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FOR SOCIAL POLICY STUDIES IN ISRAEL

The State of the Acute Care Hospitalization System in Israel:

The Current Situation

Dov Chernichovsky and Roi Kfir

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The Acute Care Hospitalization System in Israel: The Current Situation

Dov Chernichovsky and Roi Kfir

This study is one of two that examines the hospital system in Israel:

- The Acute Care Hospitalization System in Israel: The Current Situation
- The Acute Care Hospitalization System in Israel: From a Vision of Decentralization to a Centralized and Out-of-Control Reality

These two complementary studies discuss a system in crisis, which reflects the situation of the health system in Israel as a whole. The crisis is a result of two factors: (a) widening gaps between the medical need and the allocation of public resources to the system; (b) the growing involvement of the state in the ongoing management of the system.

Accordingly, the first study discusses the infrastructure of the system and its financing, namely the market and number of beds and their funding, their dispersion in the community and their utilization, both over time and from an international perspective. The second study discusses the regulation of the hospital system that affects the system's efficiency and accessibility.

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Abstract

The hospital system in Israel operates for the most part as an "internal market" which came into being with the passage of the National Health Insurance Law in 1995 (hereinafter: the Law). In this market, entitled health services are provided according to patient need and they are financed and regulated by the state. The provision of these services is the responsibility of the four health (or sickness) funds (HMO-type institutions), whether by purchasing them or producing them. In general, hospitalization services are acquired from public hospitals, although the status of these hospitals has not been defined in the law.

The hospitalization market in Israel is characterized by a fundamental structural flaw that adversely affects its functioning, namely the multiple roles of the state within the market. On the one hand, the state is responsible for financing and regulation and, on the other hand, it is a supplier of about one-half of the acute hospitalization services, competing with other hospitals not owned and run by the state, but under its regulation and finances. Thus, the state's multiple roles lead to a conflict of interest and, notwithstanding the repeated proposals for reform since 1978 and even prior to that, the issue has remained unresolved.

In Israel, there are about 2.2 acute (curative) care hospital beds per 1,000 population as compared to an average of 3.6 in the OECD and 4.1 in the European countries in which, like Israel, the provision of services is secured by health funds (Belgium, Germany, the Netherlands, and Switzerland, and to a lesser extent also France; these will be referred to hereafter as the "similar countries"). Even after adjusting for the younger age structure of the population in Israel relative to other countries, the number of acute care hospital beds stands at 2.5 per 1,000 population, which does not significantly reduce the gap between Israel and other countries.

The share of expenditure on hospitalization in the GDP, after adjusting for age is 2.1 percent as compared to 2.3 percent in the OECD countries and 2.8 percent in the similar countries.

In Israel, as in the OECD countries and the similar countries, there is a trend towards reducing the number of hospital beds per 1,000 population and hospitalization expenditure. This phenomenon is also related to technological and organizational changes in medicine. However, in Israel, the problem is particularly acute. The relatively low number of hospital beds, as well as the decrease in hospitalization expenditure, can be explained and even justified by the relatively young age structure of the population in

Israel. However, this does not justify or explain the relatively sharp decline in the number of beds per 1,000 population and in the level of hospitalization expenditure in view of the rapid aging of the population in Israel relative to other countries.

The low average number of hospital beds per 1,000 population is even more acute in the geographic periphery of the country, where demand for beds is high relative to supply, and stands in contrast to the situation in the central areas of Tel Aviv, Jerusalem, and Haifa. This means that residents of the periphery travel long distances for hospital services. The average distance to the nearest hospital in the Northern district, the Southern district, and Judea and Samaria is 15-20 km as compared to 3-4 km in the Tel Aviv and Jerusalem districts. The distance to a national medical center (Ichilov, Beilinson, Sheba, and Hadassah) is 133 km on average for residents of the Northern district and 92 km for residents of the Southern district, as compared to about 30 km for residents of the Tel Aviv and Center districts.

The geographic inequity in the allocation of beds also relates to the inefficiency of having oversized hospitals in areas with a relatively high supply of beds. Research examining the potential efficiency of hospitals according to size, concluded that the size of Sheba, Sorasky, Soroka, and Rambam medical centers is beyond the optimal size (800 beds) for a hospital.

Despite the relatively low number of beds, the number of hospital discharges per 100,000 population in Israel is similar to the OECD average of about 15,000 per year, and lower than the average for the similar countries of about 16,000 per year. Israel accomplishes this by means of a particularly high hospital bed turnover rate. Thus, in 2016, the average number of hospitalizations per bed was 66 in Israel, as compared to an average of about 41 in the OECD countries and about 44 in the similar countries. The Israeli turnover rate reflects, on the one hand, relatively short average hospital stays and, on the other hand, particularly high occupancy rates. The average length of a hospital stay in Israel is 5.2 days per patient, which is lower than in the OECD countries (6.7 days) and in the similar countries (6.2 days). The average rate of occupancy for hospitals in Israel is 94 percent, as compared to 75 percent for the OECD and the similar countries.

These figures paint a picture of an acute care system where the following outcomes can be expected:

- Diminished ability of the system to deal with routine emergency situations (whether or not they are related to the security situation).

- Reduced quality of treatment due to short hospital stays beside pressure to reduce them as a result of long waiting times outside of the hospitals and within the emergency rooms.

- Lack of competition between hospitals in the internal market, at least with respect to quality of service, in view of the inability of hospitals to respond in terms of supply to changing market conditions.

This speaks to the absence of a national strategy with respect to the following interrelated factors: the number of acute care hospital beds, the size of hospitals, and their geographical dispersion. This lack, in all its aspects, is reflected in an expansion of hospital which are already over the optimal size of about 800 beds and the additional hospital beds in locations where there are already sufficient to meet the needs of the population, in place of adding beds and resources in the periphery and building a new hospital in addition to Soroka in the South. The government's program to shorten waiting times is an admission of the poor functioning of the public hospital system and an attempt, by means of flawed regulation of the system, to deal with these failures.

That is, prior to making additional investment to fill the gap, it is important to reduce and rectify the involvement of the state in the system's ongoing management, a situation that only exacerbates the problem, as will be described in the second study.

Introduction

The hospital system in Israel includes acute care, psychiatric, rehabilitation, and long-term care hospitalizations. The discussion will focus on the first — hospitalizations that are primarily for short-term acute care, including recovery from surgery that, in general, cannot be treated in the community. In principle, two types of acute care can be distinguished: urgent care, characteristically emergency care, and elective care, including treatment in outpatient clinics that theoretically is not urgent and which can be provided within a reasonable time period. Apart from the character of the care, the relatively short hospital stay is basically what differentiates acute care hospitalization from other types of hospitalization, including psychiatric, rehabilitation, and long-term care, whose duration is often for the patient's remaining lifespan.

A cautious estimate puts the number of patients treated in the acute care hospitalization system at about 1.1 million annually.[1] Although this is lower than the number of individuals treated in the community on a daily basis, the intensity of contact in the hospital system is greater as the system is closely identified with emergency care related to access to specialists and including life-saving procedures, as seen from the patients' perspective. Moreover, contact with the system is of a social-emotional nature, since in most cases the patient is accompanied by family members and friends. In addition, hospitals are identified with medical training, research, infrastructure, and emergency situations. All create high public sensitivity to the system's activity, which is difficult to quantify in clear and unambiguous terms.

In an ideal world, the functioning of the hospital system would be measured by its contribution to health and social welfare, including elements related to equity, efficiency, and public satisfaction with service and treatment. However, in reality, there are no accepted measures of long-term health impact of hospitalization.[2]

Therefore, as is customary, the focus is on the relationships among a basic measure of inputs, total number of beds, and measures of output, number of hospitalization days, and primarily the number of cases dealt with by the system. Between the indices of inputs and those of outputs are process indices, which measure the average hospital stay and the rate of bed

1 Based on a total of about 1.3 million cases per year (2016) of which about 22 percent are repeat hospitalizations (according to OECD figures that are shown in Charts 15 and 16 and figures of the Ministry of Health on their site: https://www.health.gov.il/UnitsOffice/HD/MTI/info/Pages/General_hospitalization.aspx)

2 Measurements of the quality of the hospital care system that can distinguish among institutions are subject to debate and are not dealt with in this paper.

occupancy, which are often expressed in terms of "bed turnover," i.e., the number of annual hospitalizations per bed. These can be used as a general indicator of quality of care and service.

The dispersion of the total number of beds in the country among the various hospitals according to their location is expressed in the size of the hospitals and their geographic dispersion. The size of the hospitals suggest potential efficiency of bed utilization, and the geographical dispersion of hospitals dictates access to hospitalization.

Since there are no clear measures of hospital system performance, apart from medical ones, that can be used by the public to judge its performance, the public at large is especially sensitive to issues of accessibility and quality of service (as opposed to care).[3] For urgent care, this is measured by waiting times in emergency rooms and waiting times for service in hospital departments. For elective procedures, which are theoretically less urgent, quality is measured primarily by two interrelated factors: waiting times for elective hospitalization and the patient's freedom to choose a hospital and — more importantly — a treating physician. Recent policy measures adopted by the government indicate that it is also aware that the system does not meet public aspirations in this important and sensitive domain. This recognition has been expressed in, among other things, the adoption of a special program for the shortening of waiting times for surgery and imaging procedures, and the convening of a special inter-ministerial committee (whose recommendations have not yet been published at the writing of this report) to deal with the overload in internal medicine departments.[4] The question is, of course, what has led to the current situation and whether the government plans will help solve these problems.

According to the National Health Insurance Law, the state has ultimate responsibility to ensure the provision of medical services specified in the law, known as the "basket of services," of which acute hospitalization is a major component.[5] Accordingly, the state must fulfill its role by means of regulation in four different domains:

3 In 2014, the state began promoting indices of hospitalization quality as part of the National Program for Quality Indicators in Hospitals in Israel. The measurement of hospital processes and output is a controversial issue for two reasons: first, the indices are liable to encourage hospitals to embellish the picture, and second, the inability of the public to choose a hospital and a physician means that these indices are of limited value to the public.

