#Imagining2029

EHTEL

Collaborating for Digital Health and Care in Europe

Health data ecosystems for integrated care: A new blue ocean

Digital Integrated Care Task Force Virtual Workshop

22/06/2020

@ehtel_ehealth

Digital Integrated Care Task Force Virtual Workshop

Health data ecosystems for integrated care: A new blue ocean

22 June 2020 | 15-16:30 CET | Online

Digital Health Europe | InteropEHRate EHR in people's hands across Europe | Scirocco | EHTEL Collaborating for Digital Health and Care in Europe

Welcome and introduction

Tino Martí and Diane Whitehouse – EHTEL

More than 100 registrations from more than 20 countries

Multistakeholder community

13% Health authorities and eHealth competence centres

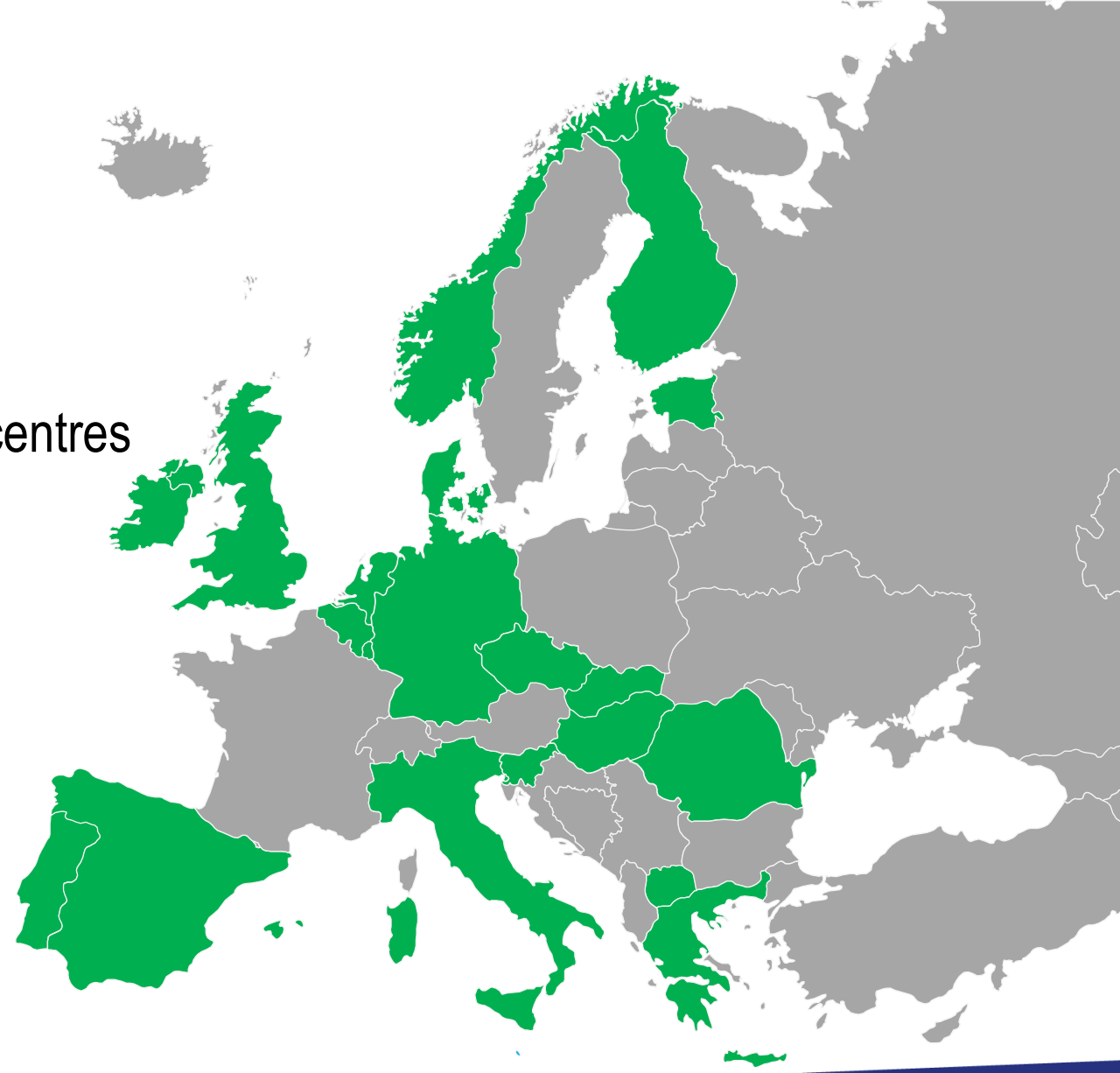
21% Health and care providers

18% Technology industry

18% Universities and research centres

11% International networks and associations

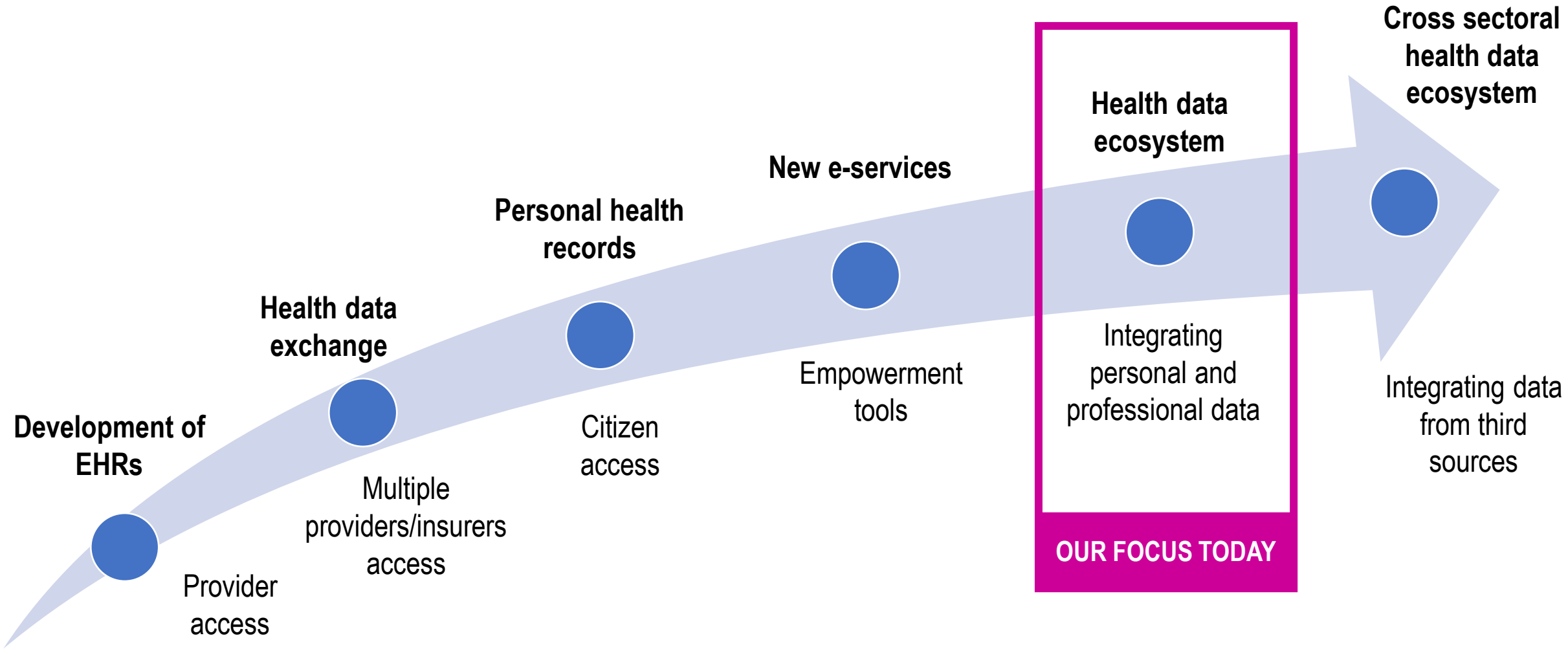
19% Others

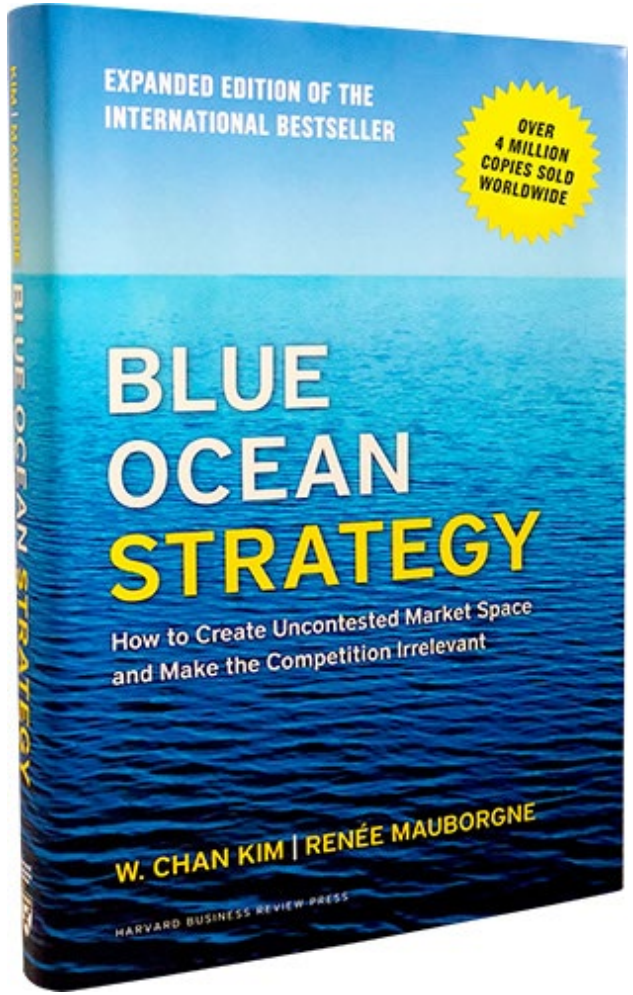


Digital Health Europe | InteropEHRate EHR in people's hands across Europe | Scirocco

EHTEL
Collaborating for Digital Health and Care in Europe

BUILDING HEALTH DATA ECOSYSTEMS FOR INTEGRATED CARE





Red oceans are all the industries in existence today – the known market space.
In red oceans, industry boundaries are defined and accepted, and the competitive rules of the game are known.
As the market space gets crowded, profits and growth are reduced.
Products become commodities, leading to cutthroat or 'bloody' competition.

Blue oceans denote all the industries not in existence today – the unknown market space.
In blue oceans, demand is created rather than fought over. There is ample opportunity for growth that is both profitable and rapid.
Competition is irrelevant because the rules of the game are waiting to be set.

Goals

1. Explore what **health data ecosystems** are and how can be built to benefit health and care integration
2. Identify the **building blocks and steering elements that frame a health data ecosystem** (data protection, standards, business and governance models).

