

RESEARCH

Centralized Management of the Covid-19 Pandemic in Long-Term Care Facilities in Israel

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Covid-19 was first diagnosed in Israel in late February 2020. During the first month following the outbreak, it became clear that the most severe outcomes were occurring in the Long-Term Care Facilities (LTCFs) and that the fragmented supervision of these facilities was a key weakness in the fight against the pandemic. It was therefore decided to establish the Fathers and Mothers Shield taskforce, which included representatives from all of the relevant government ministries and which would facilitate communication and consultation with the representatives of the LTCFs and with the relevant public sector organizations. We analyse three main policy measures implemented by the taskforce in the effort to mitigate the effects of the pandemic in the LTCFs: an increase in SARS-CoV-2 testing of LTCF residents and employees; the opening of specialized Corona wards in geriatric hospitals and LTCFs; and the regulation of family visits.

The introduction of centralized management of the pandemic in the LTCFs achieved a number of important outcomes and is considered to have been highly successful. The share of the LTCFs within total Covid-19 mortality dropped from 45% to 36%, and the load on general hospitals became more manageable. With the arrival of the SARS-CoV-2 vaccines, the taskforce viewed priority vaccination of the LTCF population as its main goal in early 2021.

Keywords: Long-Term Care Facilities; Covid-19; Centralized Management

1. Introduction

The first COVID-19 patient in Israel was diagnosed on February 27th 2020 and sixteen days later the first outbreak occurred in an Israeli Long-Term Care Facility (LTCF). A year later, on March 1st 2021, the number of confirmed cases in Israel rose to more than 700,000 and deaths increased to 5,758, of which about a third were in LTCFs. Nonetheless, more than 3.3 million Israelis were already vaccinated with a second dose including most of LTCFs residents and employees.¹

Initially, the highly fragmented Israeli LTC regulatory system was hesitant to modify its policies in response to the pandemic. During the first month of the pandemic, several Covid-19 outbreaks occurred in LTCFs, and their

residents accounted for more than 50% of deaths, while representing less than 0.5% of the population.

A month after the first outbreak in the LTCFs, and following a massive public outcry and a request for assistance from the LTCF managers, the Israeli government appointed a national-level taskforce, called Fathers and Mothers Shield, on April 12th in order to centralize the management of the COVID-19 outbreaks in the LTCFs.²

The aim of this article is to analyze the three main policy measures implemented by the taskforce in order to manage the Covid-19 pandemic in LTCFs in Israel.

The paper proceeds as follows: the next section present the methodology of the study, Section 3 describes the LTCFs in Israel and Section 4 presents the findings. Section 5 concludes.

2. Methodology

We employ a descriptive policy analysis (also known as expost analysis) in order to evaluate the centralized management of the Covid-19 pandemic in LTCFs in Israel. This was carried out in two phases, one retrospective and the other evaluative, while combining quantitative and qualitative data.

A retrospective analysis involves the description and interpretation of past policies ("What happened?") (Patton *et al.*, 2016). We use it to summarize the main steps that

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led to the creation of the Fathers and Mothers Shield taskforce, to understand its main objectives and to identify the main policy measures implemented by it.

The retrospective analysis is qualitative, and includes personal conversations with the taskforce members, the analysis of task force meetings with policymakers and with LTCF representatives, and a review of the discussions of the Corona Committee of the Israeli Parliament.

The retrospective analysis pointed to three main policy measures that had been adopted by the taskforce:

1) to increase SARS-CoV-2 testing of LTCF residents and employees; 2) to open specialized Corona wards in LTCFs; and 3) to manage family visits.

An evaluative policy analysis involves an evaluation of the program ("Were the goals of the policy achieved?") (Patton *et al.*, 2016). We used qualitative data published by the Israeli Ministry of Health (MoH) to evaluate each of the three measures in the context of the taskforce's overall goal, namely to reduce Covid-19 morbidity and mortality in the LTCFs. As of December 2020, Israel had experienced two Covid-19 waves that were each followed by a national lockdown. The centralized management strategy analysed here was adopted towards the end of the first lockdown, with the appointment of the Fathers and Mothers Shield taskforce. This makes it possible to compare the trends and outcomes in the LTCFs between the two waves.

We have constructed a national dataset composed of public domain data, most of which are published by the government of Israel and are available online (DataGov).