4 For a discussion of the national plan to shorten waiting times, see Chernichovsky and Kfir (2019).

5 National Health Insurance Law, 5754-1994.

1. Total beds and their dispersion according to the size of the hospital and their dispersion in the population.

2. The budget of the health system, which provides the basket of services.

3. Budget execution.

4. The correction for market failures that influence the incentives in the system.

This regulation, which is supported by other legislation (primarily the budgetary Arrangement Laws), dictates the ability of the system to achieve its basic goals using the means available to it and according to the spirit of the law. Those goals are the promotion of health, control of costs, and economic sustainability, equity, and efficiency.

In this study, government policy according to the outcomes of the regulation described in 1 and 2 above is examined. The second study primarily discusses 3 and 4 (Chernichovsky & Kfir, 2019). In the absence of absolute criteria for evaluation, we present international comparisons and comparisons over time. Accordingly, in the next section, we discuss the structure of the hospitalization market, while focusing on the conflicting roles played by the state in that market. The following two sections discuss the hospital system infrastructure and market expenditure on hospitalization, as well as planning and licensing policy for hospital beds relative to population distribution and the size of various hospital facilities. This is with the goal of examining the basic infrastructure of the system and its ability to achieve its goals in terms of efficiency and equity. In the final section, we discuss the functioning of the system as reflected in the annual bed turnover rate and occupancy rate, which are indicative of pressures on the system and their implications.

The acute care hospitalization market in Israel

Public hospitals: The lack of legal and administrative standing

While it is simple to define an acute care hospital according to the main type of services in the absence of a clear legal definition, it has a license to provide, the definition of a "public hospital" has been based on a convention that has evolved over time.

The status of "public" is commonly attributed to the group of hospitals in Israel whose main function and activity is the provision of entitled medical services under the Law, regardless of hospital ownership. Consequently, public hospitals include the following:

- Hospitals owned by the state. These hospitals operate as government bodies. Most of their employees are civil servants, and their budgets, including the revenue from the sale of medical services, is practically managed as part of the state budget although the revenues from provision of entitled care should come from rate of service. They include, among others, Sheba, Rambam, Sourasky, and Barzilai medical centers.[6]

- Hospitals owned by Clalit Health Services (the largest health fund in Israel). These institutions operate as auxiliary units of the health fund and its employees are, for the most part, health fund employees. Hospitals of this type are obligated to provide services to members of all other health funds as well. These include Rabin, Beilinson, Soroka, and Carmel medical centers.

- Independent hospitals. These hospitals are incorporated as non-profit institutions, such as Shaare Zedek and Laniardo medical centers; as public-benefit corporations, such as Hadassah; or as limited companies, such as Assuta Ashdod.

Chernichovsky and Kfir (2019) suggest a formal definition of the "public hospital" based on the relationship between the hospital and the state health basket, regardless of the hospital ownership or in what form it is incorporated, according to three basic criteria:

- **Normative:** The hospital is obligated to offer its services, including elective services, as part of the National Health Insurance Law to all residents of the country equally.

- **Functional:** The hospital fulfills publicly oriented functions, such as urgent care, emergency services, and teaching.

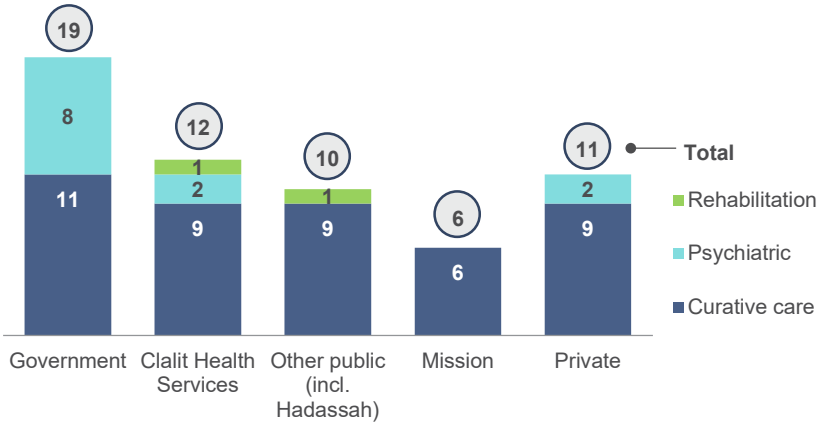
6 See the full list in the Appendix. Among the government hospitals, there are several municipally-owned hospitals, such as Sourasky.

- **Economic:** The hospital's main source of revenue is from the provision of services included in the basket of services, i.e., the sale of services to the health funds.

The conflicting roles of the state

There are 58 hospitals in Israel (not including long-term care hospitals): 44 acute care hospitals, 12 psychiatric hospitals, and 2 rehabilitation hospitals (Figure 1). Of these, 19 are government-owned, 11 are privately-owned, 10 are under some form of public ownership or are owned by non-profit organizations, 12 are owned by the health funds (primarily Clalit Health Services), and 6 are owned by missions.

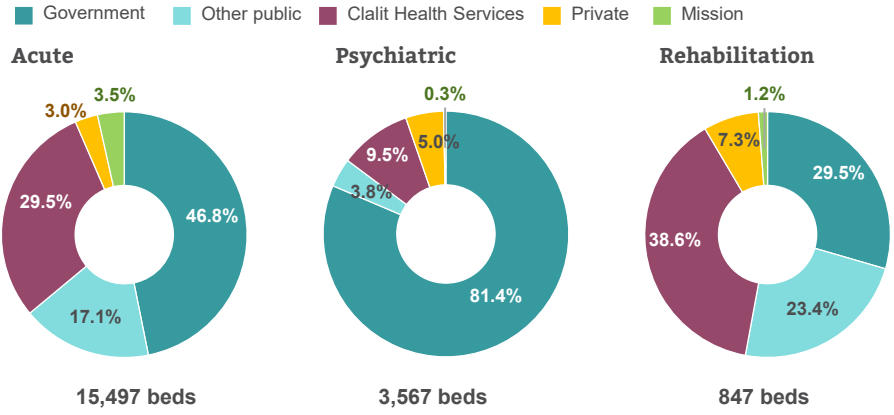
Figure 1. Hospital ownership, 2017
Excluding long-term care hospitals



Source: Dov Chernichovsky and Roi Kfir, Taub Center | Data: Ministry of Health, 2018a

About one-quarter of the hospital beds are owned by the state. The proportion is particularly high in the case of psychiatric hospitals (81 percent) and particularly low in the case of long-term care and rehabilitation hospitals (7 percent) (Figure 2). In the case of acute care hospitals, 47 percent are owned by the state, 29 percent are owned by Clalit Health Services, and 17 percent are owned by other public hospitalization institutions. The rest are privately owned.

Figure 2. Hospital beds by type and hospital ownership, 2016



Note: Data for this figure are from 2016 and so do not necessarily match data in previous Taub Center publications.
Source: Dov Chernichovsky and Roi Kfir, Taub Center | Data: Ministry of Health, 2016

The acute care hospitalization market is therefore characterized as follows:

- The health funds expend the public budget for entitled hospitalization services; they purchase these services from hospitals.
- The state and Clalit Health Services are the two main suppliers in the market, in addition to a group of independent suppliers, most of which are non-profit organizations.
- The hospitals that are defined as public sell services to the four health funds, the largest of which — Clalit Health Services — has a national market share of about 50 percent of the country's residents.
- Clalit Health Services provides itself with a significant share of the hospitalization services that it purchases.
- The state fulfills several important roles simultaneously: the financing of the health services basket that is provided through the health funds, oversight of the system and its regulation, the sale of hospitalization services to the health funds in government hospitals, management of government hospitals, and direct budget responsibility for the operations of government hospitals.

Thus, this market is characterized by sellers with potential monopolistic power and buyers with potential monopsonistic power,[7] with the ability to dictate prices, at least in local markets. In order to achieve efficiency and control over the potentially uncontrolled growth in hospitalization expenditure, the state has to provide appropriate regulation in addition to its responsibility for ensuring the provision of efficient and equal hospitalization services to the population. This is elaborated on further in the second part of this study (Chernichovsky & Kfir, 2019).

However, the state's role in financing and regulation is inconsistent with its role as a major provider of hospitalization services, which gives it undue monopolistic powers in the system, and, in contrast to other suppliers, its revenues are ensured regardless of the sale of hospitalization services. The state, therefore, fulfills two conflicting functions in the system: on the one hand it "employs" the health funds as contractors for the provision of public health services and regulates their activity based on the National Health Insurance Law and other legislation, and on the other hand, the health funds "employ" the state as a contractor for provision of hospitalization services in its hospitals.

The long-awaited solution

This situation in which the state serves as both a supplier of services and as the source of funding is unhealthy and inevitably leads to conflicts of interest. As a supplier of services, the state cannot fulfill the function of a regulator that is independent and impartial — a role it is meant to fulfill for all the institutions in the system, according to its sovereign status as specified in the National Health Insurance Law. Similarly, it is liable to exploit its budget power and its legislative and regulatory power in order to unfairly compete with other suppliers and to apply unjustified pressure on the health funds. Furthermore, the state is liable to refrain from necessary revisions to the budget of the health basket and to the prices of hospitalization services and instead to prefer short-term budget solutions for the hospitals it owns and through them for the health funds. This distortion was among the factors behind the collapse of the hospitalization price mechanism (Chernichovsky & Kfir, 2019). Finally, the state's involvement in the management of hospitals is also liable to compromise the fulfillment of its role as sovereign.

7 Monopsonistic power is the ability of one or a number of buyers of services to dictate prices to sellers of the services. Clalit Health Services potentially has such power in their dealings with the hospitals due to their share of the market.

