EHTEL

Collaborating for Digital Health and Care in Europe

eHealth Governance - Country Report: Israel

eHealth Governance –Country Report Israel

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DISCLAIMER

1 Introduction

1.1 Scope of the document

This report is one of the 6 reports on the eHealth Governance commissioned by EY Baltic to EHTEL in the context of a contract[1] aiming at proposing a new "Health ICT Governance Framework" to the Ministry of Social Affairs of Estonia (MoSA).

With these reports, EY and MoSA have access to a sample of international good practices on how to govern the deployment of digital health within a country or a region.

	Health system	Governance	EHR architecture
Belgium	Bismarck	Bottom-up/ Top-down	Decentralised
Catalonia	Centrally Managed	Top-down	Centralised
Denmark	Centrally Managed	Top-down	Decentralised
Israel	Bismarck	Bottom-up	Decentralised
Scotland	Centrally Managed	Top-down	Centralised
The Netherlands	Bismarck	Bottom-up	Decentralised

Figure 1: Profile of the countries and regions retained for their good practice in eHealth Governance

These reports have been prepared by EHTEL experts who either have an inside knowledge of the country or region subject to the report or worked in close collaboration with experts having such a knowledge.

They describe, for each country or region,
- The context, i.e. the health and care system and its enabling eHealth system, with its technical building blocks
- The organisation in place for involving stakeholder and
- The main governance processes

A short historical retrospective and a short analysis of successes and what could be done better helps to put these good practices in perspective.

This international experience is intended to be used as input for Deliverable 3 "To-Be model for eHealth system governance" defined in the above-mentioned contract.

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1.2 Methodology

The methodology for the developing these reports has been designed in two steps:
- Distinguishing IT governance from IT management
- Defining what should be included under the term eHealth governance framework.

The line between IT Governance and management has been drawn as follows:
- The governance function is responsible for determining strategic direction.

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[1] Contract reference: REFORM/SC2021/003, signed on 10.02.2021 between European Commission and EY.

- The management function takes that strategic direction and translates it into actions to achieving the strategic goals.

To define what needs to be covered under the term eHealth Governance, a few models have been looked at and COBIT 5 has been retained as a relevant one to support health and care in systems in their digital transformation journey[2].
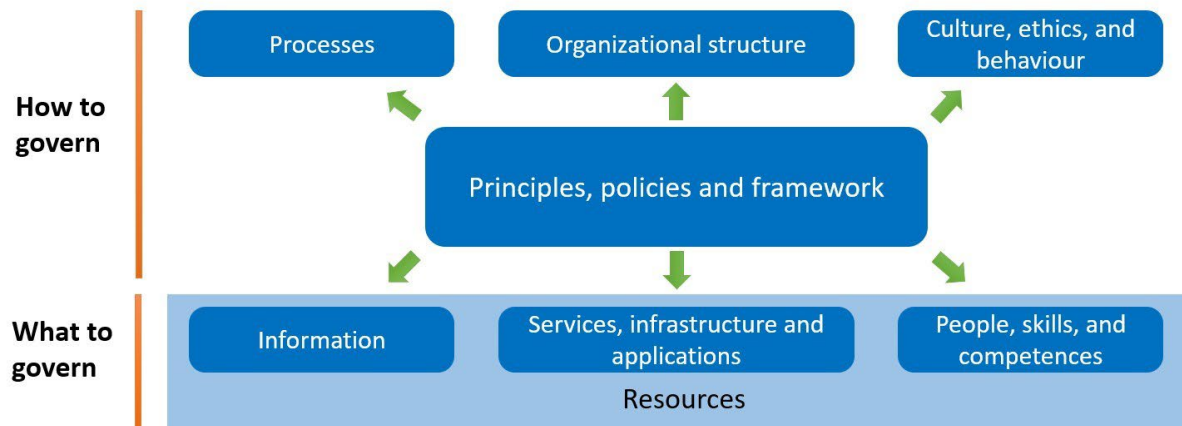

Figure 2: Governance Framework [MARCELO 2018]

2 Report on Israel

2.1 Health and care System description

The Israeli healthcare system began as a classical Bismarkian system which underwent substantial change with the passing of the National Health Insurance Law in 1995.

Prior to the law, 97% of the population was voluntarily a member of one (or more) of four nationwide Health Plans that determined their own basket of services and set and collected membership fees (insurance premiums) directly from their members. The employer portion was paid through the National Insurance Institute (NII).