Additional information was gathered from the MoH databases and a variety of publications. In Israel, the death of an individual who tested positive for SARS-CoV-2 is classified as a Covid-19 death. The Covid-19 deaths in the LTCFs include those of residents in geriatric hospitals, care homes, sheltered housing and a small number of other

institutions for people with disabilities (without any differentiation between them in the data).

3. LTC services in Israel

Israel is a small country with a relatively young population. Of Israel's nine million residents, 11.7% are aged 65+ as compared to 17.2% in the OECD (Organization for Economic Co-operation and Development) countries (OECD, 2020). Most of the LTC services in Israel are provided to partially independent older individuals living at home and to residents of sheltered housing facilities (independent wards). At the beginning of 2020, some 220,830 individuals of retirement age were eligible to receive some publicly financed LTC services at home (National Insurance Institute, 2020). **Table 1** describes the various types of LTCFs in terms of residents' status, number of institutions, number of residents and the supervising ministry.²

In Israel, as in most of the Western world, a fragmented bureaucracy oversees LTCFs. Each LTCF is supervised by the MoH and/or the Ministry of Labor, Social Affairs and Social Services. The facilities are either privately or publicly owned and privately or publicly funded (Shnoor & Cohen, 2020). Geriatric hospitals are medical institutions that include (some or all) of the following types of wards: 1. Long-term geriatric treatment wards — nursing geriatrics and a ward for the elderly with cognitive disabilities; 2. Departments for active geriatric care — complex nursing, prolonged respiration, supportive care (hospice), sub-acute geriatrics (acute geriatrics and internal geriatrics) and rehabilitative geriatrics.

Some geriatric hospitals and sheltered housing facilities are owned and managed by the Health Plans (HPs), which in Israel are essentially managed care organizations and therefore are responsible for the medical treatment of all LTCF residents. The National Insurance Institute (NII) is responsible for LTC services provided in the community (including for independent residents of sheltered housing).

Table 1: LTCFs for the elderly in Israel.

Category	Residents status	Number of institutions	Approximate number of residents/inpatients#	Supervising ministry
Geriatric hospital/institution*	Active geriatric state/LTC inpatient	256	24,500	- МоН
Care homes*	Older individuals in need of financial assistance, most of whom suffer from a mild disability and/or dementia.	112	5,000	Ministry of Labor, Social Affairs and Social Services LTC wards under MoH
Sheltered housing*	Independent older individuals, many of whom are living in an LTC inpatient ward.	95	15,150	Ministry of Labor, Social Affairs and Social Services LTC wards under MoH
Disability-supportive housing	Children and adults with disabilities	189	8,800	Ministry of Labor, Social Affairs and Social Services
Disability community housing/hostels and apartments	Adult individuals with disabilities	468	8,600	Ministry of Labor, Social Affairs and Social Services

Source: Fathers and Mothers Shield report.

^{*} Some of these institution overlap in that they have departments for independent residents and others for highly dependent residents.

[#] The number of residents or inpatients is an approximation since there is no one offical data source.

4. Findings

4.1 Covid-19 in the Israeli LTCFs

A few weeks into the Covid-19 pandemic, there was already evidence that LTCFs have much higher rates of Covid-19 morbidity and mortality than the general population. By mid-June, reports from other countries were showing that LTCF residents accounted for 50–80% of the overall death toll (Comas-Herrera & Zalakain, 2020; Hsu & Lane, 2020).

As of November 2020, Israel had experienced two Covid-19 waves, which differed somewhat in their characteristics. In **Figure 1**, we present a timeline of the main events during the Covid-19 pandemic in the general population and in the LTCFs. The first Covid-19 outbreak in the LTCFs began in mid-March, two weeks after the first Covid-19 patient was diagnosed in Israel. It occurred in an LTCF for older people located in Jerusalem and resulted in five deaths. It was followed by two other outbreaks, one in an LTCF for older people in the South, which resulted in the deaths of 14 residents, and another in an LTCF for disabled adults and children located in central Israel.

Following each outbreak, the Israeli army's Home Front Command was called in to assist in facility disinfection. At the same time, facility managers complained about a lack of adequate personal protective equipment and insufficient medical staff in order to prevent further infections in the facilities. On April 13th, a month after the initial outbreak, an emergency discussion in the Israeli parliament revealed that there were already 270 Covid-19 cases in LTCFs and that 35 LTCF residents had died (35% of the cumulative COVID-19 deaths at the time) (**Figure 2**).