Agenda

Welcome and introduction
Presenter: Tino Martí and Diane Whitehouse (EHTEL)
Time: 5 minutes

Health data ecosystems as a new blue ocean
Presenter: Saara Malkamäki (SITRA, Finland)
Time: 15 minutes

Use cases of health data ecosystems in action
Presenter: Rachelle Kaye (ASSUTA Medical Centres, Israel)
Time: 20 minutes

Wrapping up for discussion
Live poll
Time: 5 minutes

Discussion
Time: 40 minutes

Conclusions
Key messages of the workshop and announcement of next sessions.
Time: 5 minutes

GoToMeeting ▾ REC

Talking: Tino Marti

View Everyone

7 8

ML

TM

DW

Marc Lange (FHTEL)

Tino Marti

Diane Whitehouse

PROJECT REVIEW

5. Recommendations concerning future work, if applicable

CR1.R04: Most of the deliverables follow a 3-iteration approach and there is no indication of what will be covered in each iteration. In that sense it is not easy to judge whether a deliverable version is complete. It is recommended that a matrix with these deliverables, iterations and expected advancements from one iteration to the next one, be delivered.

- **D8.8 Governance model – V1** [M18 – June 2020]
- **D8.9 Governance model – V2** [M36 – December 2021]

Tino Marti is presenting

Mic Camera Screen Leave

44%

Health data ecosystems as a new blue ocean

Saara Malkamäki – SITRA, Finland

Health Data Ecosystems as a New Blue Ocean

Saara Malkamäki
Specialist, IHAN project
Sitra – the Finnish Innovation Fund

saara.malkamaki@sitra.fi
@saara_malkamaki

SITRA

Sitra in a nutshell

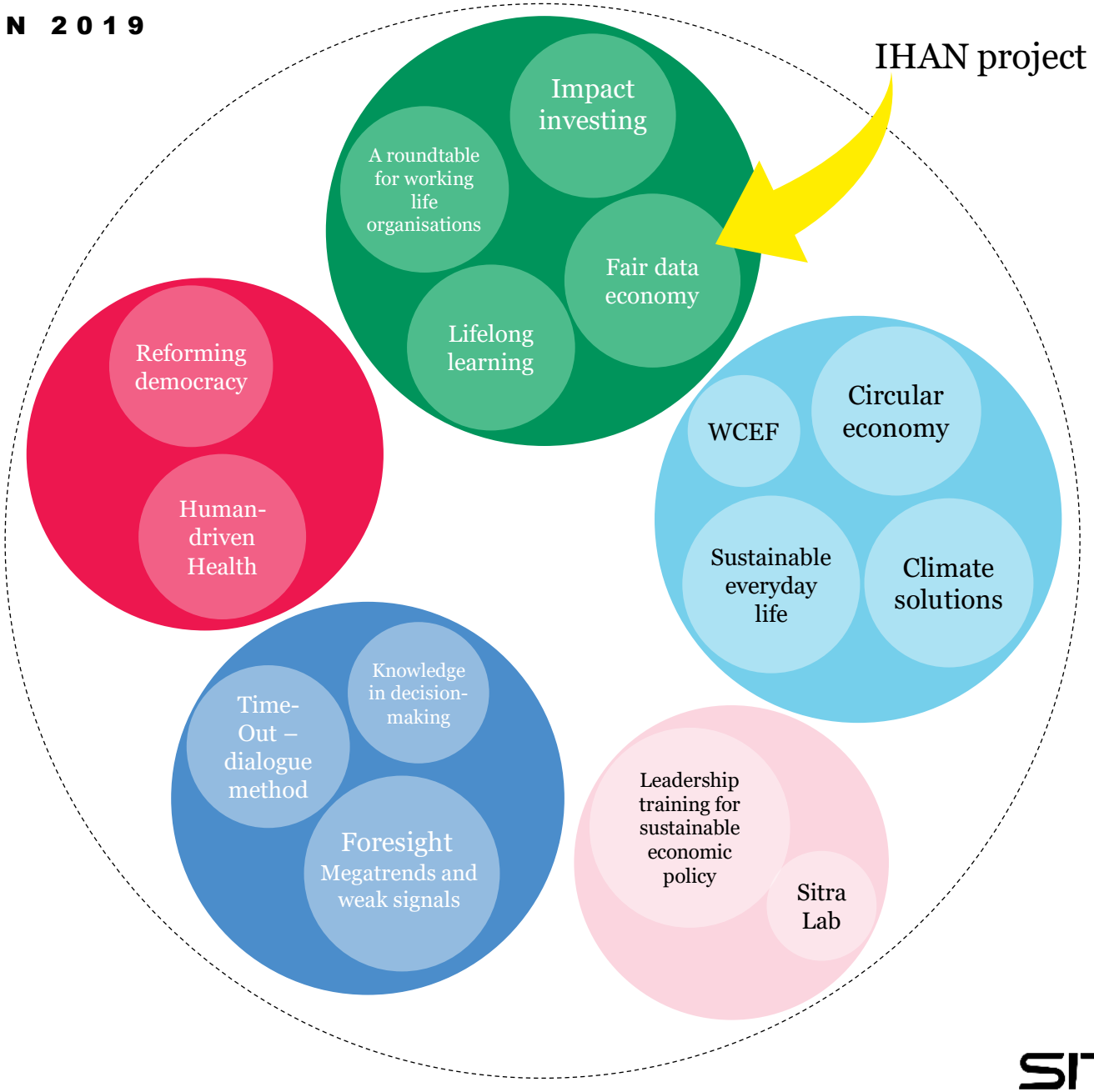
1. A gift from Parliament to the 50-year-old Finland 51 years ago. Under the direct control of the Finnish Parliament.
2. A think, do and connect tank. An independent future house.
3. Works towards a fair and sustainable future.
4. Funded by returns on endowment capital and capital investments.
5. The vision is implemented by three themes and hundreds of projects.

+ the most important of all

Building our future *together*.

SITRA'S FUTURE-ORIENTED WORK IN 2019

- **FORESIGHT**
- **SOCIETAL TRAINING**
- **A CARBON-NEUTRAL CIRCULAR ECONOMY**
- **CAPACITY FOR RENEWAL**
- **NEW WORKING LIFE AND A SUSTAINABLE ECONOMY**



SITRA

IHAN® project

- Building the foundation for a **fair** and functioning **data economy** and creating a common **concept for data sharing**.
- Setting up **European level rules and guidelines** for fair use of data.
- **Piloting** new concepts based on personal data in **collaboration** with pioneering **businesses**.
- Developing an easy way for **individuals** to **identify reliable services** that use their data in a fair way.

- Project started 4/2018 and it runs until (6/2021)

SITRA

ONE OF SITRA'S IHAN PROJECT OBJECTIVE IS TO PROMOTE THE DEVELOPMENT OF DATA ECOSYSTEMS AND PARTNERSHIPS AND TO FIND ENTITIES WHO BUILD BUSINESS PILOTS IN ACCORDANCE WITH IHAN PRINCIPLES.

Content

1. - What is a data ecosystem?
2. - How value is created in a data ecosystem?
3. - An example of a data ecosystem

Content

1. - What is a data ecosystem?
2. - How value is created in a data ecosystem?
3. - An example of a data ecosystem

SITRA

ECOSYSTEM
DATA ECOSYSTEM
HEALTH DATA ECOSYSTEM

SITRA

Some definitions

There are probably almost as many definitions of an ecosystem as there are definers.

Ecosystem

A network of businesses thought to resemble an ecological ecosystem because of its complex interconnected components

Data ecosystem

A group of entities that want to create new business by sharing data with each other (IHAN)

Data is shared with the individual's permission and according to the rules set in the data ecosystem's rulebook.

Health data ecosystem

"Beyond traditional sources of data generated from health care and public health activities, we now have the ability to capture data for health through sensors, wearables and monitors of all kinds." (WHO)

Global ecosystem perspective

SITRA

FROM EGOSYSTEM TO ECOSYSTEM

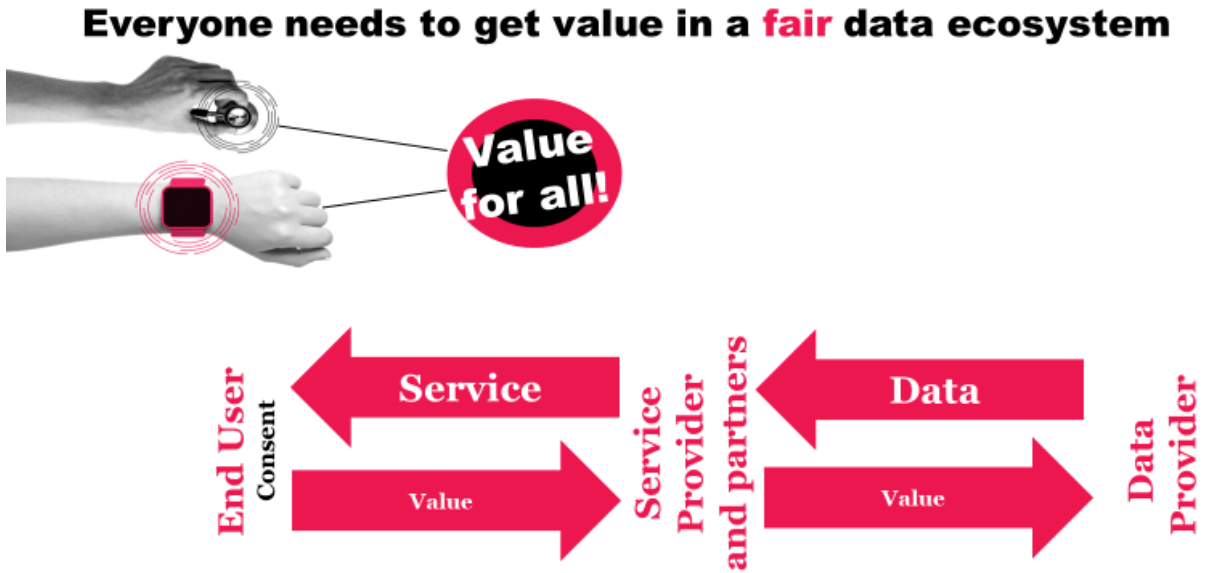
SITRA

A successful ecosystem arises from a vision that all members want to achieve,

but that no one can achieve alone

What makes an ecosystem successful?

- The criterion for success is that the members of the ecosystem understand the value produced jointly and agree to act according to common rules
- An ecosystem that follows fair rules creates value for all participants
- Participating organisations need to decide on the model and role they will participate in the ecosystem in order to get the most out of it



Content

1 - What is a data ecosystem?

2 - How value is created in a data ecosystem?

