Introduction
The National Master Plan for Healthcare Institutions – TAMA 49 -- was jointly initiated by the Ministry of Health and by the Ministry of Finance’s Israel Planning Administration. The plan is tasked to outline the construction and development of healthcare institutions nation wide by the year 2048, Israel’s one hundredth anniversary. The plan lays out the demands set upon Israel’s healthcare system as projected for the target year. This projected scenario is, by nature, multifaceted; it takes into account projections regarding population growth, changes to the population profile including its aging, trends in morbidity in accordance with disease clusters, and the impact of technological advancements on the distribution of healthcare services. The plan follows the guiding principles set forth in the policy document that accompanies TAMA 49.

The plan addresses the main changes that the healthcare system is expected to face. In particular, it focuses on the changing character and role of traditional healthcare centers and hospitals, and on the transfer of medical services provision (including hospitalization) to community- and home-based care. The plan offers guidelines for the development and distribution of Israel’s healthcare services, leading up to the year 2048. It offers a planning framework for expanding and promoting Israel’s existing healthcare campuses and hospitals as well as adding new institutions as needed. The plan refers to current programs and to projected forecasts for national and regional population distribution; offers a programmatic and statutory framework for land allocation for the hospital system; and includes guiding principles for the planning of community-based healthcare services. The plan is accompanied by a policy document that refers to corresponding issues such as the importance of long-term systematic planning for adequate medical personnel; for sufficient long-term budgeting; and for any required reorganization, legislation, or other changes that would be necessary to realize the plan’s principles.

The Israeli healthcare system faces complex challenges and a high level of uncertainty at the dawn of the 21st century. Widening gaps caused by the needs of the fast growing population, accompanied by changes in the population pyramid; technological advances that affect methods of treatment and require alteration of healthcare services; an
increase in the community’s role in provision of healthcare services to address the population’s varied health needs; projected changes in morbidity patterns and epidemiology; and an increase in the standard of living and consequently in public expectations and demands from the healthcare system. All of these necessitate across-the-board strategic thinking about the future operation of the system and of its future needs.

The National Master Plan for Healthcare Institutions must address core issues for the healthcare system development, define coping strategies with projected changes, and review the array of possibilities. The plan defines the conditions and guidelines for future development while maintaining the principle of flexibility to allow adjustments over time. The National Master Plan must incorporate diverse fields of knowledge to form a strategic thinking about the healthcare system and lay the foundation for a spatial planning approach able to address future challenges.

Long term planning for the structure of the health system and for the spatial distribution of healthcare services is an essential component of addressing future challenges to the system. Long term planning must articulate the system's development needs and promote strategic principles beyond the provision of land for health institutions - such as reducing inequity in access to healthcare services; promoting specialization and excellence in medicine; training and promoting professional personnel; optimizing transition and integration between healthcare institutions and the provision of services in the community; and multi-year future-facing planning.
The current state and future trends in planning and development of healthcare institutions

The current state of healthcare development and distribution in Israel has come about through various historical and political processes within which a comprehensive, systematic planning perspective has been consistently lacking. This has been the case since the arrival of the first Jewish settlers in the 19th century and the growth of the country’s Jewish community, through the period of the British rule (Mandate) - which constructed healthcare institutions for the growing population and for the British forces who were stationed in the Middle East (for instance, Rambam Hospital was built near the Haifa seaport and railway, for the speedy evacuation of injured soldiers) - and up to the founding of the Israeli state in the year 1948. During the following decades, the Ministry of Health (MOH) was established and a consistent trend kept in construction of hospitals, through the 1960s and 70s. However, since the 1980s, only a small number of general public hospitals have been built, the last of which was Assuta Ashdod, which opened in 2017.

Development plans for healthcare institutions have been initiated locally, on an ad hoc basis. Some of these plans took into account population growth forecasts, but all in all, planning was based on partial data and land availability. Furthermore, wishing to maximize the development potential of existing hospital campuses, development plans gave preference to existing sites. The Ministry of Health, along with the Israel Land Authority, has in recent years undertaken the effort of preparing long-term plans for a number of existing and of new healthcare campuses and centers. These plans emphasize a comprehensive perspective in an attempt to maximize the construction and development potential of the various sites and provide solutions to the needs of each center.