For all of these reasons, the state's ownership of the hospitals that it operates and whose services it sells to the health funds, which are funded by tax revenues, has been a subject of public discussion since 1978, when the government was presented with the first proposal to create a hospitalization authority. Since then, the issue has been discussed again and again by numerous public committees and their conclusions are summarized in the recommendations of the Amorai Committee presented in 2002.[8] The opening of the Committee's report reads as follows:

> "A reality in which the Ministry of Health is simultaneously a consumer of health services, a supplier of health services, the supervisor of health services, and the source of regulation and rules is untenable and is one of the main problems facing the health system.
>
> "The Ministry of Health must relinquish its role as a producer of services (primarily hospitalization services) and focus on formulating national health policy and on its responsibility to provide the public with health services, according to changing needs and based on intermediate and long-term planning rather than solving momentary crises." (Amorai Committee Report, 2002; p. 20)

Overall, the committees' recommendations have had several objectives:

- To end the ownership and operational management of hospitals by the government and the health funds.
- To improve the efficiency and accessibility of health services by shortening waiting times through a competitive market.
- Efficient use of the system's resources by creating regional clusters of medical campuses in order to prevent duplication.
- Managerial flexibility within the hospitals.
- Quality control in the system.

The time has clearly come for the government to work to implement the recommendations of the many committees that it appointed.

8 For a survey of the committees, see the Appendix, Incorporation of Hospitals.

Physical infrastructure and financing of operations

The number of acute care hospital beds per capita represents the ultimate potential of the system. The number of beds (multiplied by 365 days) dictates the maximum number of hospitalization days annually. Therefore, alongside the determination of hospitalization prices, supervision over the number of beds is a basic regulatory tool for overseeing the system's level of activity and its nature. The prices hospitals receive clearly affect the average hospital stay and the number of hospitalizations for a given number of beds and, in the final analysis, they have a significant influence over the system's total budget.

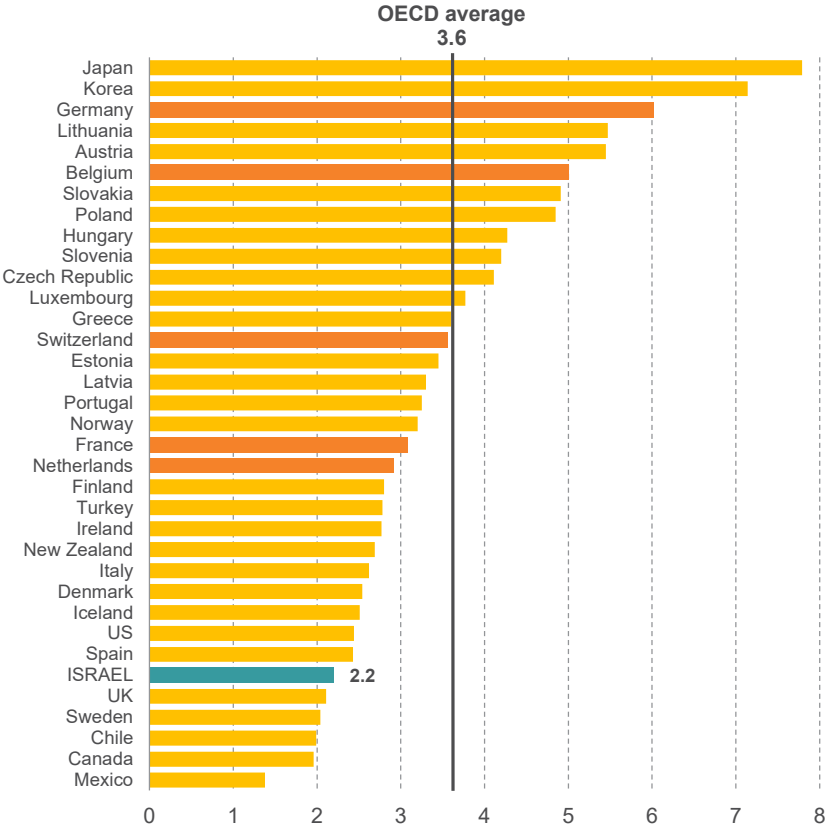
Number of acute care hospital beds

There are about 2.2 acute care hospital beds per 1,000 population in Israel,[9] as compared to 3.6 in the OECD countries (Figure 3 and 4) and 4.1 in the similar countries to Israel. If Israel's younger age distribution is taken into account, the adjusted number of beds is approximately 2.5 per 1,000 population, which is insufficient to reduce substantially the gaps between Israel and other countries.

As in the case of the OECD and the similar countries, the number of hospital beds per 1,000 population in Israel is characterized by a downward trend (Figure 4). This trend can be attributed to technological and organizational changes across all the countries. However, in Israel, the decline has been steeper — between 2002 and 2017, there was a decline of 22 percent, versus an average of 15 percent in the OECD countries and about 20 percent in the similar countries during the same time period. This is despite the rapid aging of the Israeli population compared to other countries.

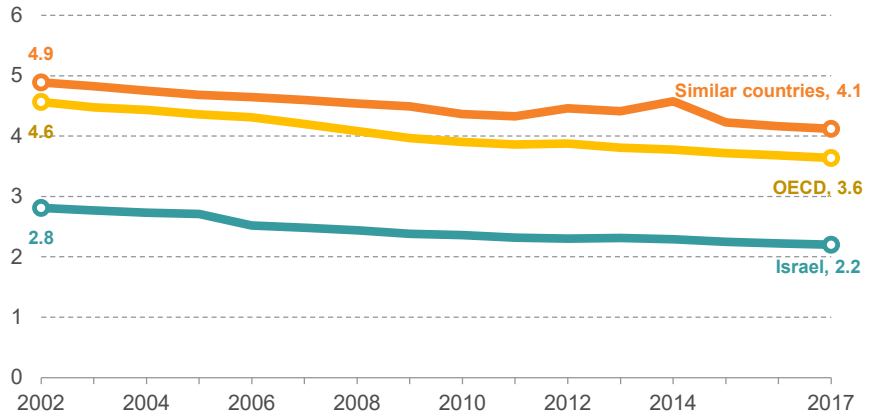
9 This refers to the number of statutory beds according to the hospital's license. In practice, the hospitals maintain beds beyond the number specified in their license and the Ministry of Health does not intervene.

Figure 3. Number of acute care hospital beds per 1,000 population, 2016



Note: Data are current to 2016 except for Ireland, Italy, and the US where the data are from 2015. Countries in orange are those with a similar healthcare system to Israel — Belgium, France, Germany, the Netherlands, and Switzerland.
Source: Dov Chernichovsky and Roi Kfir, Taub Center | Data: OECD.Stat

Figure 4. Number of acute care beds per 1,000 population



Note: For countries with data available for the entire period: Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, Mexico, the Netherlands, Norway, Poland, Portugal, Slovakia, South Korea, Spain, Sweden, Switzerland, and Turkey. Countries in orange are those with a similar healthcare system to Israel — Belgium, France, Germany, the Netherlands, and Switzerland.
Source: Dov Chernichovsky and Roi Kfir, Taub Center | Data: OECD.Stat

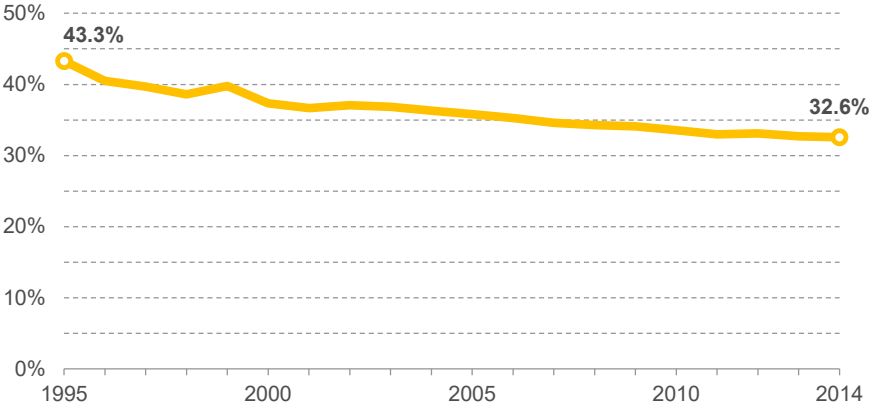
Financing

The annual expenditure on hospitalization in Israel equals about 2 percent of GDP or about NIS 3,700 per capita (in 2017). About two-thirds of that amount is for acute care hospitalization.

The share of total expenditure on hospitalization within total national health expenditure is characterized by a consistent downward trend, at least since the passage of the National Health Insurance Law (Figure 5), from a level of about 43 percent at the beginning of the period to a level of about 33 percent at the end.[10] Since the share of national health expenditure within GDP is stable, there essentially has been a decline in the share of expenditure on hospitalization within the GDP.

10 This discussion is based on the figures of the Central Bureau of Statistics. According to OECD figures, the proportion of expenditure on hospitalization in Israel constitutes about 27 percent of health expenditure. This share is similar to the average of the OECD countries and to that of the similar countries.

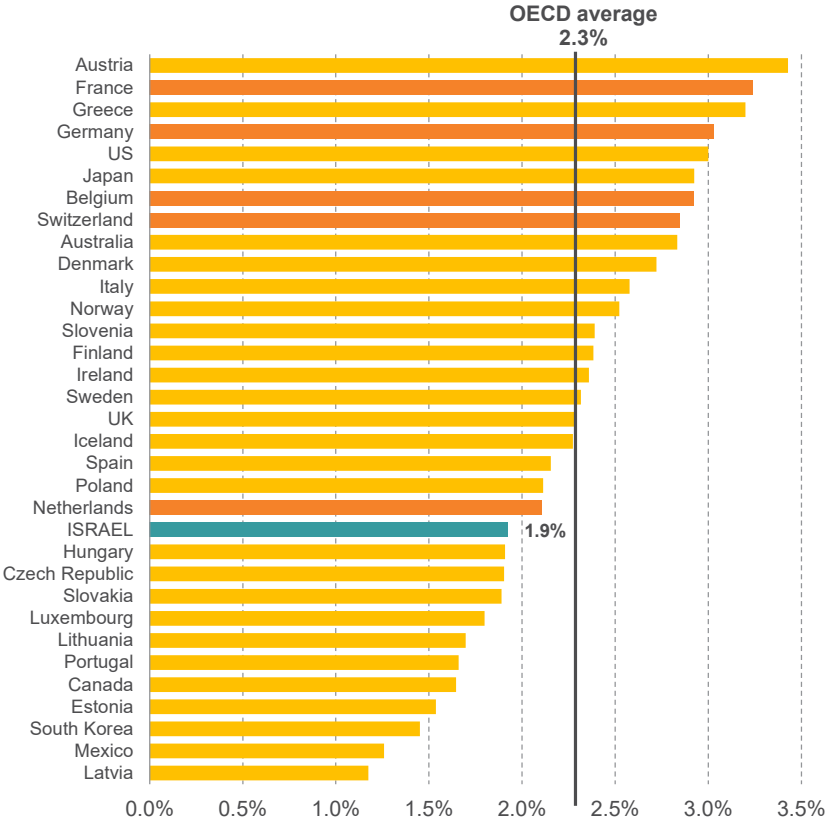
Figure 5. Expenditure on hospitalization out of total healthcare expenditure



Source: Dov Chernichovsky and Roi Kfir, Taub Center | Data: CBS, *Statistical Abstract of Israel*

In an international comparison, the expenditure on hospitalization out of GDP in Israel is lower than the average of the OECD countries. This remains the case even after adjusting for the age structure, such that the level of needs in Israel is about 0.9 percent relative to the average in the OECD countries. In other words, even with an adjusted average (2.1 percent instead of 1.9 percent), the rate in Israel remains low relative to that in the OECD countries (2.3 percent) and even lower relative to the similar countries (2.8 percent) (Figure 6). This situation is the result of the downward trend in this expenditure in all the countries between 2000 and 2005/2006, and a subsequent rise.