The National Health Insurance Law of 1995 legislated universal compulsory statutory health insurance for all citizens (today over 9 million people), and centralized the collection of health insurance payments from the citizens as an earmarked health tax paid to the NII. The funds from the tax were pooled with the employer portion, and funds were then allocated by the NII to the Health Plans using a capitation formula based primarily on age. Two years after the passage of the Law, the employer portion was replaced by an allocation from the National Budget, thus resulting in a system financed by earmarked and general taxation.

Under the Law, coverage for health care services is still provided by the four competing nationwide health plans (HMOs): Clalit, Maccabi, Meuhedet and Leumit. In contrast with sick funds and mutualities in Europe, the Health Plans are, in fact, similar to US HMOs in that they are directly responsible for the provision of healthcare services, not only their financing.

Every citizen must join a health plan but is free to choose and move from one to another. Health Plans must provide a legally defined public basket of services to all their members

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[2] See "Transforming Health Systems Through Good Digital Health Governance", Alvin Marcelo, Donna Medeiros, Kirthi Ramesh, Susann Roth, and Pamela Wyatt (2018)

(updated annually). The Health Plan budget covers all of the health care services in the public basket of services for all members.

Health Plans are considered healthcare managers for their members and provide services themselves with either employed staff or through contracting with independent, private and public clinicians and providers (differs among Health Plans), thus care is provided by public and private providers of services including physicians, hospitals, pharmacies and other health care professionals.

Similar to Germany and Belgium, both primary care doctors (GPs) and specialists work in community clinics, either solo or group practices. In Clalit, the majority of primary care doctors are employees, whereas in the other Health Plans, the majority of doctors (both GPs and specialists) are independent with contracts with the Health Plans. The most common form of reimbursement for independent practitioners is quarterly capitation + fee for service. The GP is not a gatekeeper, although access to some subspecialties requires a GP referral (policies differ among Health Plans).

All of the Health Plans have contracts with all of the public hospitals. Payment to the hospital (either by DRG, per diem for inpatient, by visit or by service for ambulatory clinics) by the Health Plan requires Health Plan authorization (either pre for elective or post for non-elective).

There are forty-six acute care hospitals with the following distribution of ownership: 11 Ministry of Health Hospitals (46.5% of beds), 8 Clalit Health Plan Hospitals (30.4% of beds), 15 Non-profit Hospitals (19.6% of beds), 12 Private for-profit Hospitals (3.5% of beds). The largest private hospital network is owned by the Maccabi Health Plan.

- All hospitals – both public and private - have outpatient ambulatory services.
- All public hospitals have Emergency Rooms
- In public hospitals, physicians are salaried employees of the hospital while in private hospitals they are usually "attending" – independent or private physicians with admitting and treatment privileges.
- Public hospital physicians may have private practices outside of the public hospital and may contract with health funds as independent doctors as well as perform procedures as "attendings" in private hospitals.

2.2   eHealth System

Israel is considered a pioneer in Health IT, having begun its Health IT implementation in the mid 1980's. Health IT in Israel was Health Plan-driven, resulting in the implementation of comprehensive, shared organization-wide Electronic Medical Records in all Health Plans by the mid 1990's, followed by one of the first nationwide teleradiology systems in 1997, and patient portals in the early 2000s, enabling citizens online access to their medical information.

The digital health system in Israel is a decentralized system. Each Health Plan and Hospital has its own eHealth system. There is a National Health Information Exchange for sharing EMR data across organizations. It is important to note that there is a national ID number in Israel that is used for everything including healthcare.

Due to the fact that the Health Plans have been collecting computerized comprehensive data on the entire population for over 25 years, Israel has been a front runner in "Big Real

World "data analysis based on EMR data and registries at Health Plan and National Level. This has served to create an eco-system in which tech companies including AI companies have thrived and "Big Data" research at the national level is gaining momentum.

On the downside, there is still limited data sharing with social services who have not progressed as rapidly in computerizing their systems.

2.2.1 National/Regional Building Blocks (infrastructure and services)

All physicians and healthcare practitioners in Israel use EMRs owned and managed by their Health Plan or their hospital. The contract with the vendor is with the Health Plan or the hospital, not with individual practitioners.

The EMR in the Health Plan is a central EMR – so that every transaction between the health plan and the citizen is documented and transparent to all of the doctors caring for the patient (including visits to the ER, hospital outpatient clinics and hospitalizations). Likewise, the EMR in the hospitals is a central EMR. All of the public hospitals are working with the same vendor although each have done some unique developments in their EMR. Private hospitals use this same vendor for some departments although they also have contracts with other vendors.