The main trends in hospitals development involve a rise in the area and complexity of hospitals; an increase in patient welfare; and the promotion of new specializations. Hospitals are now becoming campuses, often comprising several different types of hospitals, of medical institutions, of research institutions, and of academic institutions for training the next generation of medical personnel and health professionals. These
institutions already operate outpatient and day hospital centers that provide a direct connection with the community. The broad view on healthcare institutions is one of health ‘campuses’ that promote additional uses and services - for example, through the addition of commercial services for the convenience of patients and faculty, hospitality services, and accommodations nearby large urban centers. The medical centers are becoming substantial urban or regional anchors, which serve no only as medical services providers, but also as sources of employment for thousands of people, as centers of research and medical enterprise, and as meeting places for research practitioners and academic researchers.

**Community-based health services:** Israel has developed a unique model of community-based health services that is founded on the four health maintenance organizations (HMO’s): Clalit, Maccabi, Leumit and Meuhedet. This model delivers general practitioner services as well as the services of specialists and of medical consultants outside of the hospital setting. Community-based health services include a range of models, from primary care clinics of only general practitioners, through well-baby clinics, to large multidisciplinary clinics and specialized institutions. These services are provided in the rural/regional centers and in the urban centers, with the major cities having bigger clinics that provide a wide range of possibilities for medical consultation and a high ratio of HMO members per clinic. For historical reasons, many Clalit Health Fund clinics were built on state owned land and show inefficient use of the land, failing to meet present land use standards. Given the limited availability of state owned land, some clinics were located in privately owned projects, including rentals. This encumbers the proper planning, development and funding of the community-based healthcare system.

**The structure of the Israeli healthcare system**

In order to tackle the challenges facing the Israeli healthcare system in the coming decades, and to plan for optimal and just development for the designated time period - including a network of hospitals and clinics, sufficient knowledge of the healthcare system is essential. This includes an understanding of the system’s organization,
administration, operation, budgeting, and planning and development, and familiarity with the key agents and elements influencing it and the interactions between them.

Healthcare systems are usually classified into several types, although many countries display a combination of elements from the different types in their health systems. These include social health insurance, public health services, and private health services. The varying elements making up a healthcare system can be understood as a combination of medical institutions, human resources, funding mechanisms, information systems, organizational systems that connect medical institutions with other resources, administration systems that coordinate the activities of the system’s various bodies to prevent illness and provide medical care to patients, and of course the healthcare personnel. In different degrees, healthcare systems also consist of financial mechanisms, physical infrastructures, administrative systems, and workers unions. There are of course many other social and economic variables that impact health; the contribution of the healthcare system accounts only partially to the total health of the population.

The structure of the Israeli healthcare system is based on international models of healthcare services. However, it also reflects unique local features that were shaped by the particular historic and political circumstances and processes in the Israeli context.

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 currently organizes the healthcare system is the National Health Insurance Law (NHIL) of 1994, which came into effect at the beginning of 1995. The guiding principle for the NHIL is that medical services in Israel shall be delivered according to medical justification, regardless of the insured’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 for a health tax, based on a fixed rate, drawn from each resident’s income. The law also defines uniform coverage provided by the four HMO’s: Clalit Health Services, Maccabi Health Services, Leumit Health Services, and Meuhedet Health Fund, with the government regulating the HMO’s activity. The HMOs operate as not-for-profit health organizations. In addition to the basic healthcare coverage, the
HMOs provide another level of insurance coverage, called “complementary insurance” or “additional healthcare services” (AHS). Moreover, 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 health expenditures. If not for regulatory curbing, these expenditures 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 on basic healthcare coverage (“health basket”) at more than NIS 50 billion. That coverage was provided by the HMOs and funded by the health tax and national budget. Private expenditures primarily consisted of direct household purchase of drugs, dental services, medical equipment, and complementary insurance (additional healthcare services and commercial insurance policies). The ratio between private spending and public spending has not changed significantly in recent years, while there was a minor increase in public spending after years in which there had been a gradual increase in the level of private spending.