Figure 6. Expenditure on hospitalization out of GDP, 2014

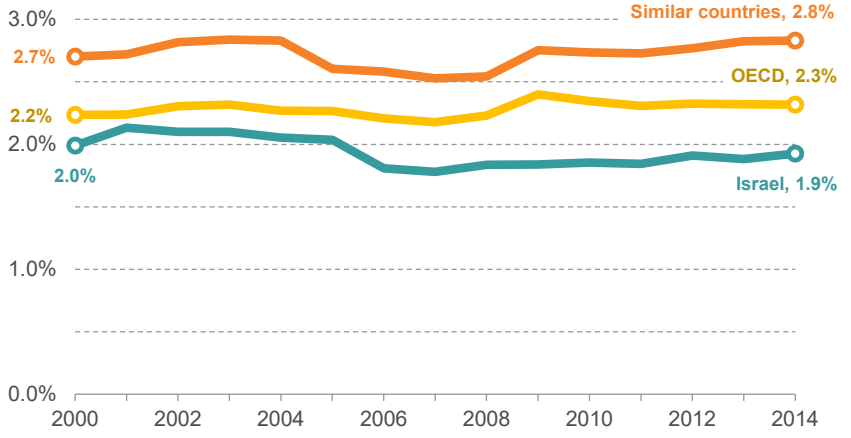


Note: Countries in orange are those with a similar healthcare system to Israel — Belgium, France, Germany, the Netherlands, and Switzerland.
Source: Dov Chernichovsky and Roi Kfir, Taub Center | Data: OECD.Stat

In sum, the share of expenditure on hospitalization out of GDP in Israel is consistently lower than the average for other countries. Moreover, the gap between Israel and other countries is widening (Figure 7).[11]

11 These figures do not take into account the increase in prices of medical services relative to rises in GDP prices. See Chernichovsky (2018).

Figure 7. Inpatient acute and rehabilitative care out of GDP



Note: For countries with data available for the entire period: Australia, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Iceland, Japan, Luxembourg, Norway, Portugal, South Korea, Spain. Countries in orange are those with a similar healthcare system to Israel — Belgium, France, Germany, the Netherlands, and Switzerland.
Source: Dov Chernichovsky and Roi Kfir, Taub Center | Data: OECD.Stat

Hospital size and geographic dispersion

According to the Public Health Ordinance (1940), only the state can issue a license to open a hospital.[12] This also applies to adding or converting beds to alternative uses, the opening of operating rooms, and the acquisition of special equipment. In other words, in addition to securing funding to a public hospital, as defined previously, the state has control over the total number of beds and their mix, over the size of hospitals, and hence their number and their location.

There is a functional relationship between these variables that has an effect on the functioning of the system and its ability to achieve its medical and social objectives. The dispersion of the overall number of beds among any number of hospitals is reflected in their size, which influences their potential efficiency. The geographic dispersion of the hospitals in the population dictates accessibility for hospitalization and to specialists, two factors that influence satisfaction on the one hand and the equity of the system on the other (Bowers & Chernichovsky, 2016).

12 Public Health Ordinance No. 40–1940, paragraph 24.

Hospital size

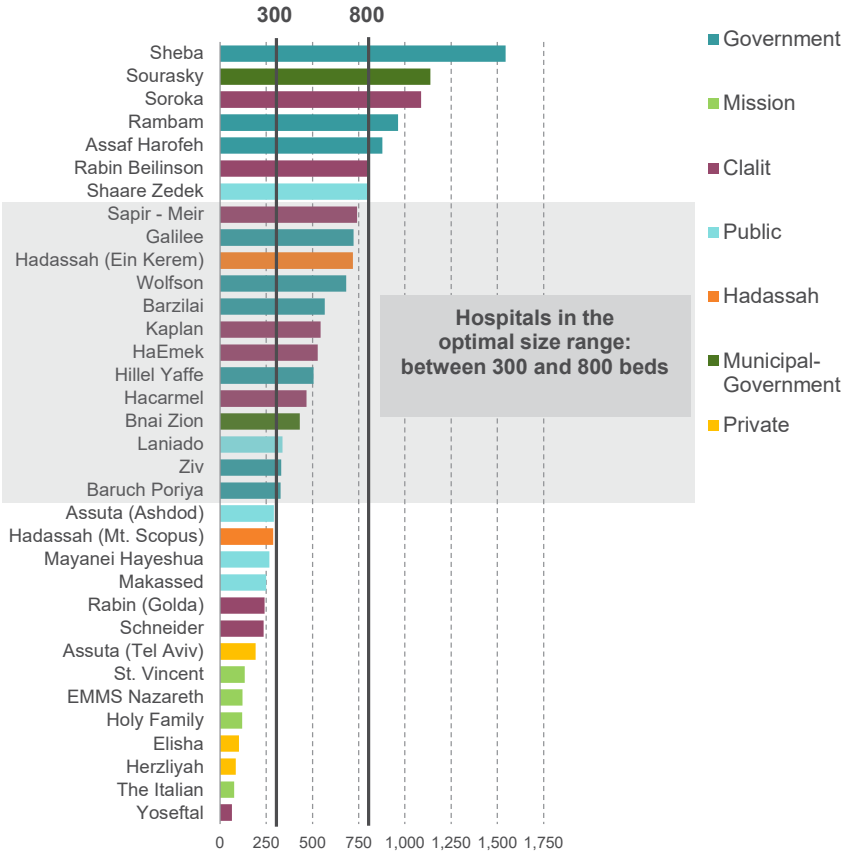
Hospital size relates to the hospital's efficiency in terms of the cost of hospitalization and its quality. The "(overly) small" hospitals are expensive to run in view of their high fixed costs relative to low operating levels. They are also often unable to deal with complex cases due to their lack of specialization because of both appropriate infrastructure, both in manpower and equipment. On the other hand, the "(overly) large" hospitals are liable to suffer from problems related to managerial control and logistic complexity. Research based on the experience in other countries indicates that a hospital benefits from economies of scale (where the rate of growth in output is greater than the growth in inputs) at a level of 200 to 300 beds and begins to lose these advantages starting from about 800 beds.[13]

Therefore, the larger hospitals in Israel (Figure 8), starting from Shaarei Zedek and ending with Sheba, are "too large."[14] The relatively smaller hospitals, from Schneider to Yoseftal, are "too small" and hospitals between these two groups are in the optimal range; their expansion along with specialization in specific medical services should go up to the 800 bed size.

13 Giancotti, Guglielmo, and Mauro, 2017. In general, studies have pointed to the diseconomies of scale at under 200 beds and above 600 beds. Studies in Israel point to diseconomies of scale only from 1,000 beds and upward. Therefore, for purposes of this discussion, the range of optimal efficiency was set as 300 to 800 beds. See Chernichovsky, et al., 2009; Chernichovsky and Zmora, 1986.

14 The issue of efficiency in this discussion does not take into account differences in the cost of capital or its alternative uses. In this context, the operating costs of Sheba Medical Center, for example, are higher due the cost of land in the center of the country, particularly for a low-rise facility.

Figure 8. Acute care hospitals in Israel by number of beds



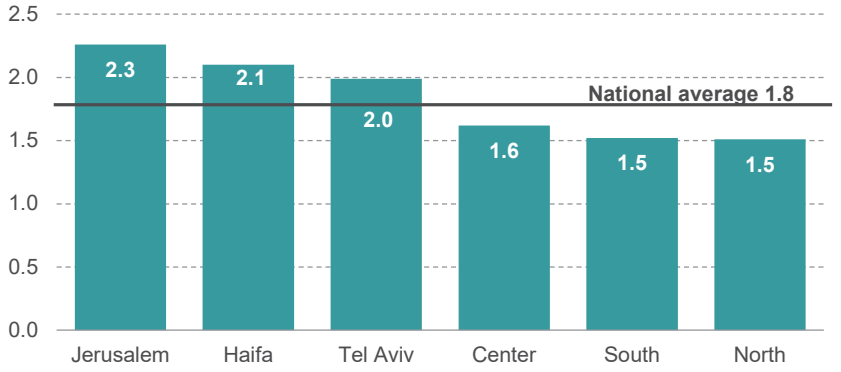
Source: Dov Chernichovsky and Roi Kfir, Taub Center
Data: Ministry of Health website, https://www.old.health.gov.il/units/pharmacy/institution/select.asp

Geographic dispersion

The number of acute hospital beds and the size of the hospitals in overall beds dictate the number of hospitals in the country. The geographic dispersion of the hospitals influences the geographic accessibility of hospitalization. The number of acute care hospital beds in Israel according to district reveals the inequality in the number of beds per 1,000 standardized population

(Figure 9). In the North and South, the number of beds per 1,000 standardized population is the lowest; in Jerusalem, it is the highest.