4.2 The creation of the Fathers and Mothers Shield taskforce ("What happened?")

The adverse outcomes of the COVID-19 outbreak in the LTCFs led to a massive public outcry, as well as a request for assistance from the LTCF managements. The LTCF Association submitted an urgent petition to the Israeli Supreme Court at the beginning of April with two main demands: to increase Sars-Cov-2 testing for LTCF residents and staff and to allocate an emergency budget for the purchase of protective gear, the recruitment of new staff and

the preservation of existing staff. Although the Supreme Court rejected the petition, it was followed by a government decision to appoint a national-level taskforce to manage the COVID-19 outbreak in the LTCFs. As a result, the Fathers and Mothers Shield taskforce was created on April 12th.³ It's main goal was to reduce Covid-19 morbidity and mortality in the LTCFs, regardless of ownership, the type of facility or the profile of the residents (Tsadok-Rosenbluth *et al.*, 2020).

The Fathers and Mothers Shield taskforce included representatives of the relevant government ministries (the MoH and the Ministry of Labor, Social Affairs and Social Services), the Israeli army (Home Front Command), and Israeli intelligence organizations. The taskforce maintains contact with representatives of the LTCFs and all of the relevant public sector organizations and provides them with advice and guidance.

As the taskforce began its work (April 18th), 82 LTCFs had at least one resident or employee that had tested positive for Covid-19, with a total of 405 infected residents and 173 infected employees in the system. The taskforce's first action was to establish a national workplan and to issue detailed guidelines to facility directors. The taskforce's main objectives were as follows:

- ✓ Establishing a single headquarters to coordinate government efforts.
- ✓ Expanding the Home Front Command's role.
- ✓ Establishing Covid-19 patient care departments in each facility.
- ✓ Prohibiting staff members from working in more than one facility.
- ✓ Allowing family members to visit only in special cases and subject to the social distancing rules.
- ✓ Upgrading the protection measures for both residents and staff.
- ✓ Increasing the scope of Sars-Cov-2 testing in LTCFs.

Within a few weeks of the taskforce's formation, there was an improvement in the trend of mortality among LTCF residents relative to the general population. Four months

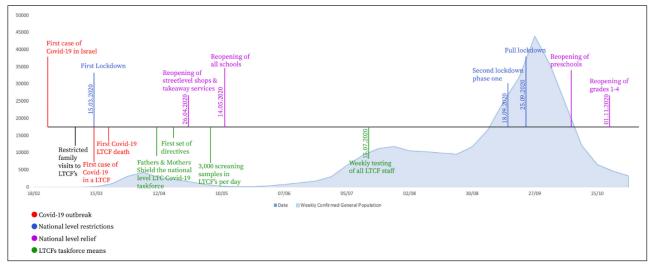


Figure 1: Timeline of the Covid-19 pandemic in Israeli LTCFs.

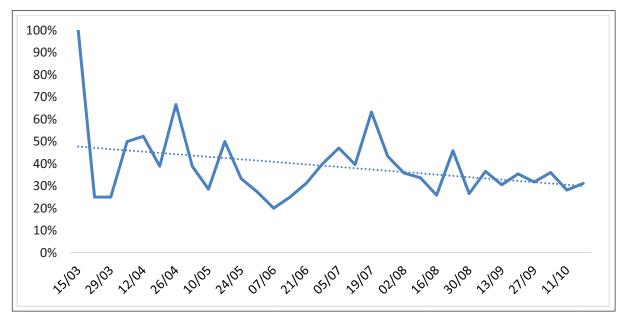


Figure 2: Proportion of LTCFs within total Covid-19 deaths in Israel, by week.

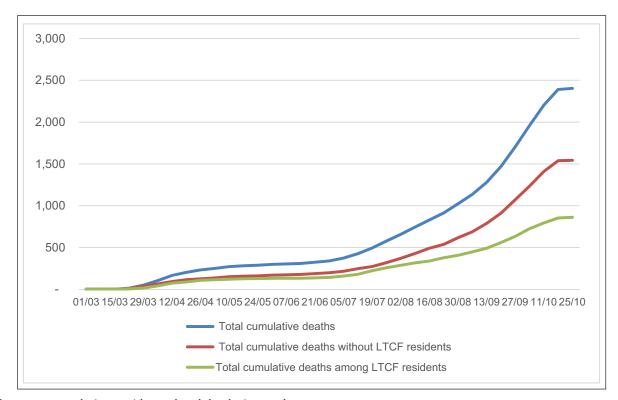


Figure 3: Cumulative Covid-19-related deaths in Israel.

after the creation of the Fathers and Mothers Shield taskforce, the data indicate that the mortality from Covid-19 among the general population had increased more rapidly than among LTCF residents (**Figure 3**).