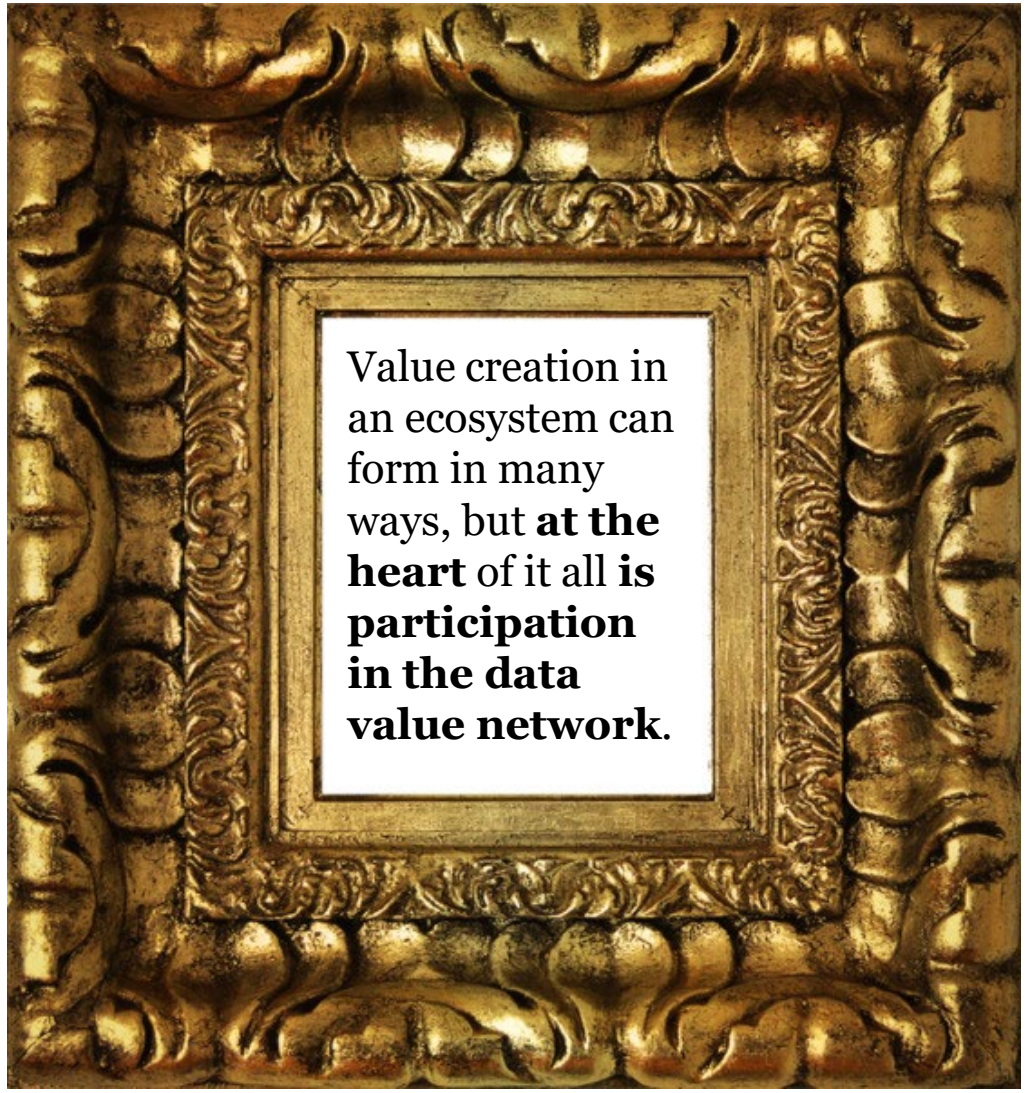
3 - An example of a data ecosystem

SITRA

Value creation in an ecosystem can form in many ways

- The potential for value creation in the ecosystem business model is greater than in the traditional environment:
  - Access to a wider range of capabilities than a single organisation
  - Ability to scale activities quickly
  - Flexibility and resilience

NB! the complexity increases when moving from value chains to value networks



SITRA

Data economy is evolving in two, partly contradictory directions

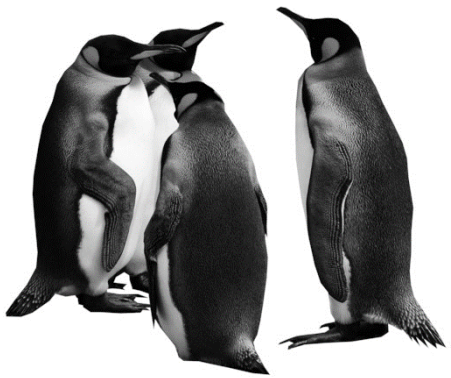
Data is a strategic resource that can be used to create significant value - **Data protection** needs are growing

Organisations increase collaboration and interdependence – **Data sharing** needs are growing

- The more information is shared and used, the more its value and the risks of sharing increase
- Data ecosystems provide a secure environment for sharing data
- Data can be shared more freely, transparently and safely
-

We are so much more together!

I don't want to share data.



SITRA

The data ecosystem forms a strong link between its partners

- In the data ecosystem, the raw material = data, is processed into services
- There are many different reasons to form a data ecosystem, but most often the goal is to:
  - Reduce costs
  - Optimise operations
  - Create new services
  - Get access to limited information and/or expertise
- By sharing and processing data new innovations, business, collaboration opportunities and better services and products can be created
- Ecosystem partners need to
  - Have sufficient common goals and business models
  - Be reliable and willing to cooperate
  - Follow common rules

Check Sitra's data ecosystem rulebook.

Roles in a data ecosystem

Leader (s)

Entities who drive the vision and realisation of the data ecosystem to function. Takes the lead role (can be temporary) in coordinating the data ecosystem.

External stakeholders

Entities that have a specific interest in the data ecosystem success.

Business enabler (s)

Entities providing services to the data ecosystem but do not share data in the ecosystem.

End-user (s)

Entities interested in consuming, utilizing, accessing the value that is created in the data ecosystem.

Service provider (s)

Entities interested in creating value by providing services to end users.

Partner (s)

Entities interested in creating value by providing services to service providers.

Data sources

Entities interested in creating value by providing data to the ecosystem.

Technical enabler (s)

Entities providing services for identity, consent management, logging, and service management for the data ecosystem. Can act as system integrators between ecosystem members if needed.

Content

1 - What is a data ecosystem?

2 - How value is created in a data ecosystem?

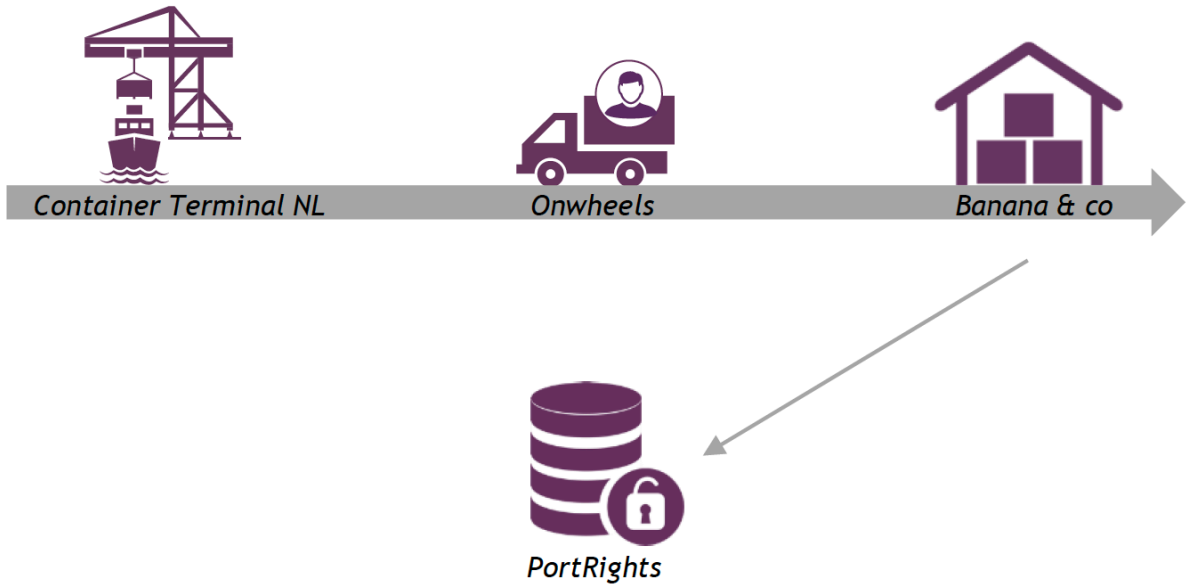
3 - An example of a data ecosystem

iShare – Harbour Logistics

iSHARE is a uniform set of agreements or scheme that enables organisations in the logistics sector to give others access to their data, including new and previously unknown partners. In addition to reducing integration costs, iSHARE offers organisations new opportunities to monetise currently untapped data assets.

Source: Innopay: https://www.innopay.com/en/ishare

Harbour Logistics – accessing container data

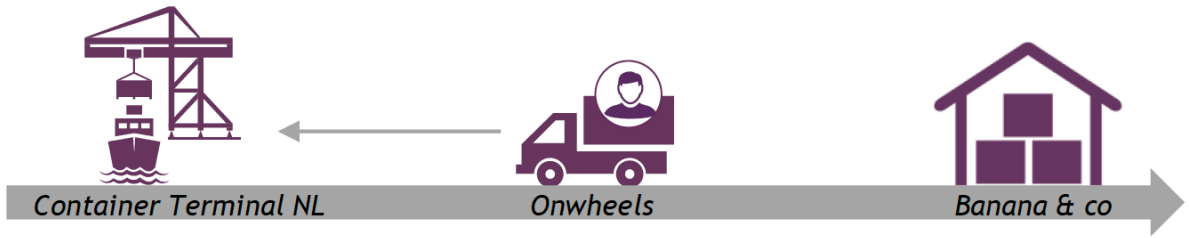


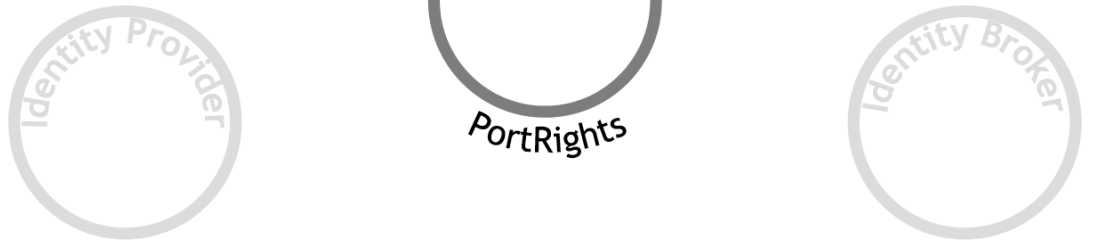
*"I (*Banana & Co*) delegate the rights to access data regarding containers X, Y and Z on my behalf to 'OnWheels Corp.'"*