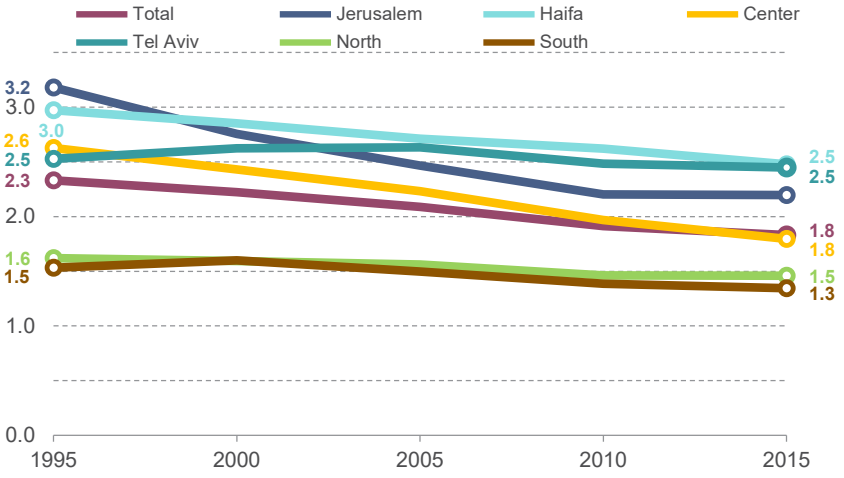
Figure 9. Number of acute hospital beds per 1,000 standardized population by district, 2017



Note: Data in this figure are not in complete agreement with previous data which is taken from the OECD database. Disparities may be due to differences in definitions and standardization.
Source: Dov Chernichovsky and Roi Kfir, Taub Center | Data: Ministry of Health, 2018b

The number of beds per capita has fallen in all the districts over the years (Figure 10). The decline in the Tel Aviv district has been the most moderate while the sharpest declines occurred in Jerusalem, the Center, and Haifa. Nonetheless, the relatively steep decline in the latter districts has slowed in recent years whereas, in the Center and the South, the downward trend has continued. In other words, despite a narrowing of gaps, there appears to be some stabilization, although it is to the detriment of the South.

Figure 10. Number of acute care hospital beds per 1,000 standardized population by district

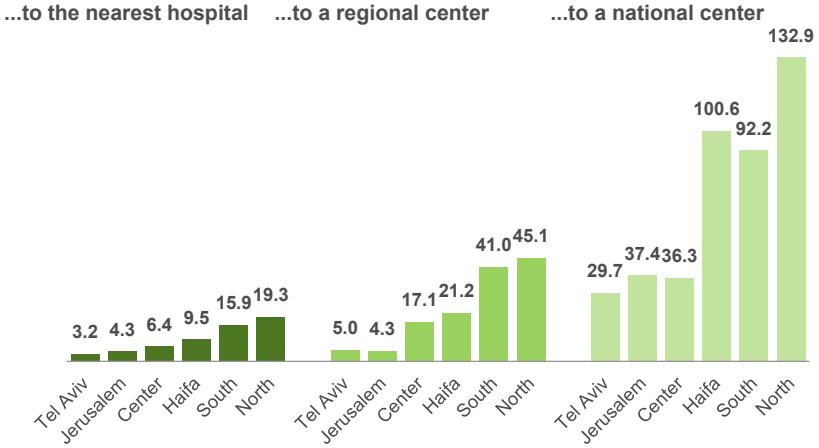


Source: Dov Chernichovsky and Roi Kfir, Taub Center | Data: Ministry of Health, 2018a, 2018b

How far away is the nearest hospital?

In order to examine the accessibility of service and its quality, distances from a population center to a hospital according to the following categories were examined (Figure 11): to the nearest hospital; to the nearest regional medical center — Rambam from Hadera northward and Soroka from Ashkelon southward; and to each of the national centers, i.e., Ichilov, Beilinson, Sheba, and Hadassah. The rationale for this division is that for less serious conditions, patients are sent to the nearest hospital; in more complex cases, to regional centers in the South and the North; and in special cases, to national centers.

Figure 11. Average distance (km) to hospitalization facilities by type and geographic district



Source: Dov Chernichovsky and Roi Kfir, Taub Center | Data: Distances established by GID based on maps

Distance to the nearest hospital: The data in Figure 11 show that the longest average distance to the nearest hospital (19.3 km) is in the Northern district, followed by Judea and Samaria (18.6 km), and the Southern district (15.9 km). In these three districts, the distance to the nearest hospital is greater than in the others, which enjoy the shortest distances to a hospital (i.e., the Tel Aviv district — 3.2 km, and the Jerusalem district — 4.3 km).

Distance to a regional center: The Northern and Southern districts are the farthest from a regional medical center: the Northern district is an average distance of 45.1 km from a regional center, and the Southern district is 41.0 km away. This contrasts with the Jerusalem district where the average distance is 4.3 km, and the Tel Aviv district, 5.0 km.

Distance to a national center: The Northern and Southern districts are the farthest from national medical centers. Residents of the North travel 132.9 km to a national center; residents of the South travel 92.2 km; and even in the Haifa district, which is only semi-peripheral, residents must travel more than 100 km to a national center. This is in contrast to residents of the Tel Aviv district who travel the shortest distance to a national center — about 29.7 km.

In other words, the differences between the Center and the periphery are reflected in relative accessibility to medical services, to hospital beds, and to specialized departments. The distribution of hospital beds in Israel is correlated with waiting times: the districts with the lowest number of beds per capita have the longest waiting times (Bowers & Chernichovsky, 2016).

The system's acute care activity

The output of the hospital system is conventionally measured by the number of hospitalizations or discharges relative to the number of beds over the course of a year, an index known as the hospital bed turnover rate. The quality of care and service are affected by the quality of hospitalization inputs, namely manpower and equipment, by the length of waiting times for hospitalization, and by the duration of a hospital stay and its quality. Due to data constraints, though, we are only able to examine hospital discharges.

The hospital bed turnover rate is calculated by combining two measures: the average hospital stay and the average annual bed occupancy rate.[15] The shorter the average hospital stay, the higher will be the number of hospitalizations per bed at a given occupancy rate; and the higher the occupancy rate, the higher will be the number of hospitalizations for a given average hospital stays. Given the low number of beds per 1,000 population and the downward trend relative to other countries, it can be expected that demand pressure on the supply of hospital beds in the health system will continue or even intensify.[16] This is likely to be reflected in a high bed turnover rate, as an expression of a relatively short hospital stay, and a

15 The calculation of the bed turnover rate is as follows:

$$\text{Annual number of hospitalizations} = \frac{(\text{number of beds} \times 365 \text{ days}) \times (\text{average bed occupancy rate})}{(\text{average length of hospital stay})}$$

or

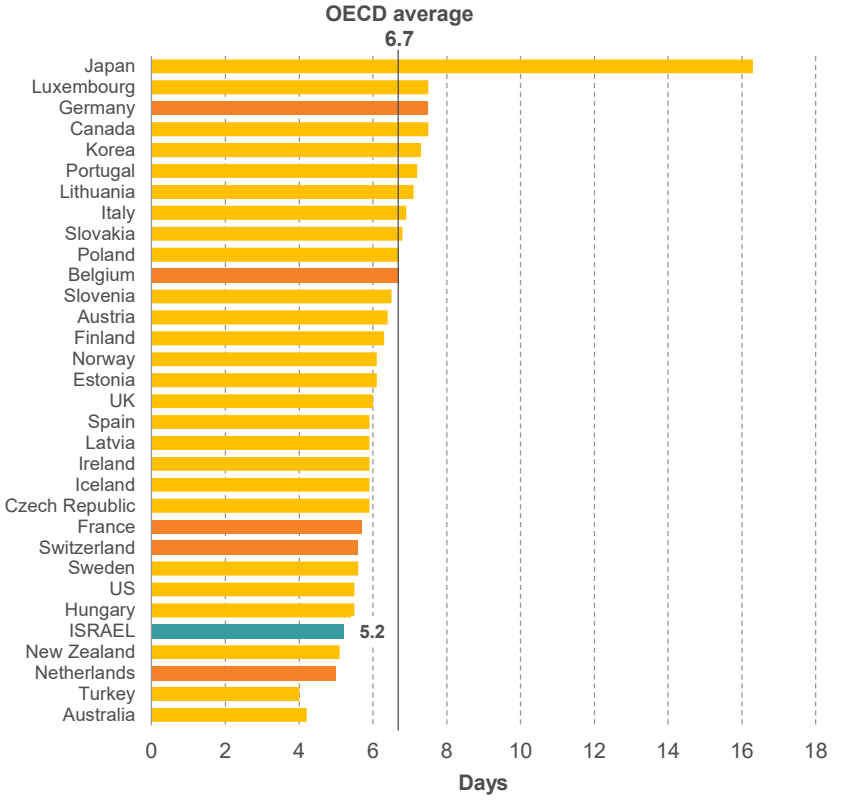
$$\frac{\text{annual number of hospitalizations}}{\text{beds}} = \frac{(365 \text{ days}) \times (\text{average bed occupancy rate})}{(\text{average length of hospital stay})}$$

16 This pressure exists despite technological improvements and improved efficiency and is the result of the character of community medicine and its quality, as well as the accounts legislation that is part of the Arrangements Law (the capping mechanism), which, since 1997, has reduced the prices of hospitalization to the health funds and has created excess demand for hospitalization. See Chernichovsky and Kfir, 2019.

high occupancy rate, which is indeed the situation in Israel relative to other countries.

