

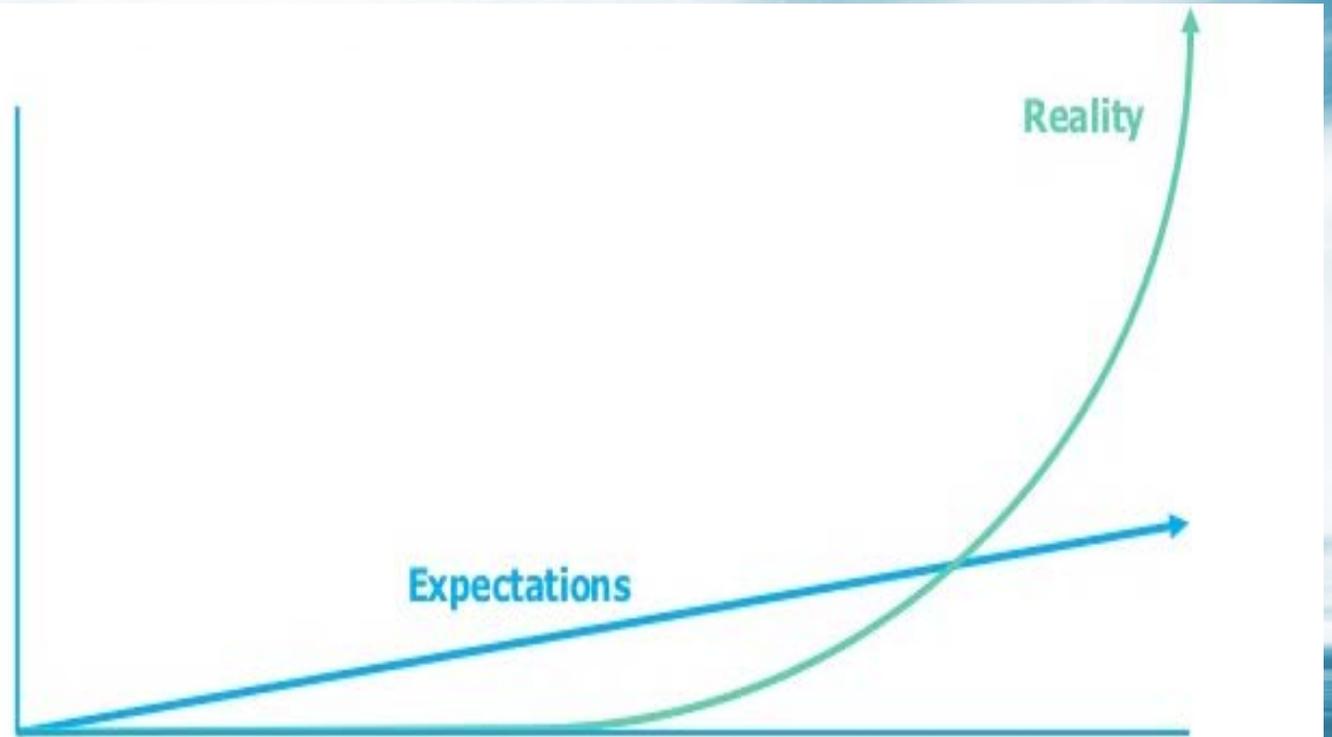
Digital Health Transformation: The Israeli Experience



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Digital transformation is not like any other organizational change:

Expectation are Linear,
Reality is Exponential





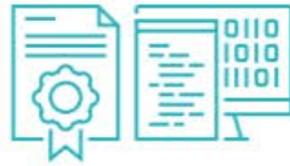
“We always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next ten”
(Bill Gates)

The Israeli Digital Health Ecosystem in 2018



537

innovative Digital Health companies



Over 25

years of digitalized accumulated EMR



Market players:
4 HMOs,
servicing the entire
~9M population



~100

active investors in
the sector with an
Israeli presence



Multinationals:
32
with exposure
to Digital Health



Hubs, including hospitals & HMOs innovation platforms:
23 Digital Health hubs,
including 11 accelerators