Source: Innopay

SITRA

Harbour Logistics – accessing container data

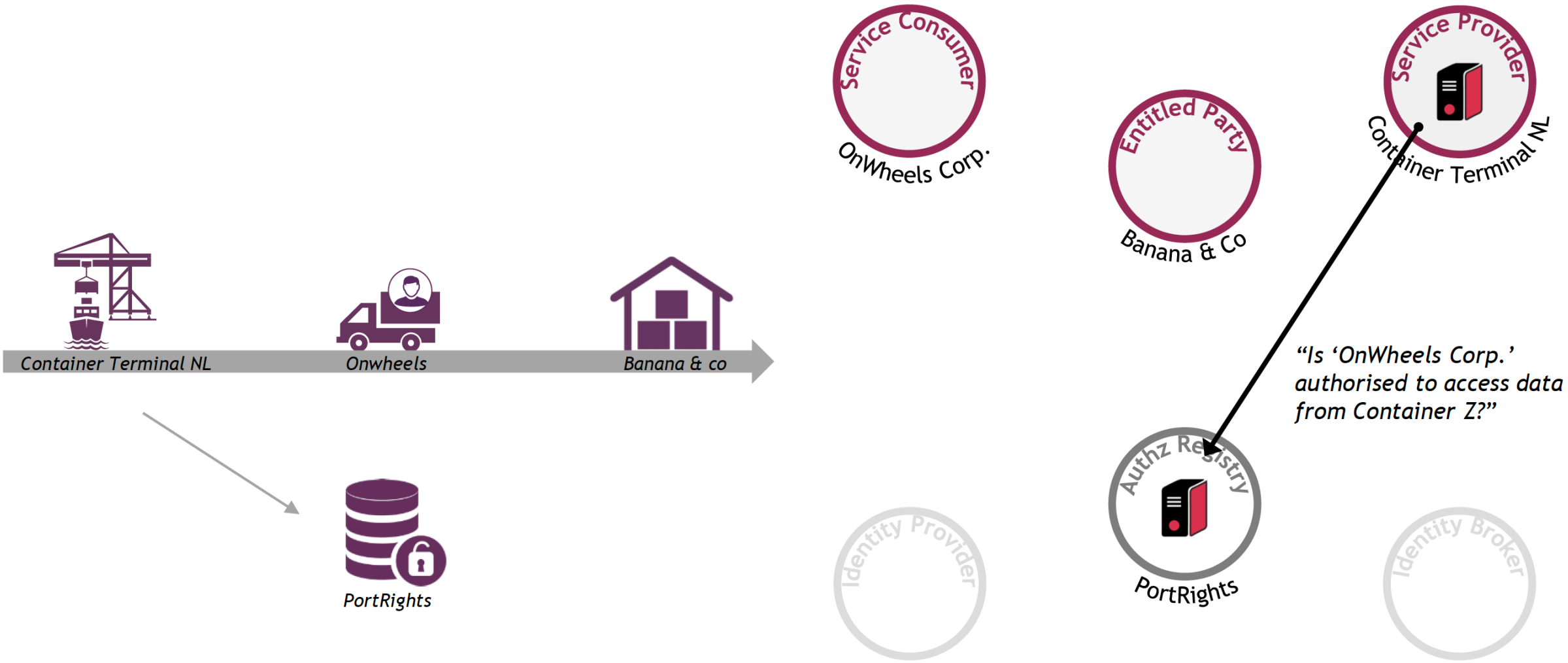




Source: Innopay

SITRA

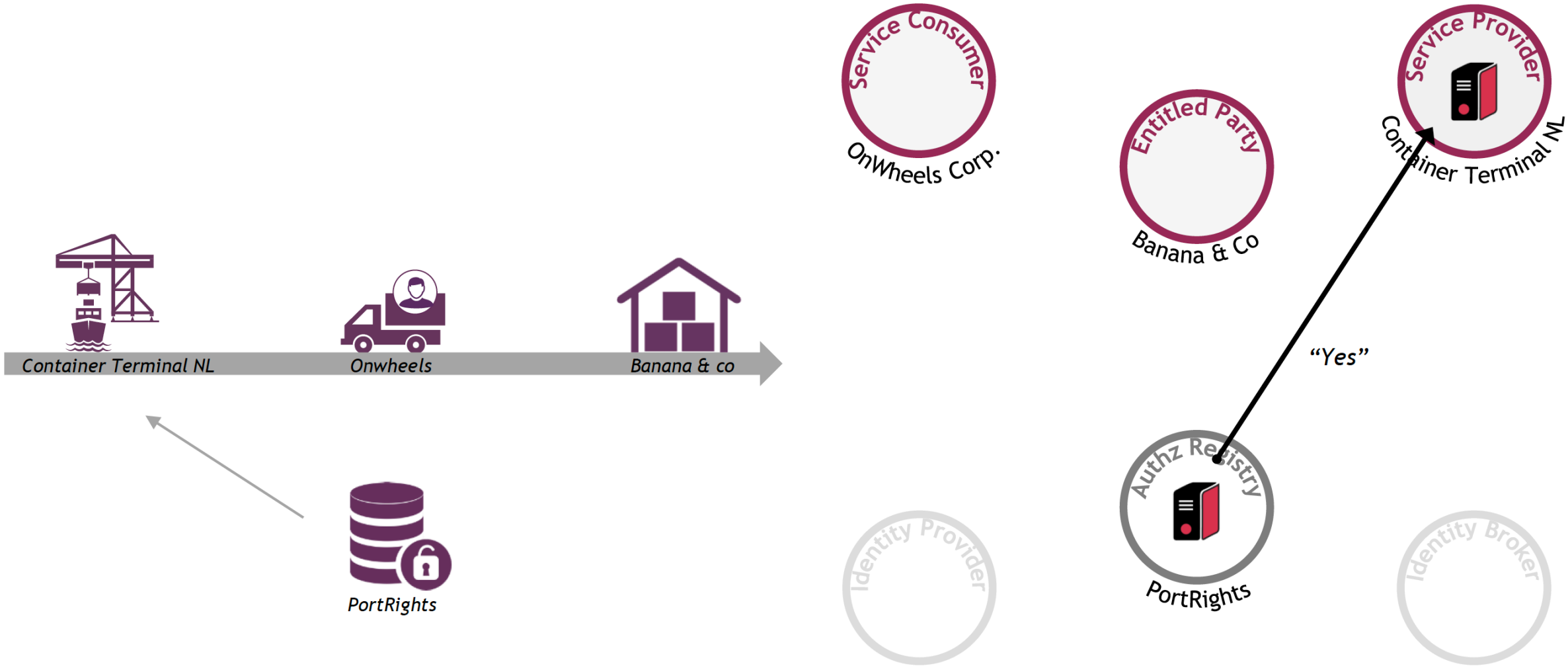
Harbour Logistics – accessing container data



Source: Innopay

SITRA

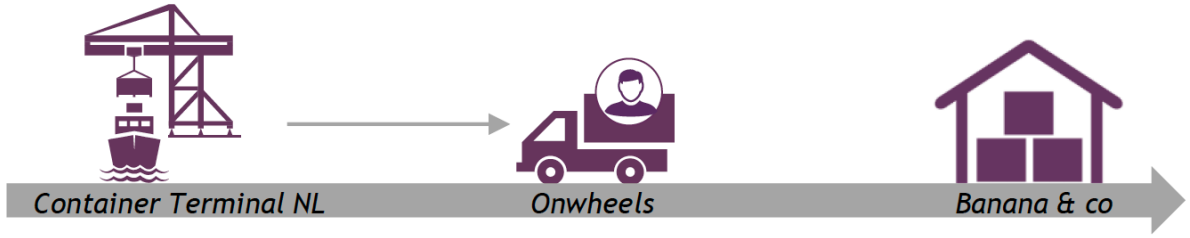
Harbour Logistics – accessing container data

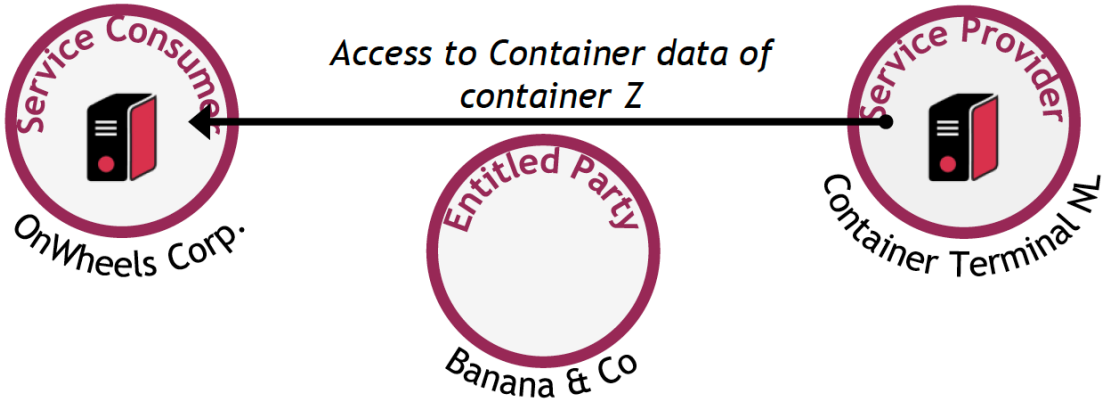


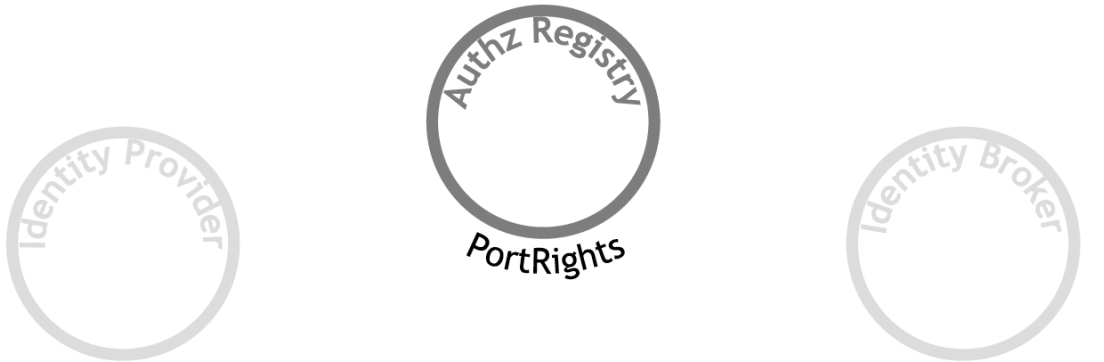
Source: Innopay

SITRA

Harbour Logistics – accessing container data







Source: Innopay

SITRA

Summary

- There are many definitions of an ecosystem
- A successful ecosystem arises from a vision that all members want to achieve, but that no one can achieve alone
- The potential for value creation in the ecosystem business model is greater than in the traditional environment
- Data economy is evolving in two, partly contradictory directions - the more information is shared and used, the more its value and the risks of sharing increase
- The data ecosystem forms a strong link between its partners and a secure environment for sharing data

SITRA

RISE TO SHINE!

