1. **Introduction**

The Israeli healthcare system faces complex challenges and a high level of uncertainty at the dawn of the 21st century. There are widening gaps between the needs of the population, which is characterized by high growth rates and a change in the age pyramid; technological advances that affect methods of treatment and require reorganization of healthcare services; a rise in the community’s share in providing solutions to the population's varied health needs; projected changes in morbidity and epidemiology patterns; and an increase in standard of living and the public's expectations and demands from the healthcare system. All of these necessitate **across-the-board strategic thinking about the system's functioning and its future needs.**

**The national healthcare institution outline plan – OP 49**, must address essential issues in the development of the healthcare system, define coping strategies with projected changes, and review the array of possibilities while defining the conditions and guidelines for future development and maintaining the principle of flexibility to allow adjustments over time. The plan must incorporate diverse fields of knowledge and contain strategic thinking about the healthcare system, to establish a future-facing planning and spatial approach.

Essential to confronting the challenges that will face the healthcare system in the future is **planning the structure of the healthcare services system and the deployment of the system over the long term.** **This planning must articulate the system's development needs; it must not only ensure the provision of land required for constructing health institutions in the target year but must also promote strategic principles such as reducing gaps in access to healthcare services, promoting specialization and excellence in medicine, training and promoting professional personnel, optimal transition and integration between institutions and the possibility of providing services in the community, and multi-annual future-facing planning.**

**The present situation and future trends in the planning and development of healthcare institutions**

**The current status of the development and deployment of healthcare institutions in Israel is the result of historical and political developments, which over the years have lacked a comprehensive systemic planning perspective.** This was the case from the arrival of the first Jewish settlers in the 19th century and the growth of the Jewish community in the country, through the British Mandate, which built healthcare institutions for the developing population and to serve the British forces stationed in the Middle East (for example, Rambam Hospital was built near the Haifa seaport and railway, for the speedy evacuation of casualties), until Israel was founded in 1948. The first decades of the State of Israel and the establishment of the Ministry of Health (MOH) were characterized by momentum in the construction of hospitals, through the 1960s and 70s. Since the 1980s, only a small number of general public hospitals have been built, the last of which was Assuta Ashdod in 2017.

**Healthcare institution development plans have been made ad hoc and as local initiatives.** Some of the plans looked at population growth forecasts, but the proposed planning was largely based on partial data and land availability as well as the development possibilities of existing sites, in an attempt to maximize the potential of the hospital area. The MOH along with the Israel Land Authority has in recent years undertaken the long-term planning of a number of existing and new health campuses and centers, with a view to emphasize a comprehensive perspective and maximize the construction and development potential of the various sites and provide solutions to the needs of each center.

**The main trends in the development of hospitals** involve a rise in the size and area of the hospitals, an increase in patient welfare, and the promotion of new specializations. Hospitals are turning into campuses that frequently contain several different kinds of hospitals, medical institutions, research institutions, and academic institutions for training the future generation of medical personnel and various health professionals. These institutions already operate as part of the hospitals’ outpatient and day treatment centers that provide a direct connection with the community. The broad view of the health institutions is of health campuses that promote additional uses and services such as adding commercial services for the convenience of patients and faculty, hospitality services, and accommodations close to large urban centers. The medical centers are becoming central urban or regional anchors, which in addition to the medical services they provide also serve as sources of employment for thousands of people, centers of research and enterprise in medical areas, and meeting places for pracitioner and academic researchers.

**Community medicine**. Israel has developed a unique model of community medicine leaning on the four health funds: Clalit, Maccabi, Leumit and Meuhedet. This model addresses the need for family medicine and consulting/specialization medicine, outside of hospitalization. Community medicine institutions include a range of models, from well-baby clinics and primary care clinics with only family medicine to large multidisciplinary clinics and specialized institutes. These services are provided in the rural/regional centers and urban centers, with the major cities having bigger clinics that provide a wide range of medical consulting services and a high number of insurees per clinic.For historical reasons, many Clalit Health Fund clinics were built on public land with low land efficiency and do not meet present standards. Given the limited availability of public land, some clinics turned to commercial land including renting built-up areas. This encumbers the proper planning, development and funding of the community healthcare system.

**The structure of the Israeli healthcare system**

Facing the challenges with which the Israeli healthcare system will contend in the coming decades, and judicious planning of optimal solutions from the perspective of planning a system of hospitals and clinics for the designated time period, must rely on familiarity with the healthcare system. There must be an understanding of the system’s organization, administration, operation, budgeting, and planning and development, and knowledge of the key players and elements influencing it and the interactions between them.