Incubators:
4
industry
focused

Digital Health as a growth engine

~1 billion NIS 2018-2022

The Israeli health system will be **one of the world leaders** in digital health solutions

Clinical and academic research will be promoted in Israel in the field of digital health

The Israeli digital health industry will be a **national growth engine** and a hub for global innovation



משרד הכלכלה



משרד ראש הממשלה



משרד הרושפים



משרד
הבריאות

חיים בריאים יותר



המשרד לשיווק חברתי
מטה ישראל דיגיטלית



משרד האוצר

System Transformation

Clinical Transformation

Human
Centered Care



Sustainable
Healthcare

System Transformation

Clinical Transformation

Human
Centered Care



Sustainable
Healthcare

Electronic Medical Records and More...

System Transformation

Clinical Transformation

Human
Centered Care



Sustainable
Healthcare

Research – Secondary Use of Clinical Data, i.e. Big Data, Analytics

Electronic Medical Records and More...

System Transformation

Clinical Transformation

Human
Centered Care



Sustainable
Healthcare

Care - Primary Use of Clinical Data

Research – Secondary Use of Clinical Data, i.e. Big Data, Analytics

Electronic Medical Records and More...

System Transformation

New Care Delivery Models
New Collaborations
New Professions & Skills



Clinical Transformation

Personalized
Predictive
Preventive
Proactive

Care - Primary Use of Clinical Data

Research – Secondary Use of Clinical Data, i.e. Big Data, Analytics

Electronic Medical Records and More...

System Transformation

Human
Centered Care



Sustainable
Healthcare

Clinical Transformation



Policy



Incentives



Infrastructure

Care - Primary Use of Clinical Data

Research – Secondary Use of Clinical Data, i.e. Big Data, Analytics

Electronic Medical Records and More...

Primary use of clinical data

Primary use is when health data is used to deliver health care to the individual from whom it was collected

Policy

Cloud

Telemedicine

PHR



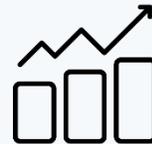
Incentives

Challenge Tender

Pilots Program

Dev. & Imp.

Telemedicine



Infrastructure

Eitan:HIE

FHIR

Terminology

Open EMR

Patient ER app





Policy

Telemedicine Standards for remote healthcare



Creates **regulatory framework** for telemedicine services, including evaluation of services for remote delivery and guidance on clinical fields requiring in-person care



Prohibits decreases in in-person care and clinics as a result of telemedicine services



Allows HMOs **to charge patients a copay fee** for telemedicine services, similar to that of in-person services



Incentives



Health organizations as a sub-contractor of the industry

In 12 months:

54 pilots

30 health organizations

Total value: 40 million Euros

Gov't Fund: 17.5 million Euros



For every ILS of government support, private companies invest 2-3 ILS in partnerships with Israeli health organizations

Encouraging Partnerships:
Pilots Program



Infrastructure

Interoperability Infrastructure: Health Information Exchange

“Eitan” platform allows exchange of clinical information between all health organizations