sitra.fi
@sitrafund

SITRA

PLEASE SIGN TO OUR IHAN NEWSLETTER TO GET INFORMATION ON OUR FAIR DATA ECONOMY PROJECT:

https://www.sitra.fi/en/topics/fair-data-economy/#newsletter

+ tick a box "IHAN® – Human-driven data economy

SITRA

Use cases of health data ecosystems in action

Rachelle Kaye – Assuta Medical Centres, Israel

An Israeli Data Ecosystem

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

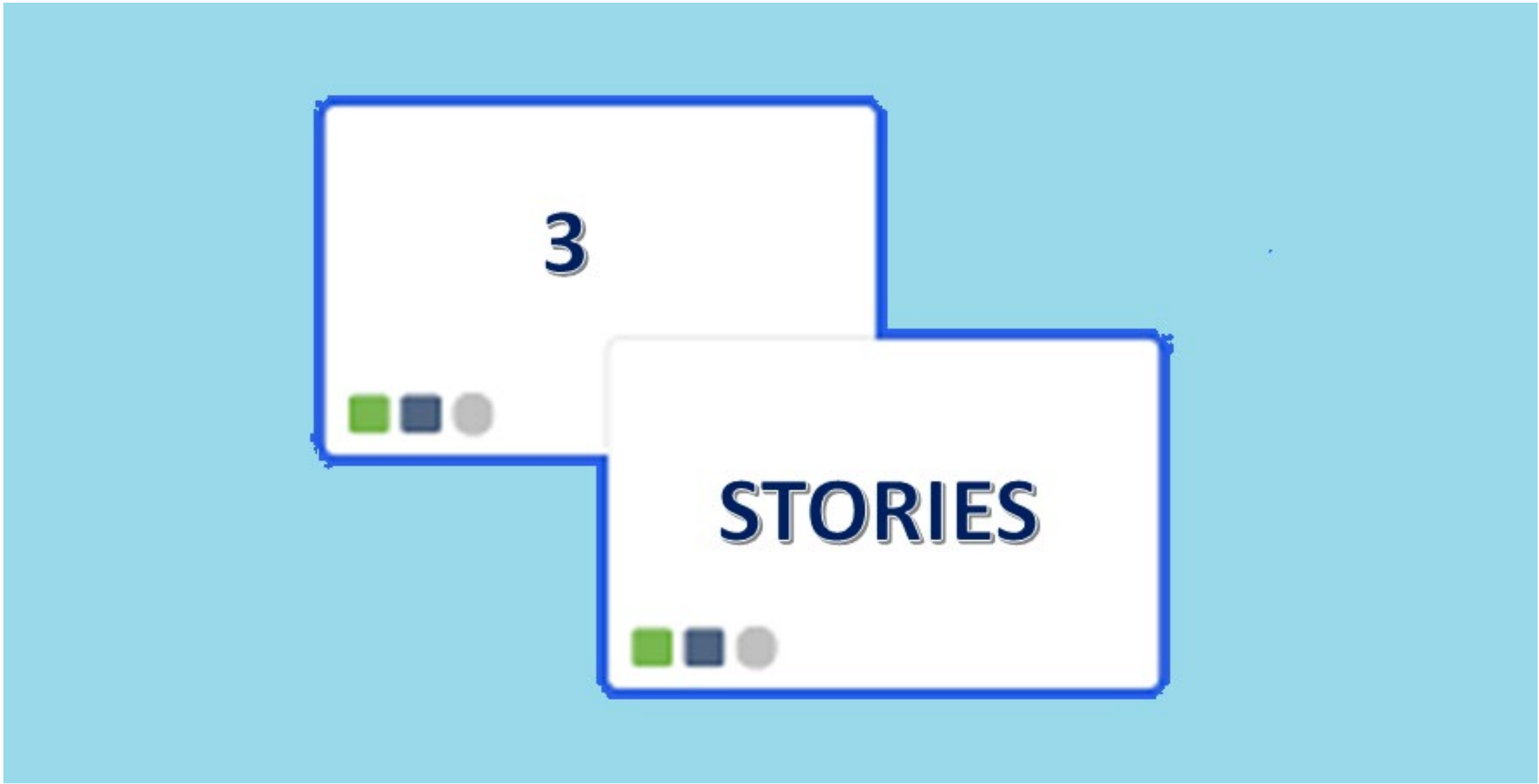
~100
active investors in the sector with an Israeli presence

Multinationals:
32
with exposure to Digital Health

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

Incubators:
4
industry focused

Government:
~$300M National Digital Health Plan supports industry development


3
STORIES

Story 1

CONNECARE

Assuta and Maccabi – Partners in CONNECARE

CONNECARE

an H2020 project on digitally supported integrated care with a joint consortium of 9 partners from 5 European countries

Collaboration for digitally enabled Integrated Care

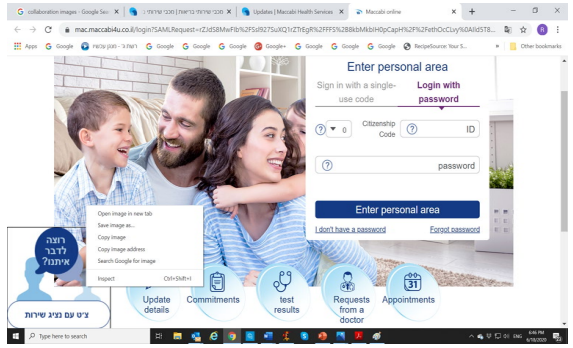
Maccabi Healthcare Services

UNIVERSITY HOSPITAL ASSUTA Ashdod
TAKING CARE OF THE COMMUNITY

DIGITAL MATURITY

- Central Electronic Medical Record
  Every transaction computerized
- E - Laboratory
- E - Prescription
- E - Consultation
- E - visits
- Decision support - Alerts and Reminders
- Registries
- Patient portal – access to information, interaction with doctors, alerts, reminders, appointments

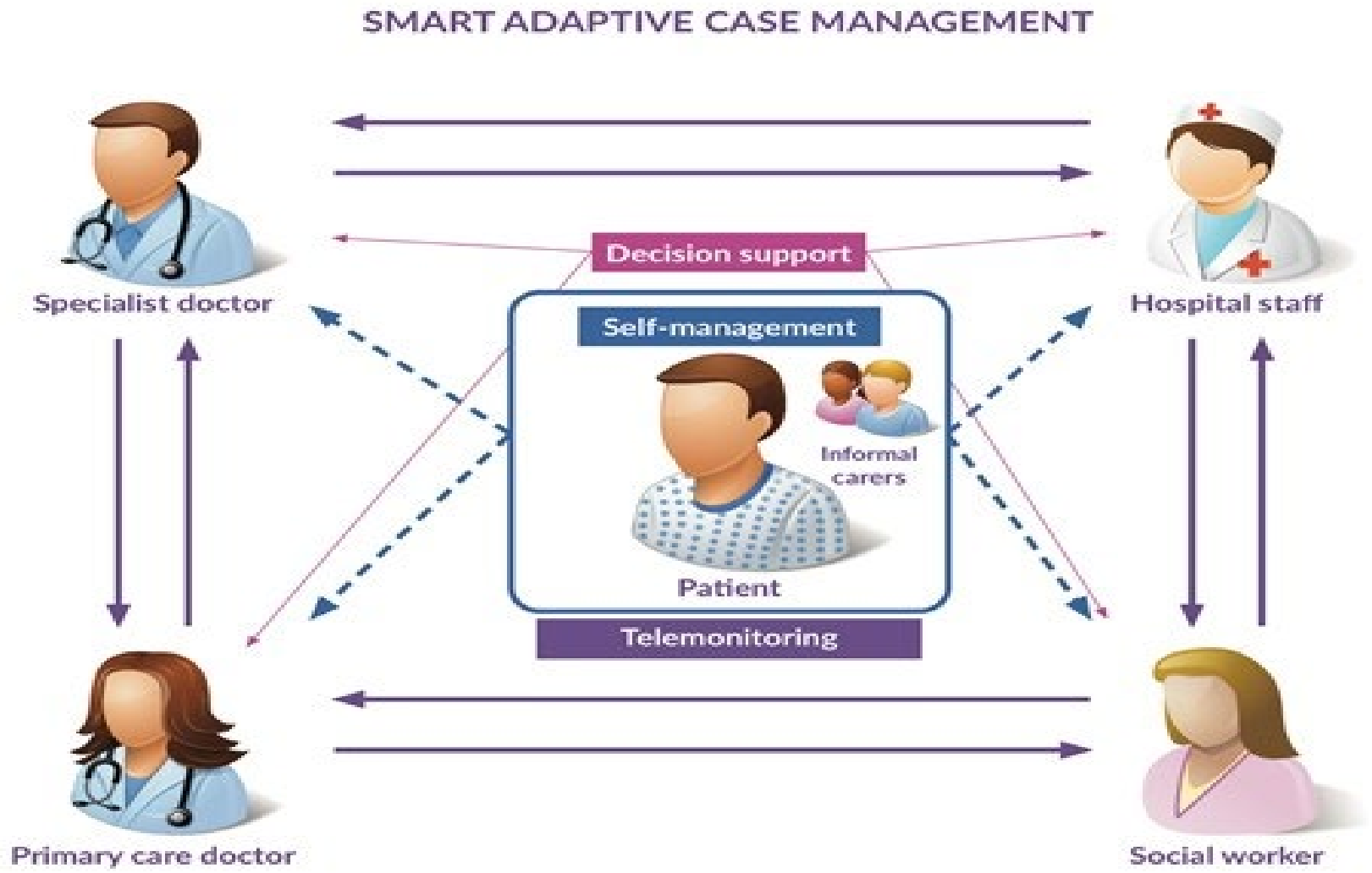
Maccabi Healthcare Services



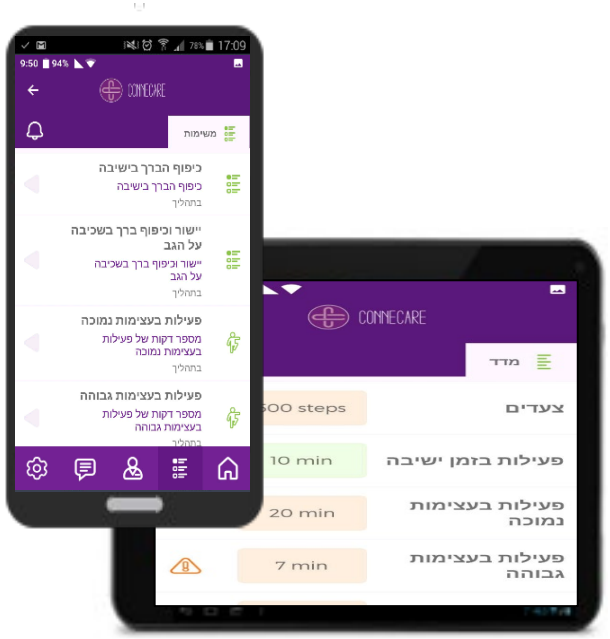
https://www.medscape.com/viewarticle/882873