The government impacts the healthcare system through a number of important budgetary mechanisms:

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

**Capping** – A budgeting formula for hospitals through which the regulator limits health expenditures. 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 public healthcare coverage – Public healthcare coverage is updated through a number of mechanisms that prevent some of the regular erosion arising from appreciation, salary increase, and, in particular, population growth.

One of the important principles of the National Health Insurance Law is encouraging competition between HMOs to guarantee improvement of the system's quality and efficiency. However, its negative consequences are reflected in the way that funds try to "steal" patients from one another and offer duplicate services in the geographic periphery and smaller towns.

The HMOs differ in operational models, size and deployment. "Clalit Health Services" is the biggest of the four HMOs, 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 insured persons. This fund provides individuals with healthcare services mainly by purchasing services from external service providers (hospitals, independent doctors, pharmacies, and so on). 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 HMO is the third biggest health fund in Israel, serving more than 1 million people throughout Israel and operating more than 300 clinics. Leumit Health Services is the smallest fund, serving 730,000 insured individuals and operating 320 clinics throughout the country. The two smaller funds provide services along the same model as Maccabi – based on the purchase of healthcare services instead of operating and providing services directly.

Despite the country-wide distribution of healthcare services, there is geographic inequity in terms of access to community-based care and medical specialists provided by the different health funds. Moreover, there are areas in which certain types of medical services are not available whatsoever.

Israel has 64 hospitals, of which 45 are general hospitals, 12 are psychiatric hospitals, and 2 are rehabilitation hospitals. 23 hospitals are owned by the government, 11 are owned privately, 9 are owned by other public entities or associations, 14 are owned by health funds (primarily by Clalit), and 6 are owned by Christian missions. The number of hospital beds per capita and the concentration of hospitals is higher in the center of the country, especially along the coast and in the major cities, rather than in the
geographic 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 types of hospitals including general, psychiatric, geriatric, and rehabilitation facilities.

In addition to the medical centers and health funds, there are other third-sector health organizations (not-for-profit organizations as: Magen David Adom, the Israel Cancer Association and more), and include hospitalization services, primary care, hospice services, first responders, regional rescue units, mental health care, dentistry services, complementary medicine, paramedical services and more. There are also health support organizations working in prevention, health education, public information, loaning and supplying medical equipment and more (including well-baby clinics, student health services, dental care, 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 evolving needs. The public healthcare system is already stretched thin in many dimensions including: overcrowded hospitals in emergency and other departments, extended waiting times for surgery, procedures, tests and so on. Such challenges are only expected to increase for a number of reasons, primarily the growth and aging of the population, health inequalities, a shortage of healthcare professionals, and underfunding. The aging of the population and increase in chronic disease raise the urgent need to increase investments in healthcare while adopting innovative solutions and new technologies, and organizing the healthcare system in accordance with these needs. Following is an overview of the challenges and opportunities facing the healthcare system:

Growth forecasts and projected population distribution for the target year: The Central Bureau of Statistics estimates that Israel's population will reach 16.8 million
according to the higher forecast, 15 million at the medium-range, and 13.5 million at the lower end of the forecast. All of these scenarios involve significant growth and impacts to Israel’s society and the geographic distribution of the population. This will come along with a range of needs, including rethinking distribution of healthcare institutions. Following the government-led strategic housing plan, the National Economic Council’s plans to spread out the population by the year 2040 involves redirecting demand from Israel’s center to the northern and southern districts. Over the years, Israel has implemented a number of plans and policies intended to redistribute the population and divert demand from the center to the periphery. An examination of those plans and the way they have been implemented over the years reveals the challenge of planning the healthcare system and services in keeping with the probability that government population distribution objectives will be met.