There is a full E-prescription system in all of the Health Plans via the EMR. E- prescriptions are generated by the doctor in his EMR and sent to the patient with an electronic signature through the patient portal (If he gets the prescription in an actual face-to-face visit, the doctor may print out a copy but it's not necessary). Prescriptions are simultaneously transmitted to the pharmacy system, so that the pharmacist can see the prescription on his computer once he has swiped the patient's magnetic Health Plan membership card. In Clalit and Maccabi, this process is totally paperless.

All hospitals (public and private) and Health Plans exchange information using the National Health Information Exchange network. All have configured their data according to the standards and definitions established by the Ministry of Health for this purpose.

All of the Health Plans have member portals that not only enable access to the patient's EMR information but that support virtual care including ordering and receiving e-prescriptions, referrals, messaging between clinicians and patients, making appointments – both face-to-face and remote. The Patient Rights Act of 1996 insures patient access to his medical information. Hospitals increasingly have patient portals that support appointments and provide access to patient information such as test results and visit summaries.

Telemedicine Services are also well developed in Israel. There are telemedicine systems for diagnosis (e.g. tele-imaging) and treatment (e.g. tele-dermatology, videoconferencing) in all Health Plans, as well as in many hospitals.

The Ministry of Health citizen portal is informational and became increasingly important during the COVID pandemic for providing information, instructions, directives, and tracking citizens exposed to COVID, tracking all patients vaccinated against Covid and providing "green passports", enabling the country to "open up" and resume a high degree of normalcy.

At the national level, the Ministry of Health receives regular computerized reports from the Health Plans and the Hospitals enabling monitoring of activity and quality against agreed upon quality parameters.

The Israel Center for Disease Control (ICDC) receives data daily from Health Plans to track potential outbreaks of infectious diseases. In addition, the ICDC manages a large number of national disease registries such as cancer, diabetes, dialysis, etc.

The Ministry is responsible for licensing and certifying all clinicians and healthcare practitioners and manages these databases.

The Ministry is moving rapidly into the era of Big Data resting on over 25 years of longitudinal data on the population collected by the Health Plans and hospitals, and is fostering Research and Development in partnership with health providers and industry.

2.2.2 Data sharing and access

From a National Perspective, the Israel Digital Health system is a decentralized system with a "collaborative" layer at the national level supported by a national Health Information Exchange (HIE) system. The following depicts the architecture of the system.
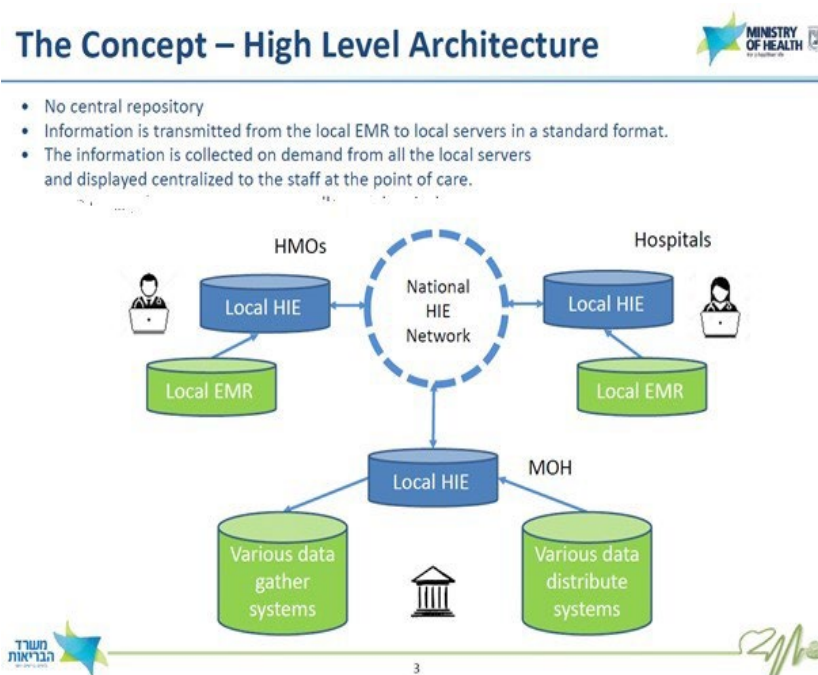
Figure 3: High Level Architecture

At the Health Plan Level, clinicians have access to the central EMR data on their patients, Hospital clinical staff have access to Hospital EMR data on hospitalized patients and patients treated in ambulatory clinics. Both hospital doctors and Family Doctors have access to cross - organizational patient data through the National Health Information Exchange.