Healthcare systems are usually classified into a number of kinds, although in many countries there is a combination of elements in the models. The presented models are social insurance, public health services, and private health services. There are differences in the elements of the healthcare system that can be defined as a combination of medical institutions, human resources, funding mechanisms, information systems, organizational systems that connect the medical institutions with the other resources, administration systems that coordinate the activities of the other elements of the system to prevent illness and provide medical care to patients, and of course the health system personnel. The system has financial mechanisms, physical infrastructures, administrative systems, and workers unions, to differing degrees. There are of course many other social and economic variables that impact health, and the contribution of the healthcare system accounts for only a few tens of percentage points in the total weighting of health problems.

**The structure of the Israeli healthcare system** is based on general models of healthcare services in the world, yet also reflects unique local features that result from processes shaped and developed over decades under particular circumstances and conditions related to historic and political processes as well as time and place.

The Israeli healthcare system is based on **a public insurance plan that provides universal coverage** to its residents (“the basket of healthcare services”), along with private health services. The main law that presently organizes the healthcare system is the National Health Insurance Law, 1994, which went into effect at the beginning of 1995. The law is based on the guiding principle that medical services in Israel will be delivered according to medical justification, regardless of the insuree’s economic ability. The law states that every resident of the State of Israel is entitled to healthcare services, which must be “of reasonable quality, within reasonable time, and at reasonable distance from their place of residence.”

The law provides a health tax, based on a fixed rate, drawn from each resident's income. The law also defines a uniform basket of services provided by four health funds: Clalit Health Services, Maccabi Health Services, Leumit Health Services, and Meuhedet Health Fund, with the government being the body that supervises the activity of the healthcare funds. They operate as not-for-profit health organizations. In addition to the basic basket of services, the funds provide another layer of insurance, called “complementary insurance” or “additional healthcare services” (AHS). In addition, **commercial health insurance policies** can be purchased from private insurance companies.

The Israeli healthcare system is characterized by heavy regulation because of the need to limit the existing supply of services in order to limit the expenditure on health, which if it weren't for regulatory curbing would grow non-optimally. The total **national expenditure on health** in Israel in 2018 was more than NIS 101 billion, which was 7.6% of the GDP for that year. The **public expenditure on health** was 66% of the national expenditure, with the other 34% being private. Most of the public spending was made through the “health basket,” at the level of more than NIS 50 billion. That basket was provided by the health funds and funded by the health tax and national budget. The **private expenditure** included mainly the direct spending of households on drugs, dentistry and medical equipment, and complementary insurance (additional healthcare services and commercial insurance policies). The ratio between private spending and public spending did not change significantly in recent years, when there was a mild rise of public spending after years in which there had been a gradual rise in the level of private spending.

The government impacts the health system through a number of main budgeting mechanisms:

**Capitation** – A formula that serves as the basis for funding budgets of the health funds in Israel. This formula is supposed to reflect the different level of consumption of the services by insurees and thereby to equitably budget the health funds in a way that prevents them from “skimming the cream,” namely preferring young and healthy insurees over ones who are expected to consume more health resources, and to provide budgetary incentives to provide healthcare services to all groups of the population.

**Capping** – A budgeting formula for the hospitals through which the regulator limits expenditure on health. The formula creates an activity ceiling above which the hospital receives a diminishing return for activity (compared to the previous year). Likewise, the state sets a “floor” that guarantees the hospital a minimal return for a certain level of the previous year's activity.

**Adjusting prices for the healthcare basket** – The healthcare basket is updated through a number of mechanisms that prevent some of the regular erosion arising from appreciation, salary increase, and especially population growth.

One of the important principles of the National Health Insurance Law is encouraging **competition between health funds** to guarantee improvement of the system's quality and efficiency. However, its negative consequences are reflected by “hijacking insurees” and duplicity of services in peripheral and smaller locations.

The health funds differ in operational models, size and deployment. **"Clalit Health Services"** is the biggest of the four health funds, insuring more than half of Israel’s residents, with 1,400 clinics. It runs 14 hospitals throughout the country. **Maccabi Healthcare Services** is the second biggest by number of insurees. This fund provides its insurees with healthcare services mainly by purchasing services from external service providers (hospitals, independent doctors, pharmacies and more). Maccabi has a private network of medical centers under its full ownership (Assuta), including the Assuta Ashdod hospital – a public hospital that opened in November 2017. **Meuhedet Health Fund** is the third biggest health fund in Israel, serving more than 1 million insurees throughout Israel and operating more than 300 clinics. **Leumit Health Services** is the smallest fund, serving 730,000 insurees and operating 320 clinics throughout the country. The two smaller funds provide services along the same model as Maccabi – based on buying healthcare services instead of operating and providing services directly.