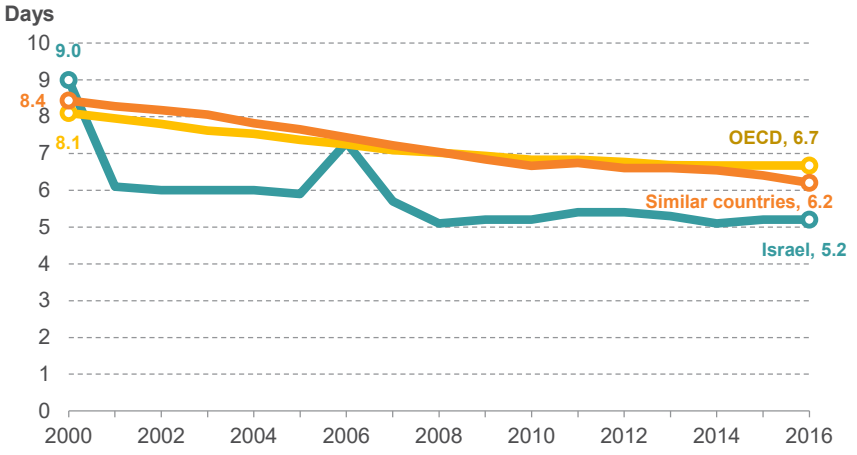
The average hospital length of stay in Israel is short relative to both the OECD countries and the similar countries: 5.2 days per patient versus 6.7 and 6.2, respectively (Figure 12). The average hospital stay in Israel fell from 6.1 in 2001 to 5.2 in 2016, a decline of 15 percent, while in the OECD it fell from 8.1 days to 6.7 days, a decline of 17 percent (Figure 13).

Figure 12. Length of average hospital stay for acute care, 2016



Note: Data are current to 2016 except for Australia, France, New Zealand, and the US where the data are from 2015. Countries in orange are those with a similar healthcare system to Israel — Belgium, France, Germany, Netherlands, and Switzerland.
Source: Dov Chernichovsky and Roi Kfir, Taub Center | Data: OECD.Stat

Figure 13. Length of average hospital stay for acute care



Note: For countries with data available for the entire period: Austria, Belgium, Canada, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Japan, Latvia, Lithuania, the Netherlands, New Zealand, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland, Turkey, and the UK. Countries in orange are those with a similar healthcare system to Israel — Belgium, France, Germany, the Netherlands, and Switzerland.
Source: Dov Chernichovsky and Roi Kfir, Taub Center | Data: OECD.Stat

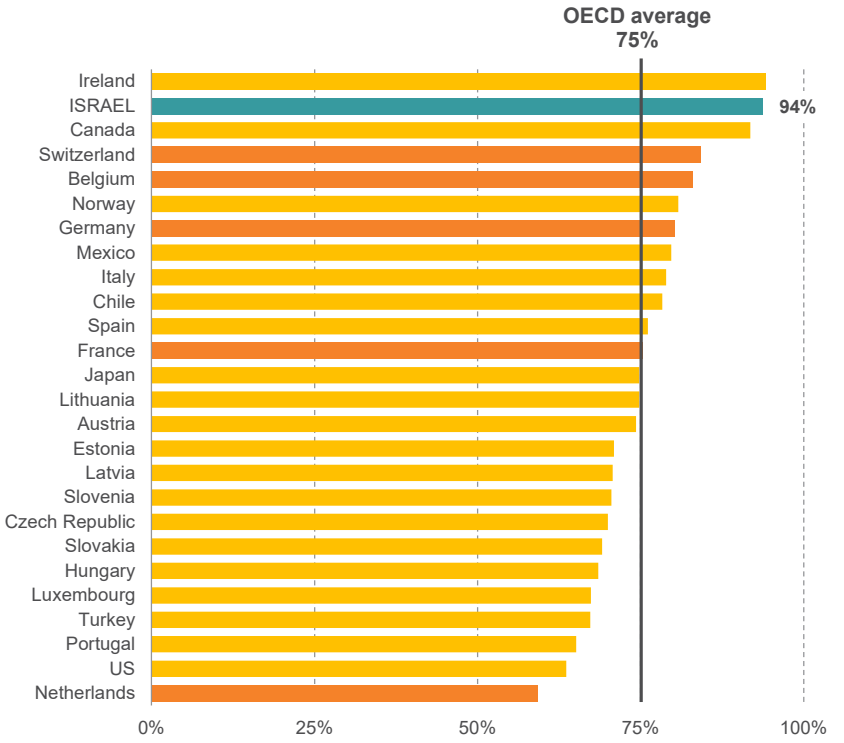
Hospital bed occupancy in Israel is the highest among the OECD countries, apart from Ireland.[17] In 2016, the bed occupancy rate in the acute care hospital departments stood at 94 percent, while the average for the OECD and the countries similar to Israel stood at only 75 percent (Figure 14).[18] In other words, the bed turnover rate in Israel, which takes into account both the average hospital stay and the bed occupancy rate, is exceptionally high relative to other countries. Thus, the bed turnover rate in Israel in 2016 stood at about 66 versus an average of about 41 in the OECD countries and an average of about 44 in the similar countries.[19]

17 The index of bed occupancy is calculated relative to the standard number of beds but in practice the hospitals can add beds, which can result in more than 100 percent occupancy.

18 During the winter months, the bed occupancy rate can reach more than 100 percent in the hospitals. This reality has not changed since 2000.

19 It is important to mention the functional connection — as opposed to the mathematical connection — between average hospital stay and occupancy rate. A short hospital stay implies that the care is more intensive and the ability to discharge these patients is more limited relative to patients who are hospitalized for a longer period of time. Therefore, when the hospital stay is shorter, in general, the tendency is to maintain a relatively low hospitalization rate in order to be prepared for new patients, since it is more complicated to discharge patients who have just arrived.

Figure 14. Bed occupancy rate for acute care, 2016

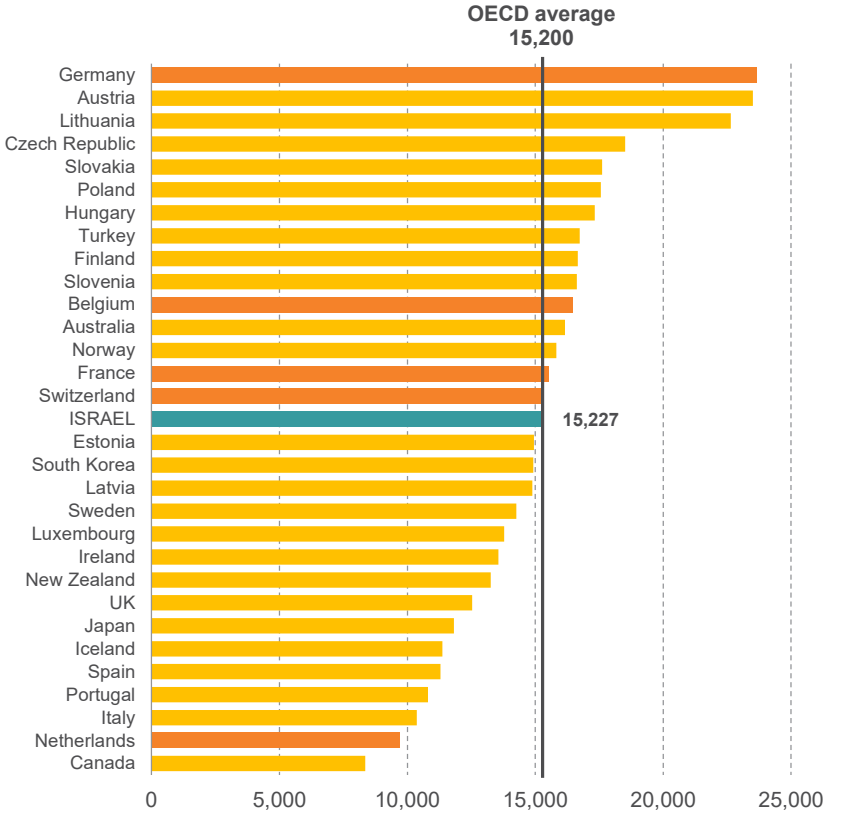


Note: Data are current to 2016 except for Italy, France, and the US where the data are from 2015. Countries in orange are those with a similar healthcare system to Israel — Belgium, France, Germany, the Netherlands, and Switzerland.
Source: Dov Chernichovsky and Roi Kfir, Taub Center | Data: OECD.Stat

The number of discharges per 100,000 population in Israel is about 15,000 per year, which is similar to that in the OECD but lower than in the similar countries, where it is about 16,000 per year (Figure 15).[20] In general, from 2000 until 2016, there was a decline in the number of discharges both in Israel and the OECD countries, although in Israel the decline was steeper: 113 discharges on average per year as opposed to 57 in the OECD (Figure 16).

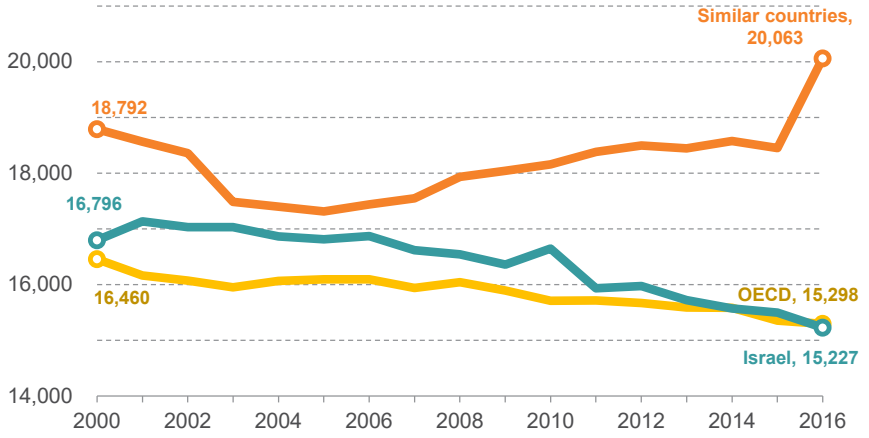
20 This involves acute care hospitalizations which include both inpatient and outpatient care. The relevant statistics are unclear.