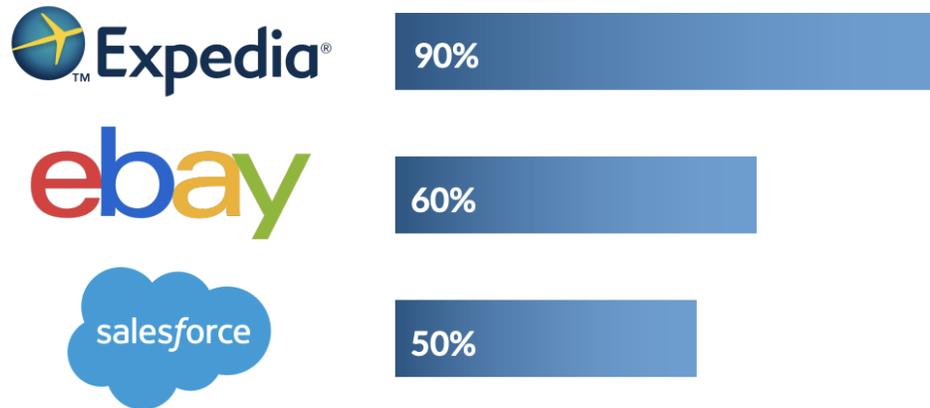
Improve continuum of care



Infrastructure

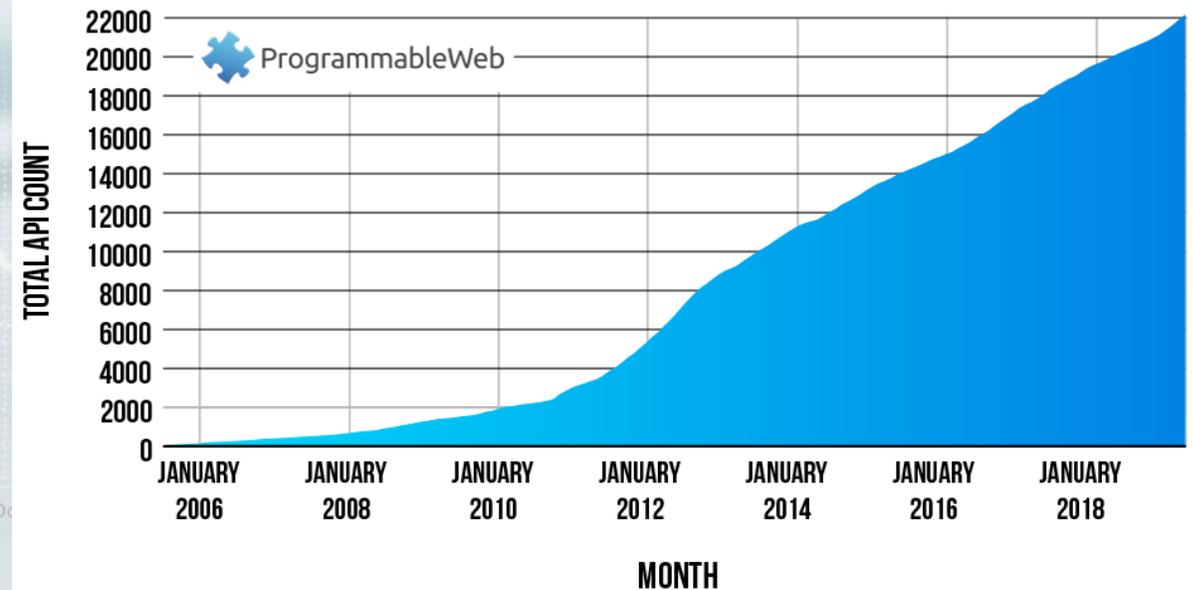
The next generation of interoperability: from closed to open systems

Percentage of Revenue Generated Through APIs



Source: Harvard Business Review, The Strategic Value of APIs

GROWTH IN WEB APIS SINCE 2005





Infrastructure

The next generation of interoperability: from closed to open systems

The overarching goal: leapfrog in the ability to share and use information for the benefit of patients, therapists and researchers

Key Factor:  **FHIR** Community

- Open standards & open source tools
- Work on clinical and operative needs that are coming from the field
- Building trust between developer community and the medical community