**Population aging** – Israel is a relatively young country in terms of its population composition. There is a projected trend toward population aging and a rise in average age. 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** (by age 65 most of the population will have at least one illness and 2/3 will have at least two chronic illnesses); **treatment of chronic illness will span more years** (a rise in life expectancy combined with the earlier onset of chronic illness). Meanwhile, illnesses such as AIDS and cancer have become chronic conditions, thanks to technological advances, which the patient lives with for many years. All of these factors are expected to increase the burden to the Israeli healthcare system. The system will likely experience an increase in the amount of hospital patients and hospitalization days, more complex patients, more patients requiring long-term nursing care, further burdens on existing physical infrastructures, longer waiting times, and an increase in public and private spending on health. It is worth emphasizing here 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 for people aged 65 and over and to provide high-quality, accessible, available healthcare services.
Health inequality – Despite the country-wide distribution of healthcare services, there are inequities in access to health care in different parts of the country. The accessibility and availability of doctors, including specialists, in the geographic periphery is considerably lower than in the center, not only with regards to community-based medical care but also with regards to services provided by local hospitals. Furthermore, residents of central Israel and Jerusalem enjoy broader opportunities than residents of the periphery for complementary and commercial insurance policies as part of private medical care. There is also inequity 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 sustaining healthcare providers is one of the most important and complex tasks facing any healthcare system. It includes not only doctors and nurses but also dietitians, pharmacists, psychologists and others. For various reasons, numerous medical professions in Israel have witnessed a personnel shortage and inadequate infrastructures for their needs as well as a rise in workloads and inadequate compensation. The result is that people avoid entering these professions, further contributing to the personnel shortage and an overload on healthcare institutions. This impinges on the ability of healthcare providers to provide quality medical care, increasing stress and burnout, and damaging the system's efficiency and effectiveness.

Technological developments are fundamentally changing the healthcare 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 terms of physical infrastructures and the quality of medical personnel and medical equipment. On the basis of computerized databases, personally tailored medical care can be expanded and big-data-based capacities can be used to promote these insights in practice. Increasingly efficient processes can lead to optimal medical care that is preventive and personally-tailored.
Transfer of medical services from hospitals to community- and home-based services – The growing burden on the medical system along with the developing technological 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, including Israel, there has been a growing trend in recent years to strengthen the status of community-based healthcare and to make it more central to 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 healthcare system offering new and sustainable solutions in accordance with shifting demands and conditions.

Improvement of the care continuum – Specialization in medicine, the success in extending life expectancy, and the increase in chronic illness, have led to a proliferation of healthcare professionals, tests, and care settings. Maintaining the continuity of a patient’s medical care, especially in the transition between providers (for instance, between one’s family doctor and specialists) or care settings (such as community-based clinic and 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 the care continuum, including information continuity, disease management continuity, and continuity of the interpersonal relationships.

A balanced between “private” and “public” services – Alongside the public healthcare system, based on tax revenues and government budgeting, there is a private market for healthcare services. One of the main problems in the privatization processes of the healthcare system, including private medical services, is inequity among populations, which is contrary to the spirit of the Public Health Insurance Law. The private sector’s share in the Israeli healthcare industry is increasing. A significant expansion of medical services in the private system and its funding from private sources can lead to a number of undesirable phenomena in the area of public medicine, including changing the character of the system and 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 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 insured persons, the allocation of resources becomes inefficient and a duplication of services emerges, especially in small towns and the geographic periphery. In the absence of national planning and management of infrastructures, the health funds avoid cooperating with one another. 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 account for the size of the population, the geographical region, and other with unique features.

**Clustering healthcare institutions** – Uniting several hospitals into joint organizational units can help streamline and save system resources, shorten hospitalization queues, improve service to insured persons, maintain care continuum and follow-up, use hospital beds more efficiently, improve working relations in hospitals, and use physical infrastructures and professional personnel more efficiently. Such clusters may also lead to professionally strengthening smaller hospitals.

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

**Significant structural, organizational and professional changes** often involve contending with an assortment of difficulties; these are characteristic of large, complex bureaucracies with multiple stakeholders. In the present case, the main barriers include: the dual role of the MOH and the conflict of interest inherent in its being both a government 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, which impede long-term planning and the implementation of reforms in the healthcare system; a lack of strategic planning in the healthcare 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 that conflicts with the interests of powerful players (e.g. the finance ministry, the health funds, unions of healthcare workers). All of these undermine governability and the ability to undertake long-term planning. Furthermore, lack of consensus regarding the boundaries of the health professions, particularly in light of technological, organizational, and professional changes, causes conflict and raises objections by healthcare professionals.