Figure 15. Number of annual hospital discharges per 100,000 population, 2016



Note: Data are current to 2016 except for Australia, France, and New Zealand, where the data are from 2015. Countries in orange are those with a similar healthcare system to Israel — Belgium, France, Germany, the Netherlands, and Switzerland.
Source: Dov Chernichovsky and Roi Kfir, Taub Center | Data: OECD.Stat

Figure 16. Number of hospital discharges per 100,000 population



Note: For countries with data available for the entire period: Austria, Belgium, Canada, Estonia, Finland, France, Germany, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Lithuania, Norway, Portugal, Slovakia, Slovenia, Spain, Sweden, and Turkey. Countries in orange are those with a similar healthcare system to Israel — Belgium, France, and Germany.
Source: Dov Chernichovsky and Roi Kfir, Taub Center | Data: OECD.Stat

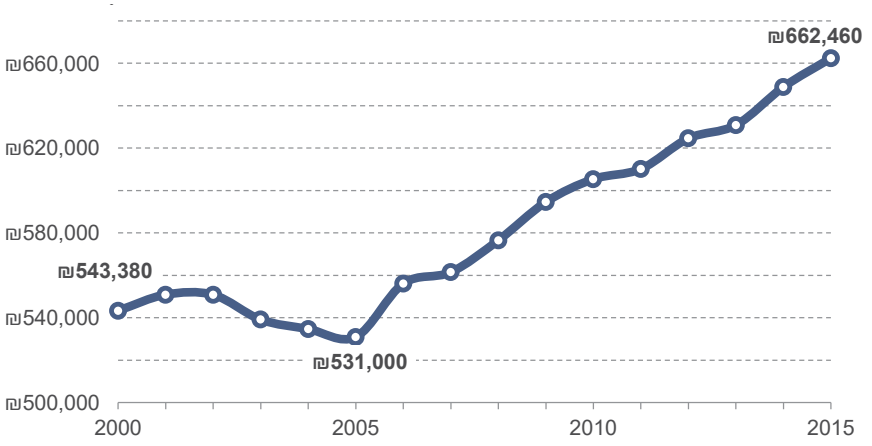
All of these indicators are reflected in the general budget per bed which has increased consistently since 2005 (Figure 17).[21] The change in the budget per bed reflects and also facilitates the reduction in average hospital stay and the increase in bed occupancy, since each bed is used more intensively and by more acutely ill patients.[22] In other words, the system's operating budget has not been reduced since 2006 and there was an increase in efficiency, at least as measured by the bed turnover rate. However, this potential has been exhausted, at least in the case of acute care hospitalization, as can be seen from the high occupancy rates and the short average hospital stay, which, as has been noted, involves a variety of risks: the lengthening of waiting times for elective procedures, and the deterioration in the situation of the

21 This is calculated as the hospitalization budget divided by the number of beds in the system. It is reasonable to assume that the increase is dictated primarily by the hospital system but the rate of increase is upwardly biased in view of the relative increase in beds for long-term care in Israel.

22 A shorter hospital stay is reflected in a higher average cost per hospitalization day due to the more intensive activity (tests and the like) during the initial days of the hospitalization.

emergency rooms and the departments. All this is in view of the possibility of "overly high occupancy" relative to the seasonal and random fluctuations in hospitalization needs.

Figure 17. Hospital expenditure on hospitalization beds



Source: Dov Chernichovsky and Roi Kfir, Taub Center | Data: CBS, *Statistical Abstract of Israel 2018*

Spotlight

Physicians speak about the situation

Dr. Haim Silver

**Specialist, cardiology and internal medicine;
Director, Marom Heart Institute; Chairman, Cardiology in the Community Department**

1. Prevention of unnecessary hospitalizations

With respect to cardiology care, it is possible to avoid a great many hospitalizations by discharging the patient from the emergency room following the initial workup. This relies on medical protocols with proven records of efficiency and safety. For example:

- Chest pain. In most cases, patient risk can be assessed within about 10 hours if there is a chest pain unit attached to the emergency room. Sheba Hospital operates such a unit with great success. Similar units should be established in every hospital.

- Fainting. Most patients who arrive in the emergency room after a fainting spell can be discharged within a few hours if it is certain that the situation will be monitored.

- Atrial fibrillation (a common irregular heartbeat). In most cases, patients can be discharged within a few hours if it is certain that the situation will be monitored.

- In other important cases, such as hospitalization for severe infections and a loss of equilibrium in the case of a chronic illness, there are similar approaches in order to avoid hospitalization.

These changes require the strengthening of emergency rooms with a variety of specialists, along with the development and expansion of various units within the emergency rooms.

2. Improving the efficiency of care and diagnosis during hospitalization

- A switch to two shifts of physicians in the hospitalization departments. Currently, work is organized around one shift – from 8:00 to 16:00. After that, physicians are on call and a patient who is admitted after 16:00 receives only vital treatments. This system involves an underutilization of resources and there should be an expanded staff of physicians during the afternoon and evening hours as well.

- Tests during evening hours and on weekends. Currently, there are no non-urgent imaging tests carried out for hospitalized patients during the evening hours, on Fridays and on the Sabbath. This leads to lengthier hospitalizations.

3. A scientific evaluation of in-home care in place of hospitalization

There have recently been proposals to replace hospitalization with in-home care. Intuitively, this appears to be a sound and beneficial idea, but this solution has not been sufficiently examined from a scientific perspective. In-depth research is required before adopting this solution.

4. Ensuring a continuum of care

In this case, a total change in perspective is needed, which primarily involves the connection between the hospitalization departments in the hospitals and the physicians in the community. In the first stage, the practice of coordination by telephone between the department and the physician in the community should become routine. This communication will lead to the necessary transfer of information and continuation of monitoring.

The Committee to Improve the Situation in the Internal Medicine Departments headed by Professor Tur-Kaspa emphasized in its draft report that hospitals will have to find a solution to the bottleneck in delaying patient discharge from the hospital departments — finding an institutional solution for continuing hospitalization, the carrying out of various tests and procedures, such as echo cardiograms, Doppler tests and imaging, cardiac catheterization, and tests by a senior consultant from a different department. "Solutions for these issues and their immediate implementation will prevent unnecessary hospital days and will release beds in the internal medicine departments on a national level." These recommendations are in line with mine.

Dr. Arik Segal

Gastroenterology Department, Soroka Medical Center

I have been working as a hospital physician for 16 years and in my opinion the hospitalization model for the internal medicine departments should be changed in a number of areas:

- Bed-ridden patients suffering from dementia are often sent to the hospital with bed sores and prolonged infections by old-age homes following the incorrect use of antibiotics to treat resistant bacteria. The hospitals correctly treat the patient with older generation antibiotics, such as synthomycine, and as soon as the patient's fever subsides they are sent back to the old-age home. These patients serve as a direct channel for spreading resistant viruses in the hospitals and as a result crowding is exacerbated unnecessarily. The treatment of these patients does not improve their survival and exposes other patients to bacteria that are resistant to antibiotic treatment during their hospitalization.

This outcome is not inevitable and there are certainly possible solutions. For example, hospital physicians who are specialists in infectious diseases could advise the old-age homes in treatment, including monitoring the use of antibiotics (which requires an increase in the number of physicians who specialize in infectious diseases). It would also be preferable to treat bedsores in the old-age homes rather than the hospitals. This will reduce the need for hospitalization, will significantly reduce the spread of infections in hospitals and shorten hospital stays.

- Many patients are hospitalized unnecessarily for an ambulatory evaluation that can be done within 12 hours. For example, the diagnosis of chest pains requires the testing of enzymes at intervals of 6 hours, an EKG, and a stress test, or stress echo test. The diagnosis of anemia often requires blood samples, a gastroscopy, and a colonoscopy.

  There is a need to establish ambulatory internal medicine departments with a multidisciplinary orientation that will be headed by an internal medicine physician with a holistic perspective, alongside specialists such as a cardiologist, a gastroenterologist, and a diabetes expert, with the ability to carry out ultrasound and echo testing. These departments can provide a solution in many cases and will prevent unnecessary hospitalizations.

- Acute infectious diseases can be dealt with at home, including intravenous drug treatment. To this end, medical teams need to be trained to work in such a framework. Furthermore, in many cases, long-term care patients or patients on ventilators wait in hospitals to be transferred to appropriate institutions while not receiving any treatment. These hospitalizations are a drain on the time of the physician and other medical staff and occupy beds unnecessarily.

  There is a need to establish ambulatory rehabilitation units for those patients requiring it following an acute illness in order to restore them to their pre-illness condition.

Clearly, it is not being recommended that the internal medicine departments be shut down, but they can be reduced in size and designated for the treatment of patients who genuinely need to be hospitalized in an internal medicine department or an intensive care department.

Prof. Ziv Gil

Director, Ear, Nose and Throat Department and Head and Neck Surgery, Rambam Medical Center

During the past five years, there has been a program at the hospital to improve the output of the department without adding manpower or beds and to adopt a "patient-first" approach. The new medical basket includes the choice of a surgeon at no cost, personal support from a staff member, providing the personal telephone numbers of the senior staff and the director of the department, a personal visit twice daily, and more. Five years after its inauguration, the results are impressive: an increase of 250 percent in the number of clinic visits (from 9,000 to 23,000), an increase of 430 percent in the number of surgeries (from 870 to 3,800), a shortening of waiting times to the clinic (from 28 to 13 days, and increased satisfaction among patients (from 64 to 98 percent). These achievements had immediate economic benefits, with the department moving from a loss to a profit. These results were achieved while shortening the hospital stay, reducing unnecessary hospitalization of patients who were referred from the emergency room, reducing repeat hospitalizations, and increasing the use of the surgical theaters by 50 percent. The statistics can be viewed on the department's website.

Conclusion

The number of hospitalizations in Israel is similar to the OECD average, while the number of beds per capita is low and hospital bed turnover is particularly high. Therefore, there is a growing likelihood of the following outcomes in the system:

- Reduced capability to deal with emergency situations (not necessarily related to security events).

- Diminished quality of care due to shortened hospital stays and pressure to reduce them further to reduce the long waiting times for hospital care and in the emergency rooms.[23]

- A lack of competition between hospitals in the internal market, at least over the quality of services, in view of the inability of the hospitals to respond in terms of supply to changing conditions in the market.

These outcomes are due to a lack of strategic planning for the acute hospital system and in addition to a lack of efficiency and equity in the allocation of hospital beds in Israel. This characterization of the system is evidenced by the recent steps of the Ministry of Health and the Ministry of Finance that include special programs to shorten waiting times for surgery and imaging procedures and the creation of a special working group to examine overloading in the internal medicine departments (whose recommendations have not yet been published at the time of writing this report).