Terminology

Changing the way we store and use clinical data



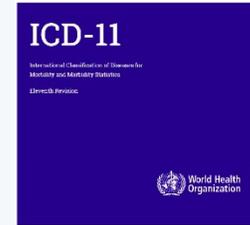
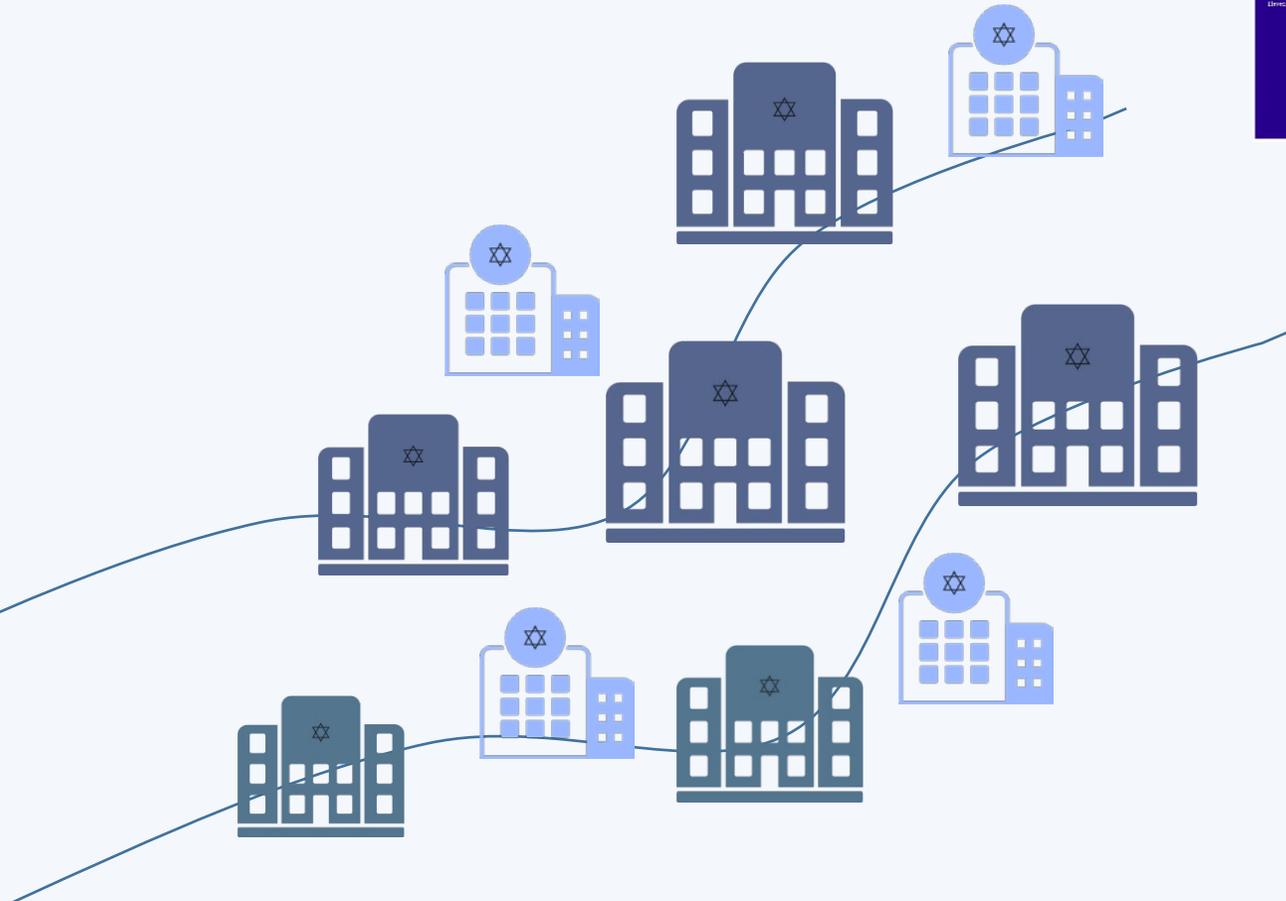
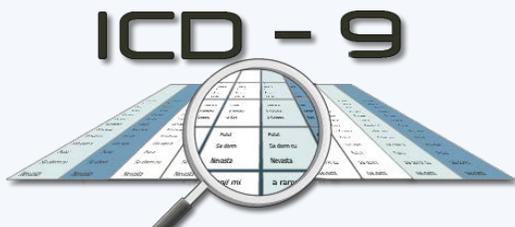
Policy



