with the Ministry of Health, which is in charge of this field, as well as with other entities such as the Ministry of Agriculture, the Ministry of the Environment, the Ministry of Defense, and local authorities, each of which has its own area of expertise. Rapid eradication of disease and the prevention of outbreaks and renewal of epidemics are a noble social goal with implications for human life and of enormous economic significance.

Toward the end of the audit, the risk posed by the outbreak of an epidemic around the world was illustrated by the emergence of the corona virus in the town of Wuhan in China in December 2019. People infected with the virus can be differentiated by the severity of the illness: some suffer only a mild cold, while others suffer damage to their health liable to lead to general systemic collapse and death. A vaccine against the virus has yet to be developed. At the end of January 2020, the World Health Organization declared an emergency due to the rapid spread of the virus not just in China, but also beyond. To prevent the spread of the virus, in Israel the Ministry of Health issued several guidelines to the public and to those returning from China and other countries in Asia and guidelines for people who need to be in quarantine. Furthermore, the Ministry recommended that people planning to fly to the aforementioned countries should weigh the necessity of their trip. As of updated data for February 12, 2020, the virus has yet to be discovered in Israel.

In this report, we examined the preparedness of the Ministry of Health to treat diseases with various origins, such as infectious agents (pandemic flu, measles, Ebola) and animal infections (leishmaniasis, leishmaniosis, leptospirosis, Q fever).



Key figures

5%

the cost of a global pandemic to global GDP - approximately U.S. \$4.3 trillion

2.25 million

more than 2 million Israelis could fall ill in the wake of a flu pandemic (a global outbreak of flu)

10

in the past decade, Israel has dealt/prepared to deal with more than ten diseases, including measles, leptospirosis, pandemic flu, and leishmaniosis

7th

Israel's rank in terms of rate of infection in 2018-2019 In this period, 4,300 people became ill.

97%

percentage of people in Israel vaccinating against measles in 2017


1:16

every dollar spent on vaccination saves \$16 spent on treatment for a disease for which vaccinations are provided in childhood





705






from mid-July through to mid-September of 2018, 705 people contracted leptospirosis compared with 6 people in the same period in 2017

Scope

 From February to October 2019, the State Comptroller's Office examined the preparedness of the Israeli healthcare system to deal with diseases that can bring about large-scale illness and cause serious damage to the public healthcare system, such as pandemic flu, measles, and Ebola. The audit was conducted at the Ministry of Health, the Jerusalem District Health Bureau, the Ministry of the Environment, and the Ministry of Agriculture. Supplementary examinations were conducted at additional district healthcare bureaus, the Tel Aviv-Jaffa municipality, the Jerusalem municipality, four health management organizations, the Ministry of Defense, the IDF, and the Nature and Parks Authority.

Key Findings

-
-  The Ministry of Health, the health management organizations, and hospitalization apparatus are not fully prepared for an outbreak of pandemic flu in which approximately 2,250,000 residents of Israel (around 25% of the population) could become ill. This is especially true regarding stockpiles of medicines, which today suffice to treat 16% of the population (as opposed to 25% stipulated by preparation plans), vaccines, and hospital beds for an additional 150,000 hospitalized patients.
 -  The Ministry of Health has not made a complete list of diseases for which it is necessary to articulate preparedness directives and instructions for actions that must be taken in case of an outbreak (i.e. an operational doctrine). It has done so only for a small number of diseases (pandemic flu, Ebola, anthrax, smallpox).
 -  The Ministry has not formulated directives regarding the required inventory of vaccines and procuring them at the onset of various illnesses (such as measles and pandemic flu) and how to acquire them.
 -  Even though the rate of vaccination among school children during the 2018-2019 school year reached 97.8% (an increase over the previous year), in 19% of Israeli schools, the rate of vaccination was lower than 95%. According to Ministry of Health analysis of children and teenagers aged 2-19 ill with measles in the 2018 outbreak, at least 49% were children of parents who refused to vaccinate their children.

-  A sample of epidemiological case investigation files^[1] examined at the Jerusalem District Health Bureau with regard to the 2018 measles outbreak showed that in only 57% of cases was an investigation commenced within 48 hours (the timetable set by the World Health Organization). The longer an epidemiological investigation is delayed, the longer the outreach^[2] to exposed people is delayed, the effectiveness of the vaccine is liable to diminish, and the concern is that exposed people will infect others is liable to increase.
-  Cooperation among government ministries and other authorities, such as the Nature and Parks Authority, in treating diseases transferred by animals is not regulated, and there is no entity charged with coordinating treatment.
-  Details of the leishmaniasisleishmaniosis (“Jericho buttons”) outbreak are not fully reported. The Ministry of Health does not provide the Ministry of the Environment with details of the exact location of the outbreak of the disease, and the IDF does not report to the Ministry of Health most cases in which soldiers are infected with the disease.
-  The monitoring of potentially virus-carrying mosquitos is conducted by the Ministry of the Environment is only partially carried out.
-  The Ministry of Health and the Ministry of Finance have not determined a consensual mechanism for updating the budget for the basic package of public healthcare services the Ministry of Health must offer, including preventive medicine provided to district health bureaus and well babywell-baby clinics.