Patients have ever-expanding access to their EMR data through their web portal on both desktop computers and mobile devices. This includes visit summaries, medications, test results, as well as reminders for screening, vaccinations and personal recommendations

E-prescribing in the Health Plans is supported on the portal, is completely automated, a completely paperless process – with electronic physician signatures and online access for doctors, patients and pharmacies.

2.2.3   People, skills, and competences

Israel has been "digital" since the mid-90's so there is a high degree of digital literacy, both at the professional and citizen level. Health Plans and Hospitals have structured courses as well as online support for all clinicians, healthcare professionals and administrative staff in the use of all Health Plan and Hospital Digital systems. Health Plans provide instruction and online support for their members in using the patient portals and other digital systems including kiosks for populations that do not have computer access. Doctors and HCPs strongly encourage their patients to use the Health Plan digital systems.

The National Digital Program of the Government of Israel is also driving digital literacy forward. The Ministry for Social Equality is focusing on digital literacy for the population from the geographic and social periphery who may suffer from less access to advanced infrastructures and end-user equipment, and from a lack of digital and technological skills .

The Israel Internet Association (ISOC-Il) has been working to reduce the digital divide among communities, including the elderly, children at risk, and the Arab society in Israel since 2000.

2.3   eHealth system organisational structure - overview

The main organisational entities involved in the Israeli eHealth system are the Health Plans, the hospitals and the Ministry of Health.

2.3.1   eHealth system organisational structure – Ministry of Health

The Minister of Health is appointed by the Prime Minister and approved by the Knesset (Israeli Parliament). The Department is led by the Director General of the Ministry and a professional staff.
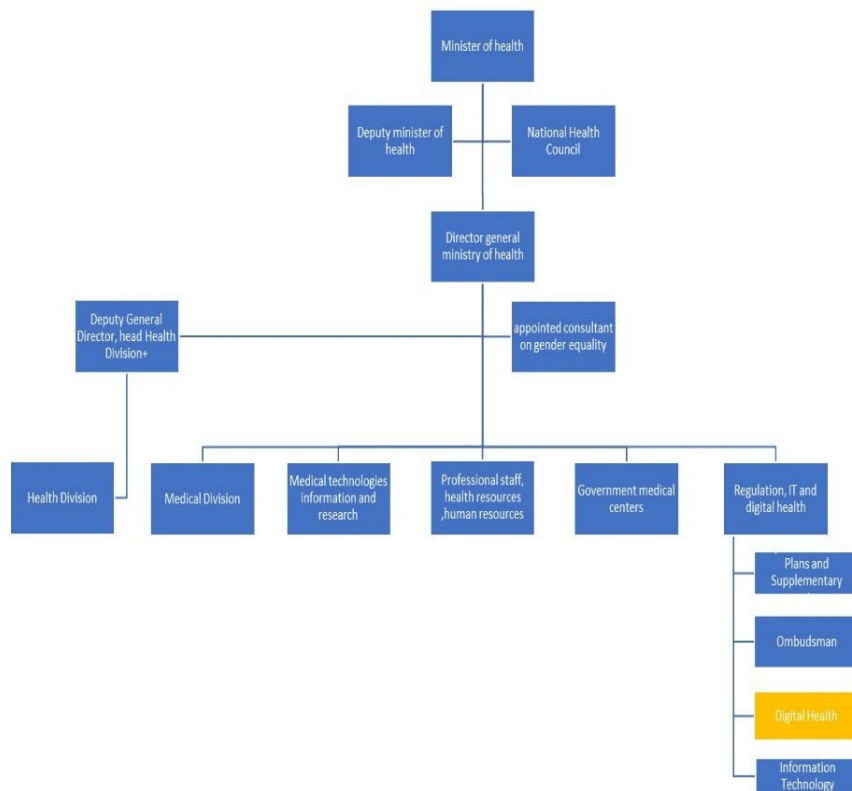
Figure 4: Organizational chart of the Ministry with a focus on digital health

The Department of Digital Health builds on the existing strengths of the Digital Health Ecosystem and has the following functions:

- Development and Updating of the national Digital Health Strategy in coordination with all of the stakeholders
- Providing Incentives for Upscaling Digital Solutions through Tenders for Projects and Grants
- Enacting enabling regulation to remove barriers and reduce risks
- Leading the strategy behind the National initiatives, such as the National Health Information Exchange, the infrastructure for cloud computing, and FHIR Community
- Encouraging partnership between Healthcare organizations and industry
- Encouraging and supporting Research and Development as well as "big data" for health services research and clinical research
- Promoting and assuring "system learning" based on ongoing exchange of knowledge and experience among all stakeholders in the ecosystem
- Assuring public transparency

It fulfils these functions by working together with the other MOH Departments and all the major stakeholders: Health Plans, Hospitals, Industry, Expert Committees and National Digital Enterprises and by implementing agreed upon projects and processes.
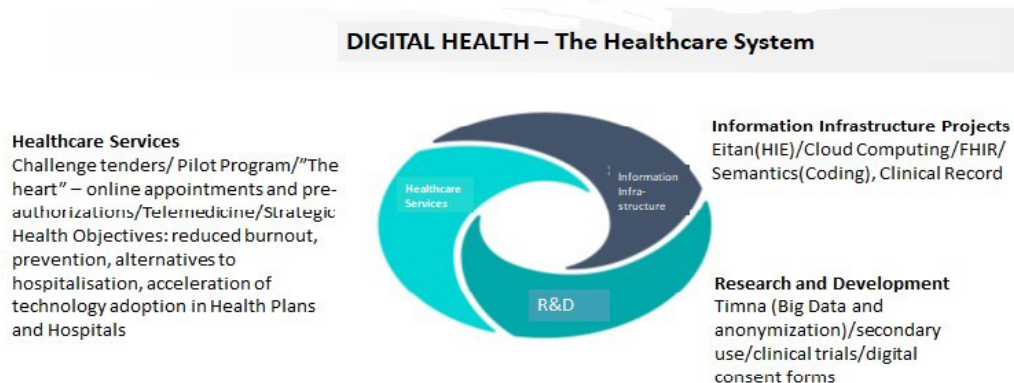
DIGITAL HEALTH – The Healthcare System

Healthcare Services
Challenge tenders/ Pilot Program/"The heart" – online appointments and pre-authorizations/Telemedicine/Strategic Health Objectives: reduced burnout, prevention, alternatives to hospitalisation, acceleration of technology adoption in Health Plans and Hospitals

Information Infra-structure

Healthcare Services

R&D

Information Infrastructure Projects
Eitan(HIE)/Cloud Computing/FHIR/ Semantics(Coding), Clinical Record

Research and Development
Timna (Big Data and anonymization)/secondary use/clinical trials/digital consent forms

Figure 5: Major programs led by the Digital Health Department

2.3.1 Stakeholders of the national/regional layer

The top level stakeholders at the national government level are: the Office of the Prime Minister, The Ministry of Health, the Israel Innovation Authority, the Ministry of Finance, the Ministry of Economy and Industry and the Council for Higher Education . This is an ongoing collaboration, particularly for strategic projects and programs at the national level.

In March 2018, the Israeli government, led by the Ministry of Health and the Headquarters for the national Digital Israel Initiative, and in collaboration with the Prime Minister's Office, the Treasury, the Innovation Authority, the Planning and Budgeting Committee, and the Ministry of Economy and Industry set its sights on advancing digital health as a national engine of growth. The decision centred on removing regulatory and infrastructure obstacles hindering collaboration between health data-centric sectors, and on the Mosaic Project, whose objective is the establishment of a genomic clinical database that would enable R&D of products that advance personalized medicine. One of the outcomes of this decision was the establishment of the Digital Health Division, described above, to carry out this initiative.

While there are citizen representatives in national committees and councils, the main eHealth stakeholders at the national level, in addition to government, are Health Plans, Hospitals, the Israel Medical Association, other Medical and Professional Associations, Pharmacy association, and Industry and technology partners.

Health Plans, which all have strong citizen representation on their governing bodies, are expected to be citizen advocates in ongoing deliberations.

There are also periodic public consultation with the entire ecosystem to encourage broad input. An example is the 2020 public consultation on a guide for assessing Digital Health technologies that included input from healthcare organizations, patient organizations, the industry, other stakeholders from the ecosystem and the general public.

2.3.2   Stakeholders of the health service provider layer

The main stakeholders at the health service provider level are the Health Plans, the hospitals, the doctors in the Health Plans' Community Clinics and the Hospitals and their representative organizations, the Nurses in Health Plan Community Clinics and Hospitals and their representative organizations, health care professionals in all settings, and the patients/members/citizens including family and carers.

All of the Health Plans have governing bodies made up of representatives of their members and health care professionals. There are some differences in how these bodies are appointed and elected from Health Plan to Health Plan.