The guidelines issued by the taskforce included a series of directives to the facilities: LTCFs were to prevent the spread of Covid-19 by using personal protective equipment, maintaining hygiene, and frequently taking the residents' temperature. Staff were meant to work with the same resident cohort, to maintain a two-meter distance from one another and to work at only one facility (if possible). Two twelve-hour shifts were recommended. Any

resident returning from a general hospital or from a family visit outside the facility must be tested and if positive they were to be quarantined for 14 days or until they had negative results and were to be reported to the MoH and the taskforce. All residents and employees who had been in contact with an infected individual were quarantined and tested as soon as possible.

Nonetheless, as the pandemic progressed, the team initiated a number of mitigation measures. The first was to open specialized Corona wards in certain facilities, with the goal of concentrating and isolating the patients. Medical geriatric centers were requested to open at least

one dedicated Corona ward. However, if the health of a patient in a Corona ward deteriorated, they were transferred to a general hospital. These three measures were recognized by the taskforce as having the most impact.

4.3 The evaluation of the three main policy measures adopted ("Were the policy goals achieved?")

Adjustment of testing policy

With limited SARS-CoV-2 testing capacity at the beginning of the pandemic, resource allocation became an important issue. The formulation of testing policy was centralized in the Division of Public Health in the MoH, which decided on the allocation, prioritization, and execution of testing. Initially, testing policy did not include any specific priority for the residents and staff at infected LTCFs. However, following an increase in LTCF infections and a massive public outcry the policy was revised. On March 30th, the testing criteria were updated to include residents and staff in high-risk institutions, including LTCFs, where symptomatic Covid-19 cases had been diagnosed.⁴ On April 9th, the criteria were again updated to require the testing of the entire ward where cases of Covid-19 had been found, including staff, whether or not they are symptomatic, and up to three times following a positive diagnosis of anyone in the ward.⁵ By April 14th, the criteria were updated again to require testing of all symptomatic residents in a high-risk institution even if no one had yet tested positive. In addition, residents returning to an LTCF from a general hospital were to be tested. Figure 4 shows the total number per 1,000 individuals of weekly SARS-CoV-2 tests for all of Israel and only in LTCFs and the number of positive residents and staff between March and October 2020.

By the end of April, LTCF residents accounted for 45% of all deaths from Covid-19. In order to reduce morbid-

ity and mortality, the testing policy was changed again following pressure from the taskforce. As a result, 3,000 daily SARS-CoV-2 tests were allocated for random testing of LTCF residents and staff (SARS-CoV-2 survey tests), which accounted for about 20% of the daily tests performed in Israel (MoH, 2020a). These tests were in addition to those conducted in facilities with a Covid-19 outbreak.

In July, an analysis of the LTCF outbreaks by the taskforce led to the conclusion that many of them had started with an asymptomatic staff member, followed by a rapid and often asymptomatic spread throughout the facility (Fathers and Mothers Sheild, 2020). Similar cases of rapid spread in skilled nursing facilities were reported in other countries as well, such as the case in the State of Washington in late February 2020 (Arons et al., 2020). The taskforce findings prompted a new weekly testing program for staff members and service providers who have direct contact with residents, which was initiated on July 15th (Fathers and Mothers Shield, 2020c). With a total population of more than 40,000 LTCF staff and 45,000 residents, the new policy required at least 8,000 daily tests, in addition to the testing of facilities that already had a positive case. Since August, the rate of LTCF testing has been over 40,000 per week, such that about half of the residents and employees of LTCFs are tested every week. The weekly number of positive LTCF residents and staff is shown in **Figure 4**.

At the peak of the second Covid-19 wave in early September, and following a sharp rise in morbidity in the general population and low morbidity rates in the LTCFs, the MoH decided to halt the program for a week. A week later and once the testing capacity among the general population had been expanded, the LTCF testing program was resumed and has continued to date.

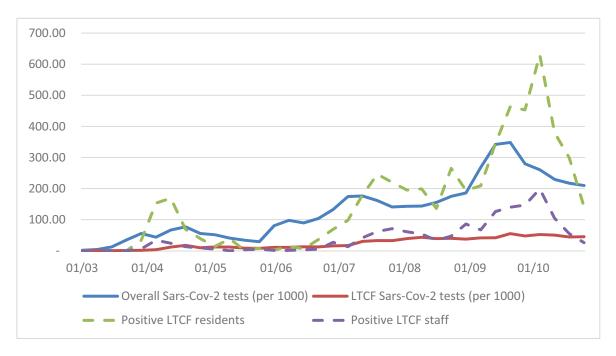


Figure 4: SARS-CoV-2 testing in Israel and positive cases in LTCFs.