Despite the national deployment of healthcare services, there are differences in the availability of community doctors between funds and between medical professions in different parts of the country. There are also geographical areas where certain kinds of medical services are not available at all.

**Israel has 64 hospitals**, of which 45 are for general hospitalization, 12 for mental health hospitalization, and 2 are rehabilitation hospitals. 23 hospitals are owned by the government, 11 are owned privately, 9 under other public ownership or associations, 14 owned by health funds (especially Clalit Health Services), and 6 by Christian missions. Geographically, the number of hospital beds per capita and the concentration of hospitals is higher in the center, especially along the coast and in the major cities, than in the periphery. In the northern and southern districts, the number of hospital beds per capita and the number of hospitals is lower. **The total number of hospital beds** in Israel in relation to the population has been on a steady decline in all areas of hospitalization including general, psychiatric, geriatric, and rehabilitation.

In addition to the medical centers and health funds, there are **other third-sector health organizations (Magen David Adom, the Israel Cancer Association and more),** which operate not for profit and include hospitalization services, general clinic treatments, hospice services, first aid, regional rescue units, mental health treatment, dentistry services, complementary medicine, paramedical services and more. There are also health support organizations operating in areas such as prevention, health education, public information, loaning and supplying medical equipment and more (**such as well-baby clinics, student health services, dental health, Yad Sarah and Ezer Mizion, urgent care centers and pharmacies).**

**The Israeli healthcare system – challenges and opportunities**

The Israeli healthcare system faces a number of significant challenges that arise from a growing **gap between the system's resources (budget, infrastructures, personnel and so on) and the population's developing needs.** The public healthcare system is already stretched thin in many dimensions including: overcrowding of hospitalization departments, overcrowded emergency rooms, and long lines for surgery, procedures, tests and so on. This stress is expected to increase due to a number of factors, primarily the growth and aging of the population, inequality and gaps in health, a shortage of professional personnel, and underfunding. The aging of the population and increase in chronic morbidity raises the urgent need to increase investments in health while adopting innovative solutions, using new technologies, and organizing the health services according to these needs. Following is an overview of the challenges and opportunities facing the healthcare system:

**Growth forecasts and population spread for the target year:** The Central Bureau of Statistics estimates that Israel's population will reach 16.8 million at the high-end forecast, 15 million at the medium forecast, and 13.5 million at the low-end forecast. This is significant growth and a change that will impact Israel’s society and the spatial deployment of the population, with all of its demands and the requisite deployment of healthcare institutions. The National Economic Council's plan to spread the population for 2040, following the government-led strategic housing plan, includes redirecting demand from the center of the country to the northern and southern districts. Over the years, Israel has implemented a number of plans and policies meant to distribute the population and divert demand from the center to the periphery. An examination of those plans and the way they were realized over the years reveals the challenge of planning the array of health services in keeping with the chance to realize government objectives of population distribution.

**Population aging** – Israel is a relatively young country in terms of its population composition, and a trend of population aging and rise in average age is projected. The older population is expected to grow by 77% between the years 2015-2035, and its growth rate will be 2.2 higher than that of the general population during that period. As far as health, the significance of that data is as follows: an increase in the frequency of **chronic illness** (diabetes, heart disease etc.) in the population; **more chronic illnesses per person** (until age 65 most of the population has at least one illness and 2/3 have at least two chronic illnesses); **treatment of chronic illness over the course of more years** (a rise in life expectancy along with appearance of chronic illnesses at younger ages). Meanwhile, illnesses such as AIDS and cancer have become, thanks to technological advances, chronic illnesses that the patient copes with for many years. All of those factors are expected to increase the burden on the Israeli healthcare system. The healthcare system is expected to face more hospital patients, more hospitalization days, more complex patients, more patients requiring long term nursing care, futher burdens on the existing physical infrastructures, longer waiting times, and an increase in public and private spending on health. This is the place to emphasize that along with the rise in the average life expectancy in Israel, it is also the duty of the healthcare system to try to improve the quality of life of the 65+ population and provide high-quality, accessible and available services.

**Inequality in health** – Despite the national deployment of healthcare services, there are **differences in the availability of healthcare services in different parts of the country**. The accessibility and availability of doctors, including experts, in the country’s periphery regions is considerably lower than in the center, not only with regards to medical care in the community but also in the services provided by local hospitals. Furthermore, residents of central Israel and Jerusalem enjoy broader opportunities than residents of the periphery for taking advantage of complementary and commercial insurance policies as part of private medicine. There are also gaps in access to well-baby clinics. It is important to note that this is not only a question of physical access but also of cultural and linguistic access. Likewise, disempowered population groups are expected to consume more health services than stronger populations.