In 2017, the national coverage of measles vaccination in Israel was 97%, higher than the ratio recommended by the World Health Organization^[3], although there are pockets of non-vaccination, a fact that could cause the disease to spread.

In 2018-2019, there was a measles outbreak in Israel. Even though the process of providing certain vaccines was extended due to their non-availability and the need to move them around the entire country, at the end of the day, anyone requiring a vaccine received it.








[1] Tracing the development of the outbreak of an epidemic at the individual level is critical in understanding which specific person or animal is causing the spread of the contagious disease

[2] It also furthers proactive initiatives by therapeutic service providers (e.g. psychologists, social workers, nurses) trying to reach people who need treatment who do not access it independently.

[3] The World Health Organization has determined that one of the conditions a country must meet to be considered free of measles is a 90% vaccination coverage



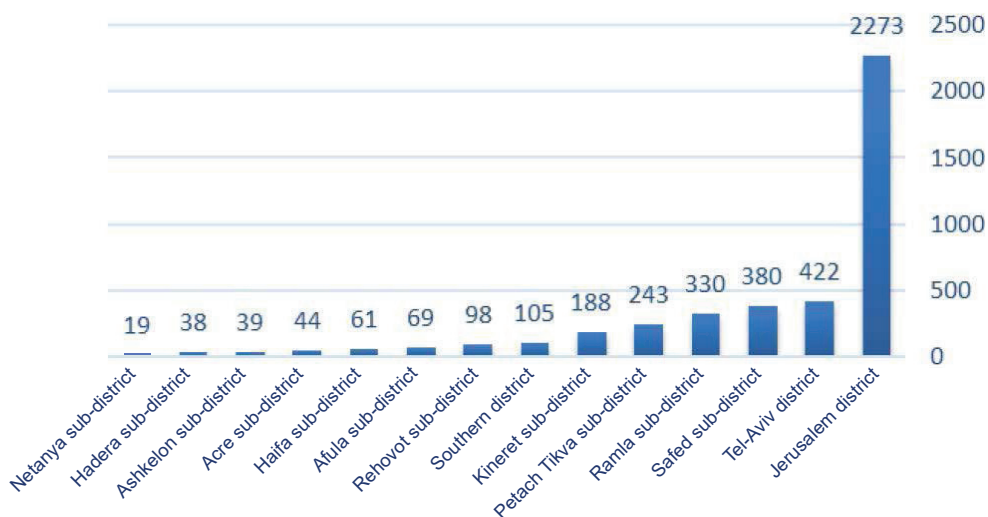
Key recommendations

-  Given the importance of the reference scenario approved by the defense minister - a key component of the combat doctrine for dealing with a pandemic flu - the Ministry of Defense must work to update its reference scenario, update its combat doctrine, and disseminate it to all relevant government ministries and entities for assimilation.
-  The Ministry of Health and the health management organizations must prepare an operative plan to deal with an outbreak of pandemic flu and drill it, while the Ministry of Defense and the Ministry of Health must advance staff work for the purchase of vaccines.
-  We suggest the Ministry of Health map the diseases requiring unique preparations. It will determine if directives should be prepared for deployment at the time of an outbreak of those diseases so as to enable optimum early preparation (operational doctrine). The Ministry must consider the preparation of directives for deployment and action during a measles outbreak.
-  The Ministry of Health and the Ministry of Environmental Protection must formulate a plan based on a dedicated model for the deployment of monitoring stations to discover virus-carrying mosquitos.
-  The Ministry of Health should work to institutionalize the work of the inter-ministerial team on the treatment of animal transmitted diseases, determine a responsible entity and increase cooperation between the entities involved.
-  It behooves the Ministry to consider computerizing processes, such as the reporting of diseases requiring notification and epidemiological investigation. It must also consider opening inter-ministerial reporting interfaces while making sure to maintain privacy.
-  The IDF must examine the possibility and process of reporting cases of soldiers infected with leishmaniasisleishmaniosis to the Ministry of Health even if they that have not been confirmed by a lab.

Summary

Eradicating epidemics and treating diseases are global concerns based on a common goal of preventing health, economic, and developmental harm to humanity as a whole. A key disease-prevention measure is mass vaccination and disease monitoring. The audit found flaws in Israel's preparedness for dealing with new epidemics and re-emerging diseases. The healthcare system and other responsible entities must act to deal with diseases liable to become epidemics and prevent their outbreak and spread.

The number of cases of measles by district, from the beginning of 2018 to September 2019



According to data from the Ministry of Health processed by the State Comptroller