Opening of specialized LTC Corona wards

With the aim of reducing the burden on general hospitals and preventing the spread of infection from an LTCF to the surrounding neighborhoods, the Fathers and Mothers Shield taskforce announced the establishment of dedicated "Corona wards" in several LTCFs. The efforts were focused on opening the wards in geriatric hospitals and geriatric institutions that have medical staff who specialize in geriatric medicine. By April 20th, there were 350 LTC beds for mild and moderate Covid-19 patients in these wards (Fathers and Mothers Sheild, 2020a). The Corona wards are designated for the treatment of Covid-19 patients from other LTCFs that are defined as mild and moderate cases while severe patients are sent to general hospitals. To date, LTCF residents whose situation has deteriorated are transferred from LTCFs to LTCFs' Corona wards and if needed to General hospitals; and vice-versa if their situation has improved. These transfers are managed on the national level by the taskforce (Ministry of Health, 2020b).

By the end of September and two weeks into the second national lockdown and in view of the the increased Covid-19 morbidity and increased burden on general hospitals, a directive was issued calling for the creation of new Corona wards in additional LTCFs, thus increasing Covid-19 capacity by 800 beds.

During the second wave, a growing proportion of patients with moderate Covid-19 symptoms and those with mild Covid-19 symptoms in addition to an underlying medical condition were being transferred from general hospitals to the LTC Covid-19 wards (MoH, 2020b). By the end of September, 206 of the beds in the LTC Corona wards were occupied and it was planned to increase capacity to 1,470 (with 50% for mild cases) by mid-December in view of the expected morbidity rate in the winter.

Family visitation policy

In mid-March, at the beginning of the first lockdown in Israel, the Ministry of Labour, Social Affairs and Social Services issued a directive regarding family visits to residential care homes and sheltered housing facilities (Ministry of Labour, Social Affairs and Social Services, 2020). The directive stated that visits must take place outdoors and only with family members who are not under quarantine. The directive was not supported by specific data but rather was based on the observation that many Covid-19 infections in the general population occurred at home. At the same time, the MoH still permitted first-degree relatives of LTCF residents to enter the building (unless they had recently travelled abroad). The contradictory instructions caused confusion and frustration among LTCF staff and the families of the residents.

As morbidity and mortality rates in the LTCFs rose, many facilities prohibited visitation, leading to dissatisfaction among the families who were concerned about the mental health of their loved ones. Under public pressure, and once morbidity began to decline, the authorities finally allowed outdoor meetings with face masks. By June, and following a rise in morbidity, several LTCF managers had decided once again to forbid family visits. The Fathers and Mothers Shield taskforce issued a statement in favor of the continuation

of family visits under the social distancing rules; however, facility managers had the option of adopting stricter policies. By July, and despite a sharp increase in morbidity rates nationwide, the MoH was still allowing visits, citing their psychological importance for LTCF residents. The duration of a visit was limited to half an hour and had to take place outdoors while wearing face masks and maintaining social distancing (Fathers and Mothers Sheild, 2020b). In mid-September, as Israel was experiencing the second Covid-19 wave and as the second lockdown began, the taskforce published updated guidelines for visitation, which were to be implemented after the general lockdown had ended and which permitted family visits in low morbidity areas, subject to social distancing and the visit taking place outdoors and on the premises. Since independent residents of sheltered housing were experiencing much lower rates of morbidity and mortality relative to residents of the LTC wards, visiting guidelines for them were more lenient (Fathers and Mothers Shield, 2020d). To date, there has been no reported cases of Covid-19 infections in LTCFs arising from a family visit.

5. Discussion

Israeli LTCFs house a variety of residents, ranging from healthy and independent older individuals, who simply wish to live among their peers and to benefit from a variety of cultural activities, to people with mental and physical disabilities.

Covid-19 was first diagnosed in Israel in late February 2020. During the first month following the outbreak, it became clear that the most severe outcomes were occurring in the LTCFs. The MoH realized that the fragmented LTCF management was a key weakness in the fight against Covid-19. It was therefore decided to establish the Fathers and Mothers Shield taskforce which included representatives from all the relevant government ministries. The taskforce maintains communication with representatives of the LTCFs and with all the relevant public sector organizations and provides them with advice and guidance.