**Planning, training and cultivating personnel** is one of the most important and complex tasks facing any healthcare system. It includes not only doctors and nurses but also additional professionals such as dietitians, pharmacists, psychologists and more. For various reasons, numerous medical professions in Israel are characterized by a personnel shortage and inadequate infrastructures for their needs, a rise in workloads and inadequate compensation. The result is avoidance of entering those professions, further contributing to a personnel shortage and an overload on the health institutions. The primary direct result of this is harm to the medical personnel's ability to provide quality medical care, stress and burnout among medical personnel, and harm to the system's efficiency.

**Technological developments** are fundamentally changing the health industry, including how we prevent and diagnose illness, the way we detect and monitor our health and fitness, and the way individuals take responsibility for their health and wellness: eHealth and telemedicine expand the population's access to healthcare services while narrowing the existing gaps between Israel’s center and periphery in physical infrastructures and levels of medical personnel and medical equipment. On the basis of computerized databases, personally tailored medicine can be expanded and big-data-based capacities can be used to promote these insights practically and facilitate processes that will lead to optimal, preventive, and personally-tailored medical care.

**Transfer of medical services from hospitals to community and home services –** The growing burden on the medical system along with the developing technical capacities increase the understanding that some of the medical services currently delivered in hospitals can and should be provided in the community and even at home. As a result, in many countries, as well as Israel, there has been a growing trend in recent years to strengthen the status of community medicine and move to it the center of gravity of medical care. Other trends are based on the assumption that the patient's home is often the best and most convenient place for them to receive care and experience an improvement

in their medical status, as a substitute for hospitalization. The goal is for chronic patients with varying levels of illness to be treated in the community, with the system preparing new and sustainable solutions according to the changing demands and conditions.

**Improvement of the care continuum** – Specialization in medicine, the success in extending life expectancy, and the increase in chronic illnesses, have led to a proliferation of healthcare professionals, tests, and care settings. Maintaining the continuity of the medical service given to the patient, especially in the transition between carers (for instance, between one’s family doctor and specialists) or care settings (such as various community care institutions, hospitals) is critical both for patients and for care providers. Over the years, multidimensional models have been developed, based on a number of aspects of care continuity, including information continuity, disease management continuity, and continuity of the interpersonal relationship.

**A balanced mix between “private” and “public”** – Alongside the public health system, based on tax revenues and government budgeting, there is a private market of healthcare services. One of the main problems in the privatization processes of the healthcare system, including private medical services, is the **inequality between populations**, which is contrary to the spirit of the Public Health Insurance Law. The share of the private sector in the health market in Israel is increasing. A significant expansion of medical services in the private system and its funding from private sources can lead to different negative phenomena in the area of public medicine, including changing the character of the system, giving priority to economic profit over the good of the patient. These processes create a number of significant defects, including gaps in waiting times between the two systems, “skimming the cream,” use of public medicine resources by the private system, the drift of personnel to the private system and more.

**Streamlining the system and cooperation between health funds** – In the context of mistrust between the health funds and competition over insurees, the allocation of resources becomes inefficient and a duplication of services emerges, especially in small localities and the periphery. In the absence of national planning and management of infrastructures, the health funds avoid vital cooperation. It is necessary to build a system of economic incentives and rules for settling accounts, that would encourage and promote cooperation between the health funds and provide keys for operating health infrastructures in the community that take into consideration the size of the population according to geographical regions with unique features.

**Clustering health institutions** – Uniting a number of hospitals into joint units by creating regional clusters of campuses, to streamline and save system resources; shorten hospitalization queues, improve service to insurees, maintain care continuum and follow-up, use hospital beds more efficiently, improve working relations in hospitals, and use physical infrastructures and professional personnel within hospital campuses more efficiently.Creating clusters might also lead to the professional strengthening of smaller hospitals.

**Emergency preparedness** for natural disasters, terror attacks, war etc. Like other health areas, the emergency preparedness of the health system is multidimensional and requires cooperation between different sectors within and outside of the health system.

**Significant structural, organizational and professional change**s often means contending with diverse difficulties that characterize large, complex bureaucracies with multiple stakeholders. Among the main barriers are the following: **the dual role of the MOH and the conflict of interest** inherent in its being a ministry and regulator as well as the country’s largest provider of general hospitalization services; **political instability in Israel** and frequent turnover of health ministers impede long-term planning and the implementation of reforms in the health system; a lack of strategic planning in the health system with regards to its desired nature; and the weakness of the MOH as a regulator that is unable to enact an independent proactive policy in conflict with powerful players (the finance ministry, the health funds, worker organizations in the health system), all undermine governability and long-term planning. Furthermore, lack of consensus regarding boundaries of the health professions causes conflicts and objections by professionals in light of technological, organizational, and professional changes.