In addition, they all have structures, at both National and Regional levels, that represent and provide a voice for each of the Medical and Health Professional Groups that provide services to their members.

2.3.3   Stakeholders of the innovation layer (including businesses)

Innovation in Digital Health in Israel is a national commitment to global leadership with multiple players from top government, healthcare providers to tech and industry partners.

The ecosystem has several key components:
- Over 670 active digital health start-ups from a wide variety of digital health segments, half of them at post-product phase
- High-quality, community-based healthcare system (Health Plans), which offers a unique set of 25 years old digital databases, as well as beta sites and innovation hubs
- Mature medical device, pharma and tech industries with global business know-how
- Advanced AI, cyber-security and additional computer sciences and life science skills
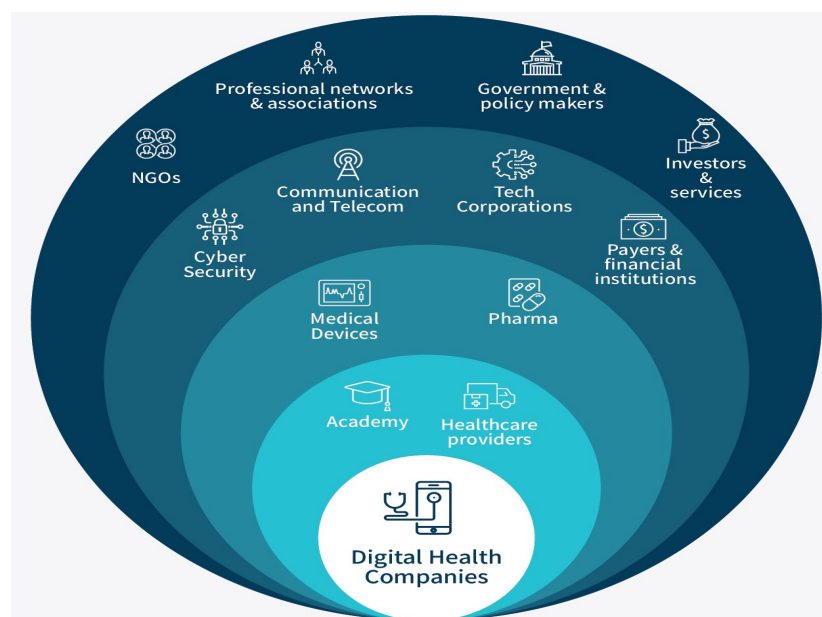- Extensive support from venture capital investors, NGO's and the government

Figure 6: Israel's Digital Health Ecosystem overview

Within the stakeholder innovation layer, one can highlight the following leading actors:

- **HealthIL** is a non-for-profit digital health innovation ecosystem - a joint venture of the Israel Innovation Institute, Israel's Ministry of Economy, Digital Israel at the Ministry of National Digitization, Israel Innovation Authority and Ministry of Health. HealthIL supports innovation management for healthcare stakeholders, engaging entrepreneurs in the field of Healthcare Innovation, and bridging the gap between the tech community and the public health sector.
- **"8400 – The Health Network"** is a cross-sector leaders network actualizing the globally disruptive capability of Israel's HealthTech ecosystem. It is a leadership program comprised of leaders from business, government, academia, NGOs, Healthcare payers and providers

Figure 7: actors in the Israel's Digital Health Ecosystem

2.4   Approach to main governance aspects:

2.4.1   Planning and strategizing

Planning and strategizing occurs at two levels:
- At the national level, this process is led by the Digital Health Department in the Ministry of Health, guided by the National Council for Digital Health and Innovation in Healthcare Services and in collaboration with all of the other stakeholders delineated previously
- At the Health Plan and Hospital level, planning and strategizing are led by internal Steering Committees that take into account local as well as national priorities.

There is an ongoing interaction and cross-fertilization between the two levels

The National Council for Digital Health and Innovation in Healthcare Services is a multidisciplinary policy and strategy advisory board to Ministry of Health. It advises on meeting current and future challenges of the healthcare system through use of digital technologies and innovation and the transition from present to future care paradigms. In addition to being the advisory body for digital health and innovation, it is the guiding body for building the action plan for digital health as part of the national "Digital Israel" venture.

The National Council is comprised of representatives of all of the healthcare system stakeholders (e.g. hospitals, Health Plans, Israel Medical association) as well as academicians and digital experts. Members are selected based on their expertise, knowledge and experience rather than their organizational affiliation

2.4.2 Financing of eHealth investments

The majority of eHealth financing is at the Health Plan and Hospital level which have yearly budgets for both development and maintenance of their eHealth systems[3].