UNIVERSITY HOSPITAL Assuta Ashdod
TAKING CARE OF THE COMMUNITY

THE CONNECARE INTEGRATED CARE MODEL



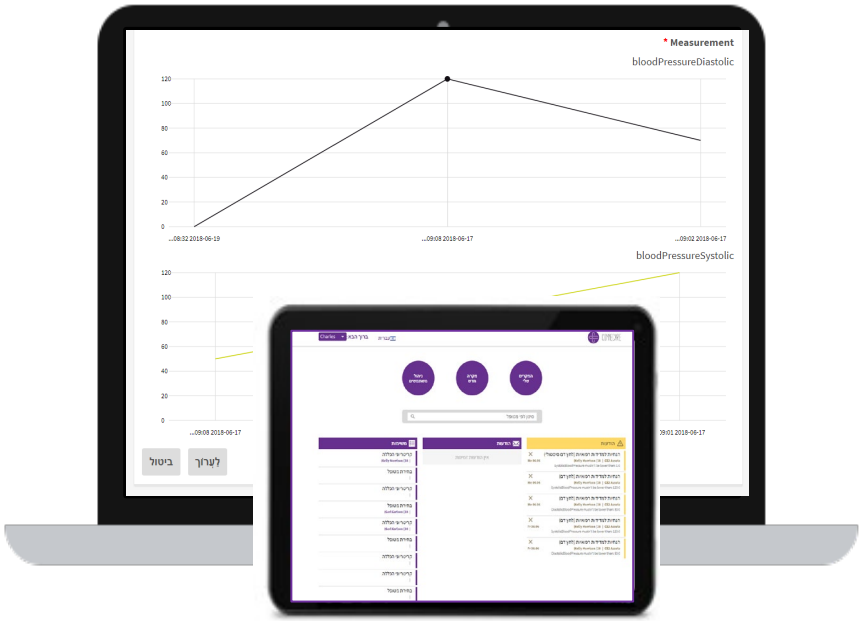
THREE MAJOR IT COMPONENTS



The patient's SMS application on a cell phone or tablet

+

Fitbit for measuring steps, pulse and sleep quality



The SACM system

in which the nurse, the physician or the physiotherapist will observe the data, and prescribe the tasks for the patient

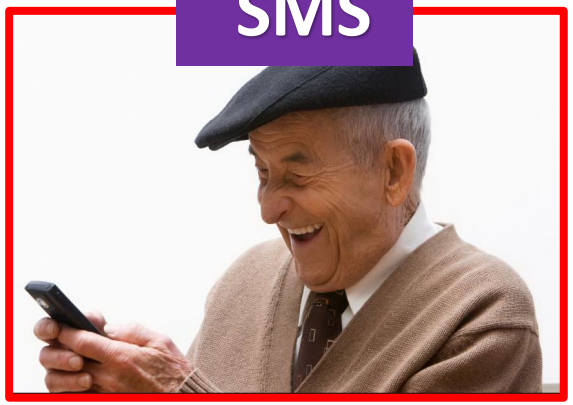
THE INTEGRATED CARE MODEL IN ISRAEL

HOSPITAL

EMR Assuta

SACM

SMS

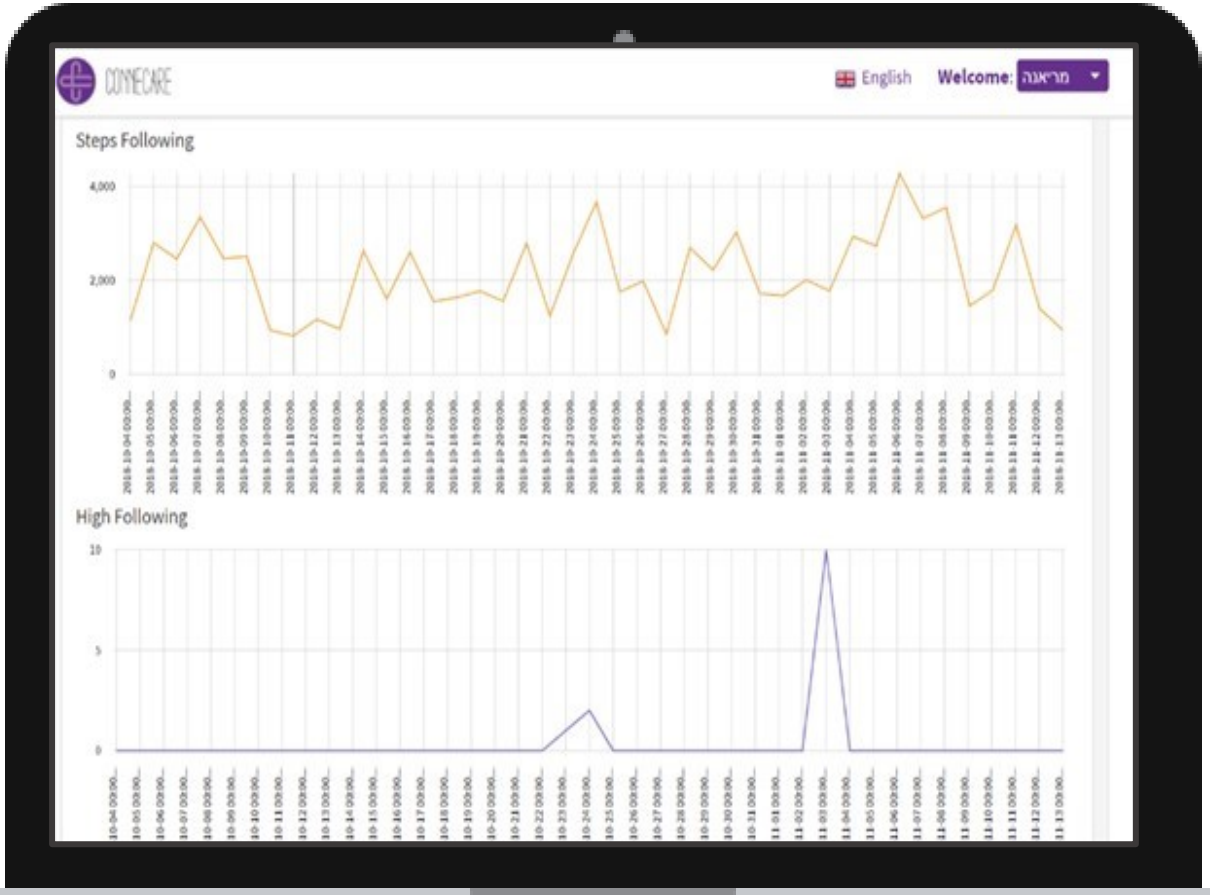


COMMUNITY

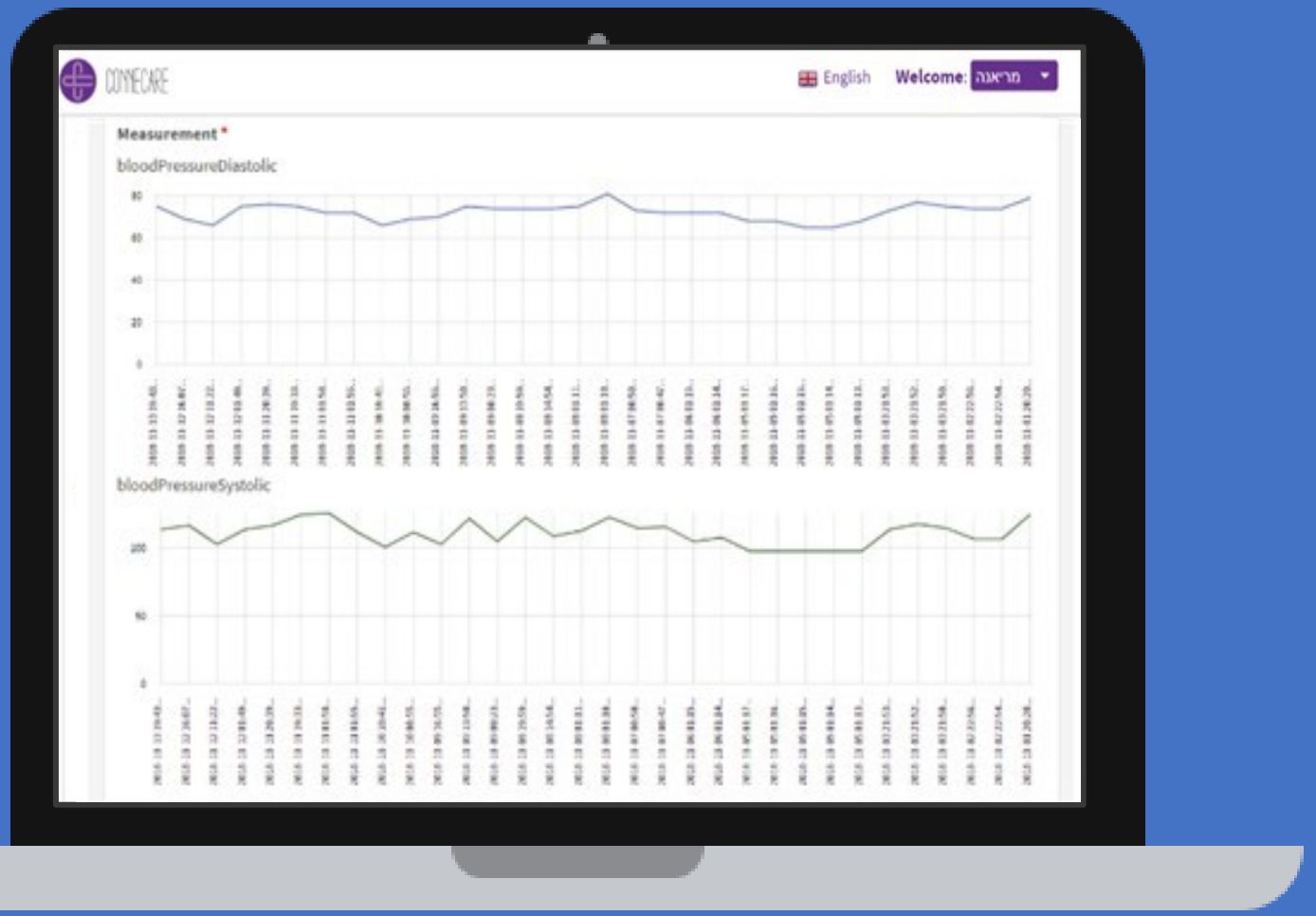
EMR Maccabi

Case and Care Managers

Patient App transmitting steps



Blood Pressure Trends



INTEGRATION IN PRACTICE

HOSPITAL

- Pre-Habilitation program
- Responding to the patient's questions and needs prior to elective surgery
- Building treatment and discharge plans integrated with the community

COMMUNITY

- Patient's discharge summary
- Input from the GP to the patient's treatment plan during the project
- CM-GP communication in case of need (by email or phone)

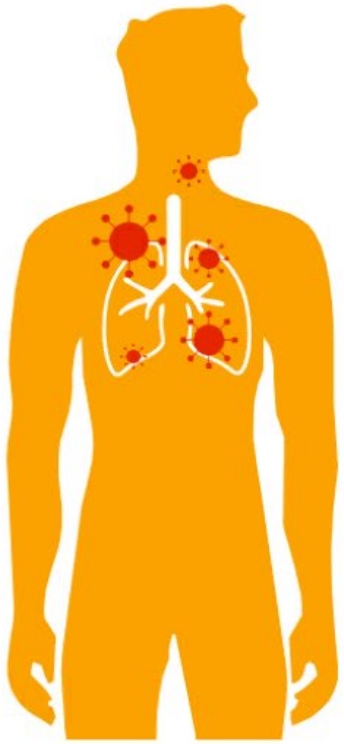
Patients

- Improving patients involvement and empowerment
- Continuing integrated care of a CM nurse for 3 months
- Facilitating timely appointments, reducing bureucracy