Incentives



Infrastructure



Secondary use of clinical data

The use in research of information or human biological materials originally collected for a purpose other than the current research purpose



Policy

Secondary use regulation

Digital Signature
AI in Healthcare



Incentives

Support of Research Infrastructure

Research Grants (IPMP)



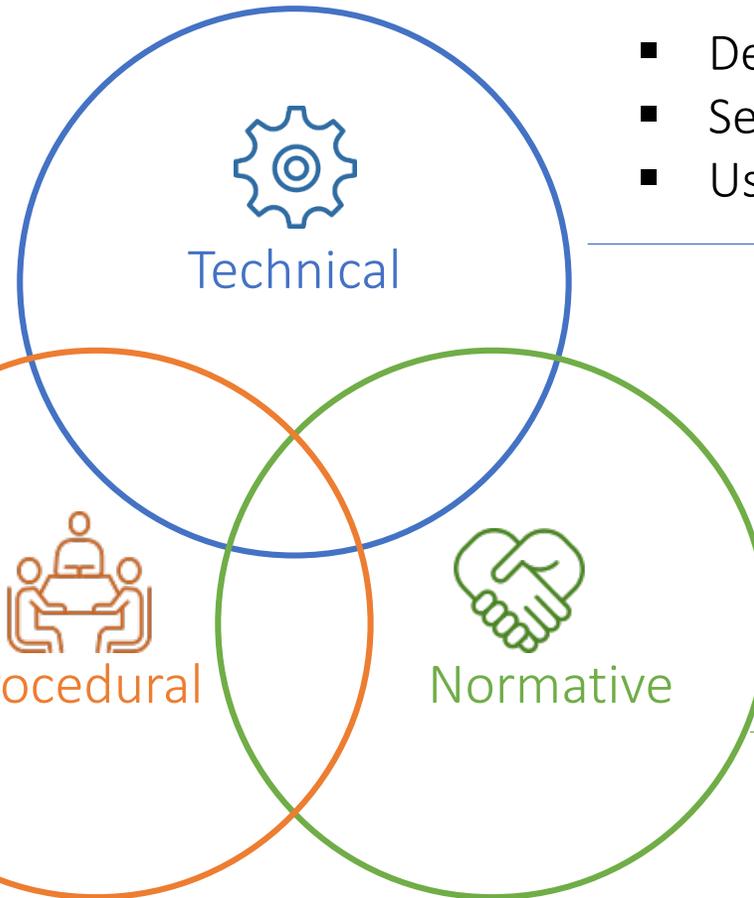
Infrastructure

Timnna

Mosaic (Psifas)



Secondary Use of Clinical Data Regulation



- Certificate Mechanism
- Transparency
- Organizational Policies and Procedures

- De-identification
- Secure Environment
- Users Control

- Opt Out Mechanism
- Data Use Agreements

Clinical data can be re-identified, assuming enough time & resources; A multi-layer mechanism that could protect patient privacy according to the use propose



Incentives

Financial Incentives Program



To encourage health organizations to develop their own plan for improving access to clinical data for research



Infrastructure



HR

26 organizations applied to the program:
22 hospitals and 4 HMOs



Total amount awarded: 10 Million Euros
Total program cost: 17 Million Euros



Infrastructure

Timnna: Big Data Research Platform

The “Timna” platform offers researchers a secure, virtual environment for big data research



Infrastructure

Timnna: Big Data Research Platform



E2E Solution

available for health organizations



Operative Environment

on going process;
deployment, national future use



Customized Service Bundle

data scientists, epidemiologists,
de-identification, storage, NLP,
image processing



Joint Effort

MOH full support on regulatory aspects,
technology and policy

What are the next Challenges?

How will health organization capture the potential?

Should we regulate non-health organization?

Should we have a new definition of Health organization?

Can we rely on informed Consent ?

Would be happy to continue the conversation:
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Thank you

2019 This Is What Happens In An Internet Minute