Investment at the national level is government financed.

Investment in eHealth innovation comes from a number of sources including government (the Ministries of Heath, Economy and Industry), the Israel Innovation Authority, venture capital, multinational corporations and international R&D such as the European Research Framework, US and Canadian R&D funds.

2.4.3 Defining and enforcing an interoperability framework

The Ministry of Health sets national interoperability standards such as coding systems for diagnoses and procedures, communication (e.g. FHIR), cloud computing and etc.

The National Health Information Exchange is a major instrument for defining and enforcing interoperability as all participants (health plans and hospitals) must conform to the interoperability standards of the Exchange.

In addition, there are local efforts between selected health plans and hospitals to improve and expand data sharing and communication.

2.4.4 Developing new, maintaining and improving eHealth building blocks

The approach to governance for developing "new" building blocks, as well as maintaining and improving existing building blocks is coordinated dialogue, collaboration and incentivisation between the three layers of the eco-system (national, healthcare provider and innovation).

The approach is "citizen –centred" at all 3 levels. New building blocks are developed to meet citizen needs and eliminate unnecessary bureaucratic hurdles in accessing healthcare services, by enabling clever and judicious use of existing and emerging digital technologies.

The Digital Health Division at the Ministry of Health works to identify legislative and regulatory roadblocks and to facilitate changes to eliminate them. The "Terminology" project will support interoperability by implementing SNOMED and ICD 11 as the new national coding systems. EITAN, the new and improved Health Information Exchange system will facilitate increased interoperability among healthcare organizations.

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[3] The amount allocated to eHealth in Health Plan budgets is at the total discretion and authority of each Health Plan.

Health Plans and Hospitals are constantly developing new services and applications in response to both citizen and health professional needs. An example of this is many of the developments during the past year due to COVID-19. The COVID pandemic accelerated the development and refinement of remote monitoring systems, teleconsultation, video visits, and their integration with existing eHealth systems such as EMRs and patient portals.

Already mentioned, bodies at both the national level and healthcare provider level act on an ongoing basis to guide these developments, be it the National Council for Digital Health and Innovation in Healthcare Services at the national level, or Steering Committees at the Health Provider Level.

2.4.5   Monitoring and evaluating eHealth service delivery

Israel's digital health development is under constant surveillance and evaluation at all levels All of the major Healthcare Providers (Health Plans and Hospitals) develop yearly plans and budgets for maintenance and development of eHealth that are systematically evaluated at years end.

Ongoing eHealth service delivery is monitored on an ongoing level and serves as the basis for these plans. At the Ministry Level, both the Ministry of Health and the Ministry of Economy and Industry evaluate the state of digital health development and implementation on a yearly basis.

Other bodies, such as "Start-Up Nation Central" shine the spotlight on digital health innovation and investments in new innovation in regular reports. Some examples of this are
- The Ministry of Economy and Industry's report : "Digital Health: The Israeli Promise[4]"
- Start Up Nation's report just published: "2021 A Strong Start to a Record Year for Israeli Digital Health Sector Funding"[5]
- A report published in June of this year by the Ministry of Health on "Digital Health Technology Evaluation for Health Organizations: An evaluation framework for early-stage technologies[6]".

2.4.6   Stimulating innovation in eHealth

It has already been emphasized in this report that Innovation in Digital Health in Israel is a national commitment to global leadership with multiple players from top government, healthcare providers to tech and industry partners. We have also described some of the mechanisms such as HealthIL , the 8400 network and grants from the Israel Innovation Authority as well as the Digital Health Division of the Ministry of Health.

As has already been mentioned, a major factor in stimulating innovation in digital health is **competition –** the level of digital health services is a strong drawing factor for choice of Health Plan and is becoming a consideration in choice of hospital as well.