Story 2

COVID-19 dashboard

COVID-19 Dashboard



Population Management

Visits Dashboard

HR Dashboard

Corona Pandemic Dashboard

Reports

GIS Map

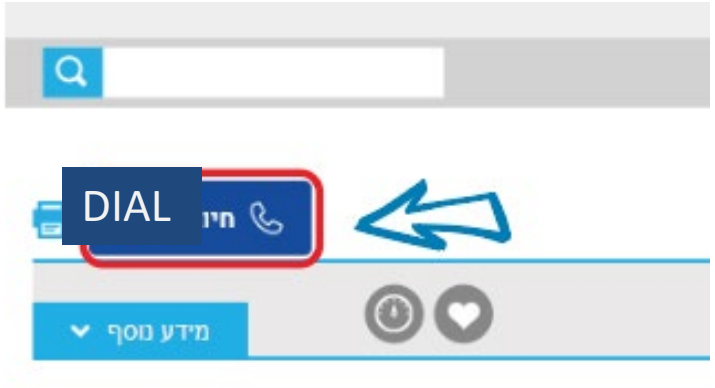
Medical manager Dashboard

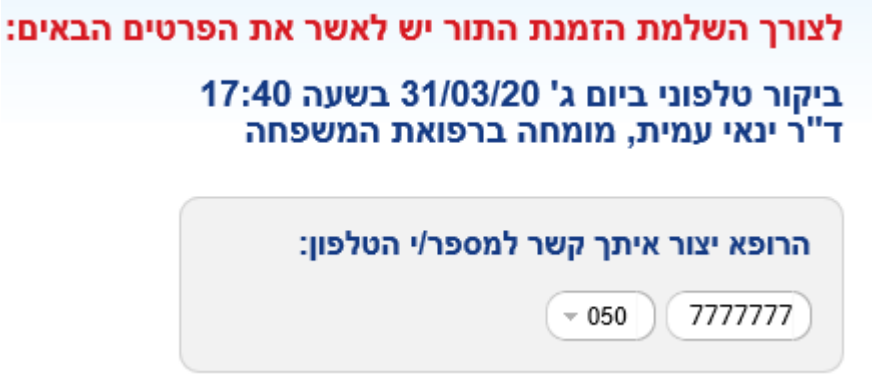
Corona Manager Dashboard

http://maccabi-bi/bidashboard/Corona

Maccabi Healthcare Services

Telephone visits





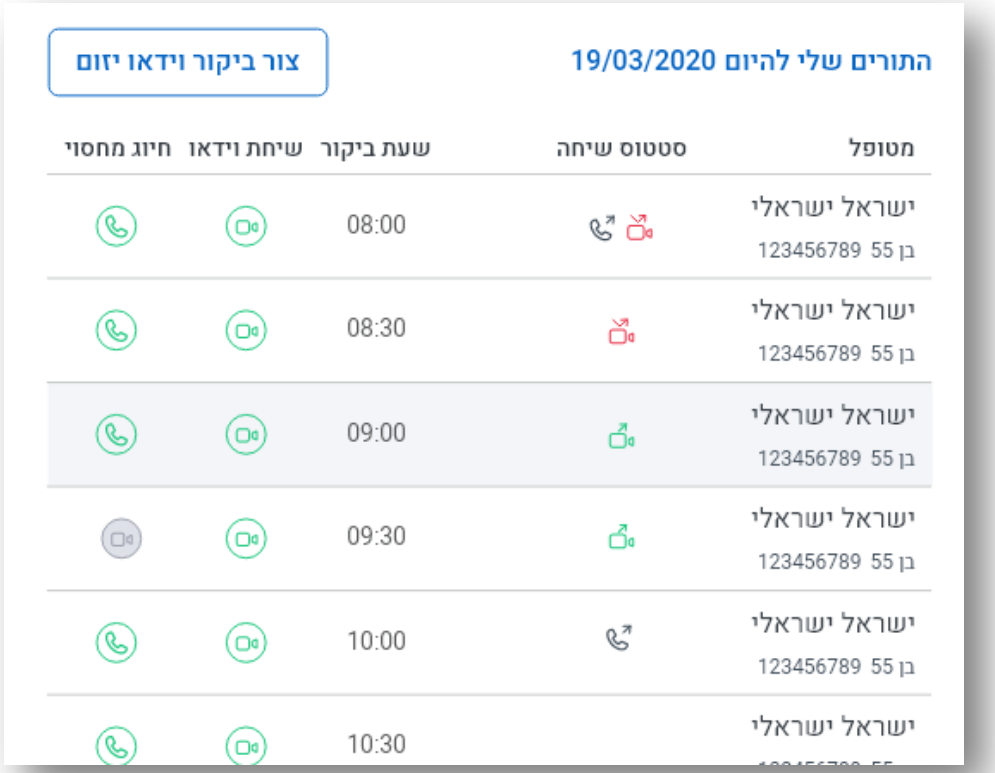
Telephone Visits for Family Physicians and Pediatricians

- New type of visit in the doctor's schedule
- Possibility to dial directly from the EMR

Additional Solutions

- The patient sees the option of a telephone visit when he is making an appointment
- Management of the telephone visits in QFLOW
- Patient can update his telephone number in the process of making the appointment
- The doctor automatically dials the updated phone number when he clicks on the "hidden dial" button
- The patient sees he is receiving a call from the doctor but the phone number is hidden

Maccabi “Hybrid”



- New Infrastructure for video visits between doctors and patients
- The solution enables the doctor to initiate a video call and to change a telephone visit to a video visit

Maccabi Healthcare Services

Monitoring and Caring for COVID Patients at Home

- Regional Telemedicine Centers
- Patients are contacted daily
- Patients have an app – Proms and biomeasures
- App transmits to the Telemedicine Center monitoring system
- Care managers monitor and respond
- Saturation levels and fever automatically entered into the Family doctor's EMR

Maccabi Healthcare Services

Story 3

K

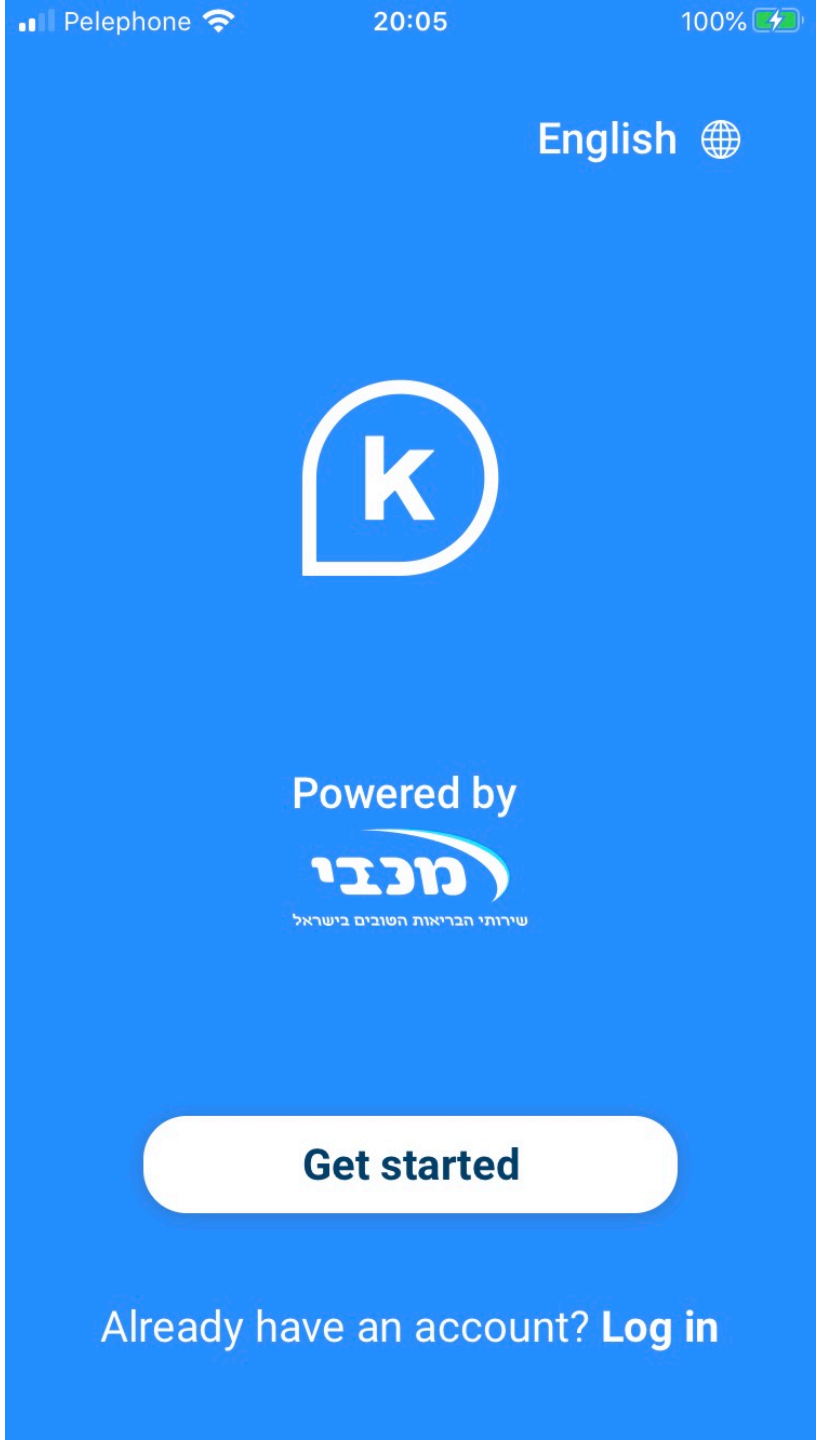
Meet K – the game-changing new application that replaces health search engines