One of the first changes made by the taskforce was to increase SARS-CoV-2 testing for LTCF residents and employees. Testing policy was adjusted over time, partly as a result of ups and downs in the national infection rates. The proportion of tests allocated to LTCF residents and staff grew dramatically between March and May, dropped off in June, and rose again in July. At the beginning of the pandemic, testing was limited to symptomatic residents but the taskforce quickly came to two conclusions: that in order to stop an ongoing outbreak the entire population of an LTCF needed to be tested following the infection of a resident and that, in order to better prevent infection, there was also a need for routine survey testing of staff and residents. And indeed, since mid-July about half of the LTCF residents and employees have been tested each week.

Another change made by the taskforce was the opening of specialized Corona wards in medical geriatric centers and other LTCFs. The MoH was highly concerned with general hospital occupancy rates and treatment capacity during the pandemic, and the Corona wards were meant to treat mild and moderate cases in order to reduce the burden on the hospitals. During the first wave of Covid-19

in Israel, from March to May, many positive LTFC residents were transferred to the specialized LTC Corona wards. In contrast, during the second wave, many LTCFs chose to open their own Corona wards, thus increasing overall capacity as the winter months approached.

The third policy measure implemented by the taskforce relates to the management of family visits. During March and April, they were totally forbidden. As a result, the families of LTCF residents began complaining that the physical limitations imposed on the residents, together with the psychological effect of the ban on visits, were causing mental and physical harm to their relatives. In response, the taskforce issued guidelines for visitation which called for short, well-controlled visits. However, facility managers still had the right to impose stricter rules. The impact of the various versions of visitation policy is still unclear and requires further study.

In Israel, as in most of the Western world, LTC is organized in a fragmented manner with several government bodies supervising the LTCFs. While this is considered to be one of the reasons for the slow response to COVID-19 in the LTCFs, the solution in the form of centralized management of the pandemic has led to a welcome change in LTC policy in Israel. In the post-Covid 19 world, this may be one of the positive outcomes of the pandemic.

Even though we have focused on Israel, the idea that centralized management of LTC policies can help in reducing mortality and the impact of the pandemic in LTCFs is applicable in other countries as well. The Fathers and Mothers Shield taskforce has been operating since the end of April and it is considered to have been highly successful. The share of LTCF residents within total mortality has dropped from 45% to 36%, and the load on general hospitals has continued to be manageable. From an international perspective, the number of Covid-19-related deaths per 100,000 population living in the community is lower in Israel than in many European countries (such as Portugal, Austria, France, Sweden, the Netherlands, Spain, and England), as well as Canada and the US (Comas-Herrera *et al.*, 2021).

The taskforce achieved a number of important outcomes: an adequate level of SARS-CoV-2 testing based on need and data analysis; conversion of LTC wards in geriatric centers and other LTCFs into Covid-19 wards; a manageable number of patients being transferred from LTCFs to hospitals on the national level; and preparation of the system for the approaching winter. Since its creation, the taskforce has achieved commendable results in the face of the Covid-19 crisis, despite the onset of the second wave in recent months.

Finally, Vaccination had started in Israel on December 19th. The hospital based medical staff were the first group in priority. The Fathers and Mothers Shield team campaigned to have the staff and residents of the LTCFs vaccinated together with the medical staff. Vaccination in the LTCFs began January 3rd (only two weeks into the vaccination campaign). Initial data show that while during at the end of 2020 the accumulative new cases in LTCFs (staff and residents) were over 2,000 cases per week. Less than two months later, in February 2021, the numbers dropped to 360 accumulative new cases in LTCFs.

Notes

- https://datadashboard.health.gov.il/COVID-19/general.
- ² There are two other ministries that supervise LTCFs: The Ministry of Construction and Housing and the Ministry of Aliya and Integration. However, the facilities supervised by these ministries are outside the scope of this paper since they house mostly young residents.
- ³ For further details about the program, see: https://govextra.gov.il/ministry-of-health/care-covid19/elderly-care-covid19/ (in Hebrew).
- ⁴ A 38°C fever or a respiratory symptom such as coughing, difficulty in breathing, etc.
- ⁵ Sample testing is to be decided on by the district physician. The first of the tests is to be carried out on diagnosis of the first patient, followed by two more after 5 and 10 days.
- ⁶ https://www.calcalist.co.il/local/articles/0,7340,L -3800102,00.html.

Competing Interests

The authors have no competing interests to declare.

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