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[4] https://www.gov.il/BlobFolder/generalpage/digital-health-guide-062021/he/files_publications_digital_health_digital-health-HTA-062021-en.pdf
[5] https://www.startupnationcentral.org/wp-content/uploads/2021/05/SNC-DH_report_Jan-April-2021-1.pdf
[6] https://www.gov.il/BlobFolder/generalpage/digital-health-guide-062021/he/files_publications_digital_health_digital-health-HTA-062021-en.pdf

2.5 Some historical retrospective - how the current state has been achieved / if doable?

The eHealth System organizational structure has been largely determined by its evolution. As described earlier, the eHealth system in Israel was Health Plan driven. When the Health Plans were implementing EHRs in the early 1990's, health IT was not on the Ministry of Health's radar. At that time, the Ministry was focused on:

- Driving the reform of the healthcare system that led to the National Health Insurance Law of 1995
- Managing the Ministry owned acute care hospital system
- Prevention – Vaccinations and maternity and Child Healthcare
- Licensing and Certification
- Regulation

Prior to the implementation of the National Health Insurance Law, the Health Plans were completely autonomous organizations accountable primarily to Boards of Directors comprised of representatives of its members and healthcare professionals and highly competitive with each other.

The decision to develop and implement organization-wide electronic medical records didn't require the approval of the Ministry of Health. The databases needed however to be registered with the national database authority.

Organization-wide EMRs were fully functional in the Health Plans by 1995, beginning first with GPs and gradually extending to all specialists in community clinics. They were developed collaboratively with the doctors to support their workflow and provide additional value to them. At the same time, some Hospital departments began to implement pilot EMRs

In 1998, the Ministry initiated the Namir system – a computerized ATD system for MOH owned hospitals. Clalit developed its own system for its hospitals. Health plans continued to develop, and expand their EMRs making them more sophisticated. They computerized all of their clinical systems, linked to the EMR, expanding into telemedicine (starting with teleradiology), electronic prescriptions, and computerized physician order entry for all aspects of care. They also implemented clinical decision support systems. Hospitals implemented central medical records in the first decade of 2000. In 2004 the Clalit Health Plan implemented a web-based Health Information Exchange system between its hospitals and primary care.

In 2010, at a national meeting of all of the stakeholders and the Ministry of Health, there was consensus not to develop a national EMR system but rather to build a National Health Information Exchange, supporting the concept of data sharing within a decentralized system. The Ministry of Health took on leadership of the process and it was decided to use the Clalit prototype. The National HIE was implemented in 2015. An upgraded Exchange is in the final stages of national implementation in 2021.

From an organizational structure perspective, the Ministry of Health began to exercise proactive leadership and coordination in the eHealth system on a national basis in about 2004. Initially there was a joint department of digital health and computerization that dealt with the computerization of the Ministry as well as projects for the broader system

In 2011, this department began to dynamically focus on promoting eHealth innovation nationally. In 2018 a dedicated division for Digital Health was created in the Ministry of Health.

2.6   Successes and what could be done better?

Being among the earliest adopters of eHealth at an organizational and national level has been an advantage and a disadvantage. The advantages included the ability of implementing organizations to work with a single vendor and avoiding the difficulties many countries experience in trying to rationalize a multi-vendor system. On the other hand, Israel invested heavily in older technology infrastructures, that have been a limiting factor that is now requiring significant investment to overcome.

However, Israel has achieved a culture of innovation that continuously propels digital health forward. Part of this has been achieved by not burdening the system with limiting legislation and regulation and conversely, implementing enabling legislation and regulation.

Competition in digital health among healthcare providers has been a significant factor that could be emulated elsewhere. This requires finding the optimum balance between standardization and innovation.

Israel has clearly been a leader internationally in in the digitalization of all of its healthcare systems, both clinical and administrative. 100% of healthcare professionals have been using shared electronic medical records for over 25 years. This has given Israel a huge data repository leading to rapid advances in "big data" analytics, cognitive computing and artificial intelligence

Israel has been a leader in providing citizen access to medical information and the provision of virtual services such as e-prescription, e-referrals, online appointments and online messaging with clinicians, increasingly through mobile technology. Israel has been a pioneer in telemedicine and its telemedicine infrastructures enabled rapid deployment of new remote care services during the COVID-19 pandemic.

Nonetheless, Israel needs to accelerate the use of telehealth and telecare, including remote patient monitoring, and video consultations. While there were significant advances in these areas because of COVID, and the required technologies are available and have been in use for years, there remains much to do at the "cultural" level.

Israel is an example of a successful bottom-up, decentralized eHealth system which has become increasingly coordinated and integrated at the national level, but without stifling local initiative. Competition among Health Plans and among hospitals for digital excellence has been and continues to be a powerful driver for ongoing development and innovation The Ministry of Health has developed its governance processes wisely to use what already exists in the best possible way and to build on it, not replace it. This approach is supporting, facilitating and driving rapid acceleration in eHealth innovation, digital transformation of the healthcare system and services and advancing new medical and healthcare breakthroughs.