The situation is first and foremost the result of demand for hospitalization that is not being met with sufficient sources of financing. The addition of acute care hospital beds in Israel appears to be inevitable in coming years, in view of technological advances and the lead time required to build new hospitals. According to the information available to us, considerations of both equity and efficiency — including those related to quality of care and service — suggest a need for the addition of hospital beds on the following

23 Payment per hospitalization day, as is the practice in Israel, encourages relatively long hospital stays, in contrast to payment per case, for example. Thus, it would have been expected that in view of the rates of occupancy in Israel, the number of hospitalization days would be relatively low. However, hospital stays are, in fact, relatively short in Israel. In other words, demand pressure and the capping mechanism on the supply side offset the basic incentives built into the system of payment per hospitalization day (Chernichovsky & Kfir, 2019).

scale: in the South — establishment of a new hospital in addition to Soroka; in the North — the expansion of HaEmek Medical Center in Afula and Ziv Medical Center in Safed and the creation of campuses with the mission hospitals; and in the Center — expansion of Hillel Yaffe Medical Center in Hadera and Kaplan Medical Center in Rehovot.

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Appendix

Appendix Table 1. Hospitals by size and ownership

Name	Number of beds	Ownership	Location
Sheba	1,544	Government	Ramat Gan
Sourasky	1,138	Municipal-Government	Tel Aviv-Yafo
Soroka	1,087	Clalit Health Services	Beer Sheba
Rambam	962	Government	Haifa
Assaf Harofeh	878	Government	Beer Yaakov
Rabin Beilinson	809	Clalit Health Services	Petah Tikva
Shaare Zedek	804	Public	Jerusalem
Sapir-Meir	742	Clalit Health Services	Kfar Saba
Galilee	723	Government	Nahariyya
Hadassah (Ein Kerem)	718	Hadassah	Jerusalem
Wolfson	683	Government	Holon
Barzilai	567	Government	Ashkelon
Kaplan	544	Clalit Health Services	Rehovot
HaEmek	529	Clalit Health Services	Afula
Hillel Yaffe	506	Government	Hadera
Hacarmel	467	Clalit Health Services	Haifa
Bnai Zion	431	Municipal-Government	Haifa
Laniado	338	Public	Netanya
Ziv	331	Government	Safed
Baruch Padeh	328	Government	Tiberias
Assuta (Ashdod)	291	Public	Ashdod
Hadassah (Mt Scopus)	288	Hadassah	Jerusalem
Mayanei Hayeshua	266	Public	Bnei Brak
Rabin (Golda)	241	Clalit Health Services	Petah Tikva
Schneider	235	Clalit Health Services	Petah Tikva
Assuta (Tel Aviv)	192	Private	Tel Aviv-Yafo
St. Vincent	134	Mission	Nazareth
EMMS Nazareth	121	Mission	Nazareth
Holy Family	119	Mission	Nazareth
Elisha	102	Private	Haifa
Herzliyah	85	Private	Herzliyah
The Italian	76	Mission	Haifa
Yoseftal	65	Clalit Health Services	Eilat

Source: Dov Chernichovsky and Roi Kfir, Taub Center | Data: Ministry of Health, 2018a

Incorporation of hospitals

The debate over how much autonomy the government hospitals should have, at least with respect to budgets, management of human resources, and labor relations, has lasted for more than 40 years. The first to raise the issue was Victor Shem-Tov, the Minister of Health in 1975 to 1976. In 1978, Eliezer Shostak, then Minister of Health, submitted a proposal to the Ministerial Committee for Economic Affairs to establish a hospitalization authority, but it was not accepted. At a later stage, a committee was created within the Ministry of Health headed by Oren Toktali. The committee thoroughly examined the issue over a period of three years and submitted a two-volume document on the creation of a hospitalization authority.[24]

The discussion of this issue has dragged on for years. Mordechai (Motta) Gur, who was the Minister of Health from 1984 to 1986, created a committee headed by Dan Michaeli, the Director General of the Ministry of Health. The committee examined a proposal to establish a branch within the Ministry of Health that would operate as a kind of hospitalization authority or an internal administrative unit. From 1987 to 1988, Yaacov Tsur, the Minister of Health, worked to increase the autonomy of the government hospitals. In a document published in 1987, *Guidelines for the Operation of Hospitals as Part of the Autonomy Arrangement*, hospitals were permitted to develop and sell services not included in the Clalit Health Services' basket of hospitalization services on the basis of cost-plus, and the revenues could be used by the hospitals. Government hospitals were also given permission to employ temporary workers and to make limited independent purchases.

From 1988 to 1990, the Netanyahu Committee, which was officially called the Investigative Government Committee to Examine the Functioning and Efficiency of the Health System and headed by Supreme Court Justice Shoshana Netanyahu, also reviewed the issue. The Committee recommended that the government hospitals and those owned by the health funds be transferred to independent management or incorporated, or in other words to change from dependent entities managed and budgeted by the public sector — primarily the government — into autonomous and competitive entities in an internal and monitored market, which would operate independently and would be based on revenues from the sale of services, primarily to the health funds. In general, the goals of incorporation were as follows:

24 For further details about the committee and other discussions of the issue, see https://tinyurl.com/yxgtdt9p; https://tinyurl.com/y4ov26h5

- Release of the government and the health funds from the function of managing hospitals.
- Greater efficiency and improved accessibility to healthcare services by way of shorter waiting times in a competitive market.
- Efficient use of the system's resources by creating regional clusters of medical campuses in order to prevent duplication of services.
- Managerial flexibility within the hospitals.
- Quality control of the system.

The committee sought to create a situation in which the Ministry of Health and Clalit Health Services would no longer have a role in the management of the hospitals they owned and, instead, they would concentrate on their primary functions. Among the ministerial functions of the Ministry of Health, the Netanyahu Committee noted the need to formulate policy for the health system, supervision and monitoring of the supply of those services, regulation of the introduction of new medical technology, as well as the gathering, analysis, and publication of information essential to the functioning of the health system. Another goal of the committee was to create healthy competition among the hospitals in order to improve their efficiency and patient accessibility. The incorporation of the hospitals, according to the committee, would improve labor relations in the hospitals, shorten waiting times, and reduce duplication. According to the Committee's recommendations, an incorporated hospital would operate independently and according to its revenues. If the hospital's revenues exceeded its expenses, revenues would be used to improve service, to increase worker compensation in parallel with increases in their output, and for new investments in equipment and buildings, subject to the approval of the Ministry of Health.

From 1991 to 1992, the Ministry of Health, with the assistance of a group of external consultants, formulated a policy for the operation of government hospitals as corporations. The goal of the incorporation, according to then Minister of Health Ehud Olmert, was to more efficiently use the infrastructure of the public health services while raising the degree of satisfaction among patients and workers and improve the level of service. In early 1992, six government hospitals registered as corporations and a board of directors was appointed for each of them. These hospitals were not defined as non-

profit organizations and were not registered with the Registrar of Non-Profit Associations, but rather were listed as companies without registered share capital with the Registrar of Companies.

Representatives of the employees of the government hospitals vehemently opposed the operation of the hospitals as corporations. This led to the issue of a restraining order by the Labor Court in 1992, which essentially froze the process of incorporation in that format. Finally, in late 1993, a green light was given for the continuation of the incorporation process, when the Labor Court ruled that the state can continue the process, subject to the law and existing collective bargaining agreements.

When Haim Ramon became Minister of Health in 1992, a new stage began in the incorporation of the government hospitals. The goal was to gradually make all of the hospitals more autonomous by means of transforming them, in the first stage, into budget auxiliary units. Ramon's program specified that the government hospitals must operate on the basis of a business plan based on a balanced operating budget and in which hospital expenditures are dependent on revenues. According to the plan, the business plan must be submitted to the Ministry of Health (rather than the boards of directors that were chosen for each incorporated hospital) (Ronel, 2010; Flotkin, 2017).

However, in practice, by the end of 1995 only some of the powers in the areas of salaries, labor relations, and financial management had been transferred to the incorporated hospitals and even those were highly limited in scope. One of the main reasons was that negotiations with representatives of the various employee groups in the public health system, such as the nurses and the administrative and maintenance employees in the government hospitals, did not lead to an agreement.

Nevertheless, the operating guidelines of the independent government hospitals were summarized in a government notice of the then Director General of the Ministry of Health, Mordecai Shani, and distributed as a binding directive to the relevant hospitals. The hospitals were meant to cover the salary-related costs of their workers and to gradually shift to an independent status. The notice allowed each independent hospital to sell medical services not included in the basket specified within the National Health Insurance Law and to use the revenues for medical research and the development of health service infrastructure. The notice did not lead to the incorporation of the hospitals and the release of the Ministry of Health from the direct management of the government and municipal hospitals and essentially only exacerbated the problem of both private and public presence within the health system.

Therefore, the organizational structure and operating methods of the hospitals, subject to systemic considerations of the health services, remained one of the major issues in the health system and has been discussed by additional committees, including the Amorai Committee in 2002, the Lion Committee in 2004, and the German Committee in 2014. The German Committee recommended the creation of a statutory medical center authority that would report to the Minister of Health, but not to the Ministry of Health or to the Ministry's director-general. The authority would be responsible for government hospitals, health corporations, research funds, "friends of" organizations, and other entities. However, instead of such an authority, the Government Medical Centers Branch, which reports to the director general of the Ministry of Health, was created in 2016 and the basic situation did not change.

The State Comptroller, who examined the issue in depth in his 2012 report, pointed to the institutional conflict of interest in the Ministry of Health and wrote as follows:

> "Since the health system does not operate as a competitive market, it is important that the Ministry of Health supervise it. However, since the Ministry of Health is the owner of the government hospitals and also supervises them, it is doubtful whether it has the ability to fulfill that function. The double function of the Ministry raises a concern of conflict of interest. In view of the aforementioned problems, several government committees have — since the early 1990s — examined the possibility of separating between the Ministry and the hospitals that it operates and the optimal model for their incorporation. Furthermore, between 1997 and 2007, the government made various decisions regarding the status of hospitals. However, as of December 2012 [and essentially until today] the issue has still not been fully resolved." (State Comptroller, 2012; p. 617).