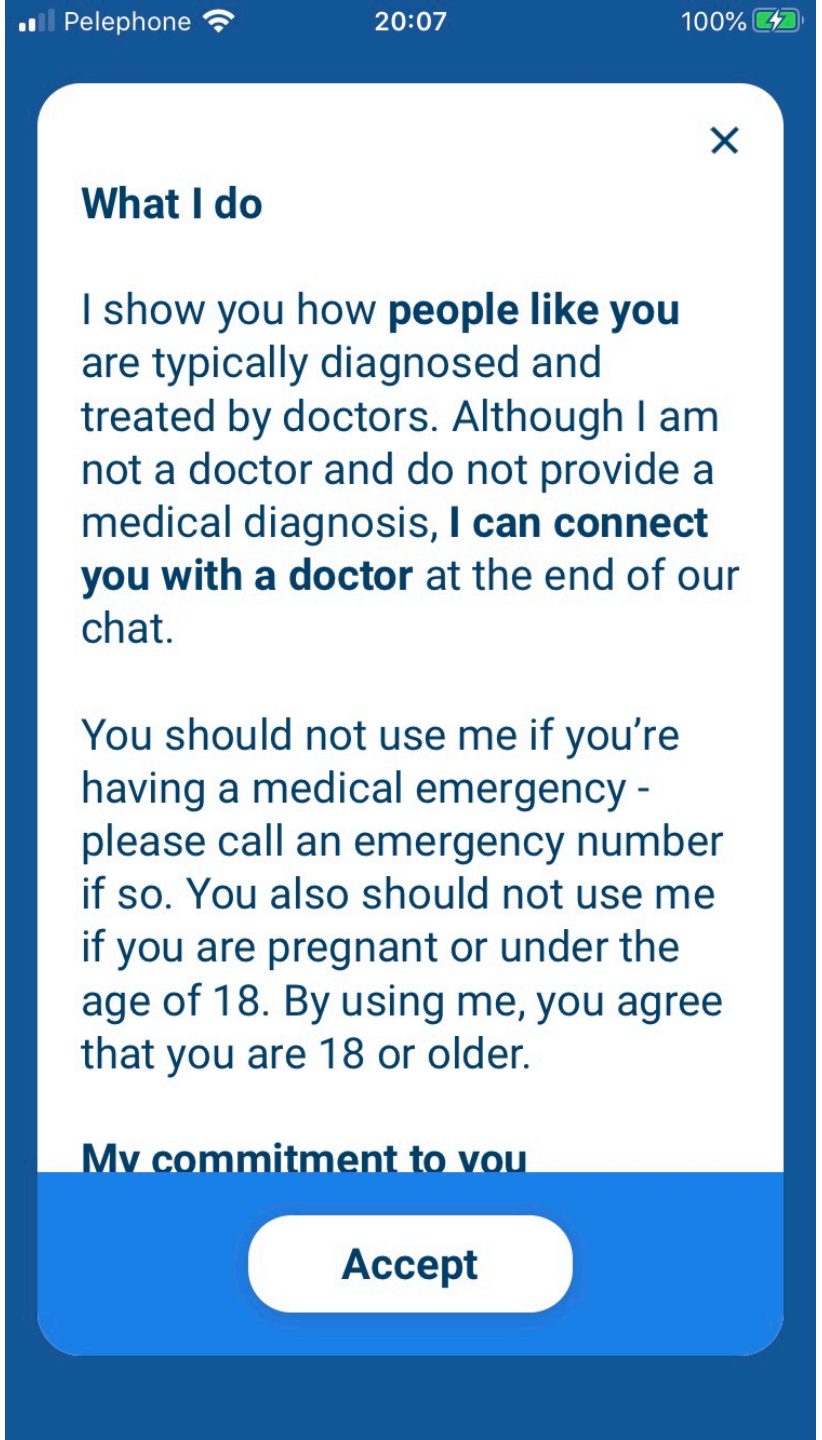
- The latest innovation by the MK&M (Morris Kahn & Maccabi) Big Data Science Institute. Cutting through a massive amount of data, collected during hundreds of millions of doctor visits over the last 25 years, it offers users a personalized and highly reliable reading of what their symptoms might be saying
- Based on a sophisticated algorithm developed by a wide team of mathematicians and physicians that has been fed information from millions upon millions of doctors visits, and as a smart system, it is learning and improving itself all the time
- With each additional use, it perfects its knowledge and further refines the questions to be presented to the next user

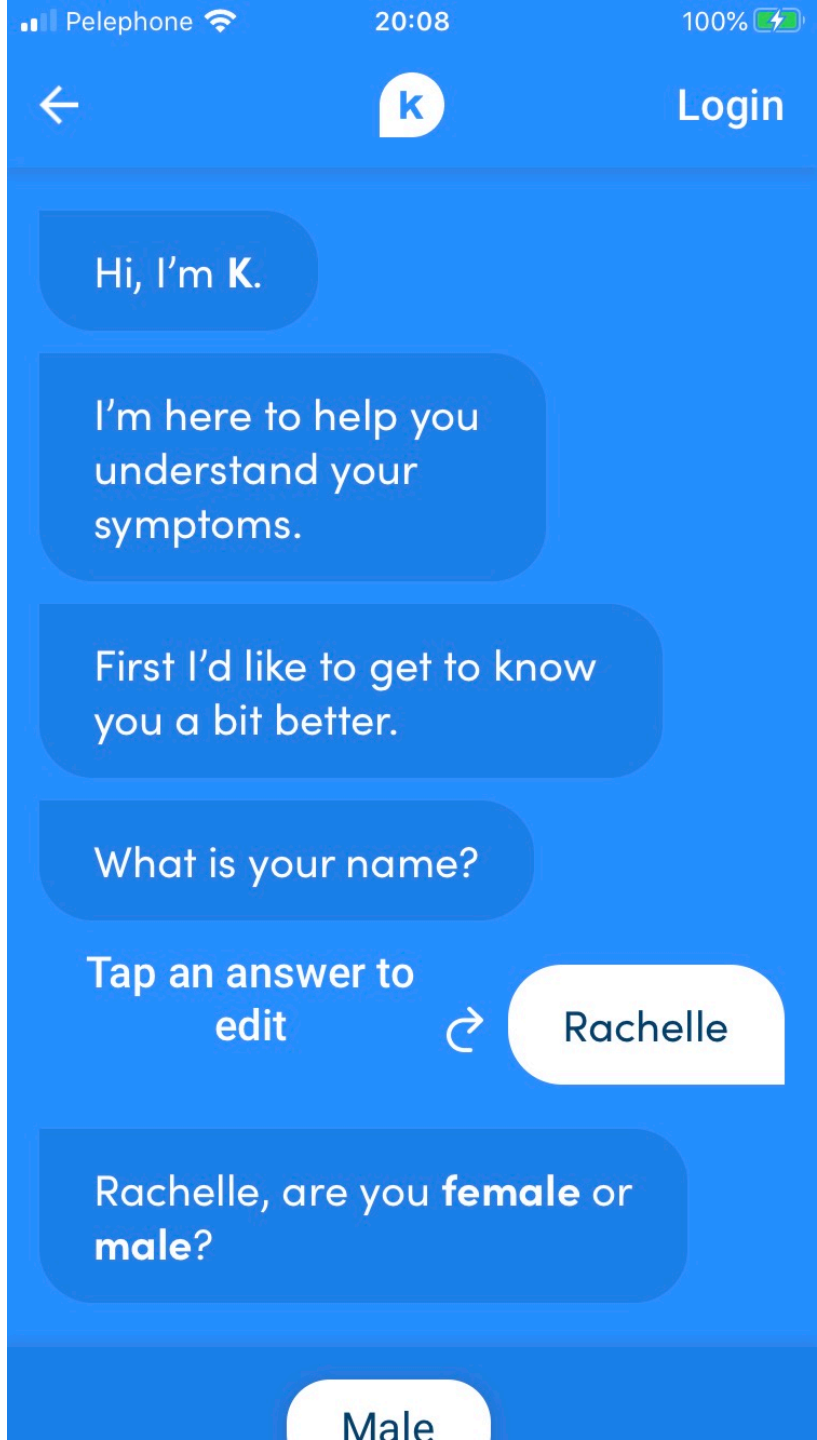
Download on the App Store

GET IT ON Google Play

https://www.maccabitech.com/big-data/k-app/


Pelephone
20:05
100%
English
Powered by
מכבי
שירותי הבריאות הטובים בישראל
Get started
Already have an account? Log in


Pelephone
20:07
100%
What I do
I show you how people like you are typically diagnosed and treated by doctors. Although I am not a doctor and do not provide a medical diagnosis, I can connect you with a doctor at the end of our chat.
You should not use me if you're having a medical emergency - please call an emergency number if so. You also should not use me if you are pregnant or under the age of 18. By using me, you agree that you are 18 or older.
My commitment to you
Accept


Pelephone
20:08
100%
Login
Hi, I'm K.
I'm here to help you understand your symptoms.
First I'd like to get to know you a bit better.
What is your name?
Tap an answer to edit
Rachelle
Rachelle, are you female or male?
Male

Pelephone 20:09 100%

Login

1,121,091 people of your age and sex. I'll be comparing your symptoms to theirs.

What's your email address? You can use it to log in and review your medical history.

example@email.com

I Hi If

Q W E R T Y U I O P

A S D F G H J K L

Z X C V B N M

123 space @ . return

Pelephone 20:11 100%

Headache

47K people like me

Let me ask you a few questions about your **Headache**.

How long have you had your headache?

Today

Less than a week

A month or less

1-3 months

More than 3 months

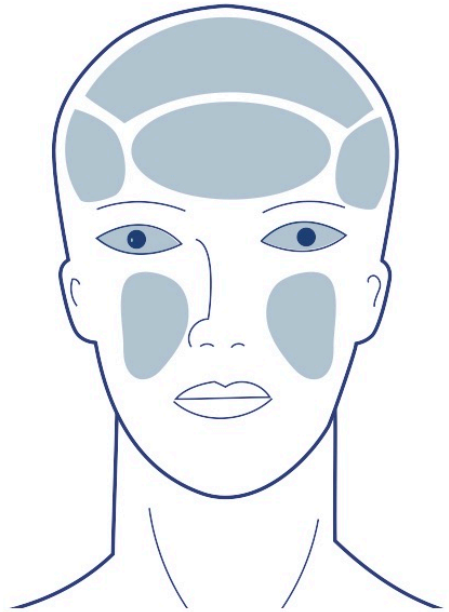
Years ago

Pelephone 20:12 100%

Headache

Tap where it hurts:

Front Side Back



Don't know

See diagram

Headache

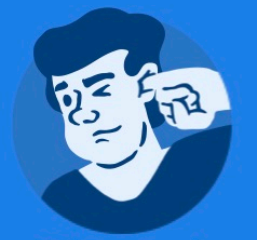
< 50 people like me

Hoarseness, Post-nasal drip

Are you currently experiencing any of the following symptoms?

Jaw joint pain

Chills



Plugged ears

None of the above

Pelephone 20:24 100%

Headache

No

Why are you telling me about these symptoms?

I don't know what I have and wanted to learn from K

Ok, the results I'm about to show you **are not a diagnosis or medical advice**. Please seek immediate medical care if your symptoms seem serious.

Ok, show me

Pelephone 20:24 100%

Headache

Ok, show me

Based on what you told me, this is how **59,567** cases like yours turned out:

81% **Upper Respiratory Infection**
< 50 people had this

19% **Acute Sinusitis**
< 50 people had this

Learn more

Pelephone 20:26 100%

Upper Respiratory Infection

223315 females age 75

Concerning symptoms

People like you seek medical care in person if:

- They develop shortness of breath or difficulty breathing
- They develop chest pain or chest pressure
- They begin to cough up blood
- They develop a fever over 100.4 F

Symptoms you reported

Keep an eye on your symptoms, which are common with Upper Respiratory Infection.

Cough

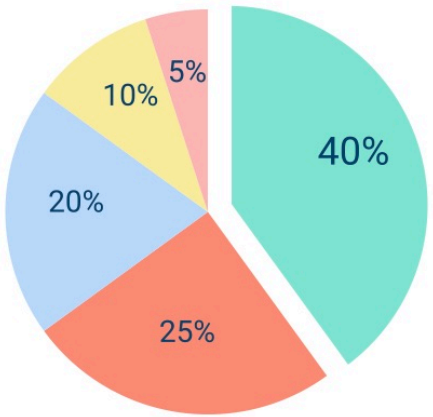
Next

Pelephone 20:29 100%

Acute Sinusitis

108867 females age 75

Of the **80%** of women who were **prescribed medicine**, here's what they took:



1

Ibuprofen **40%**

Brand Names: Advil, Adex, Nurofen
Category: NSAIDs

Relieves pain and reduces fevers by stopping the synthesis of chemicals in

Next

Pelephone 20:36 100%

K Health › K Primary Care › Getting Started

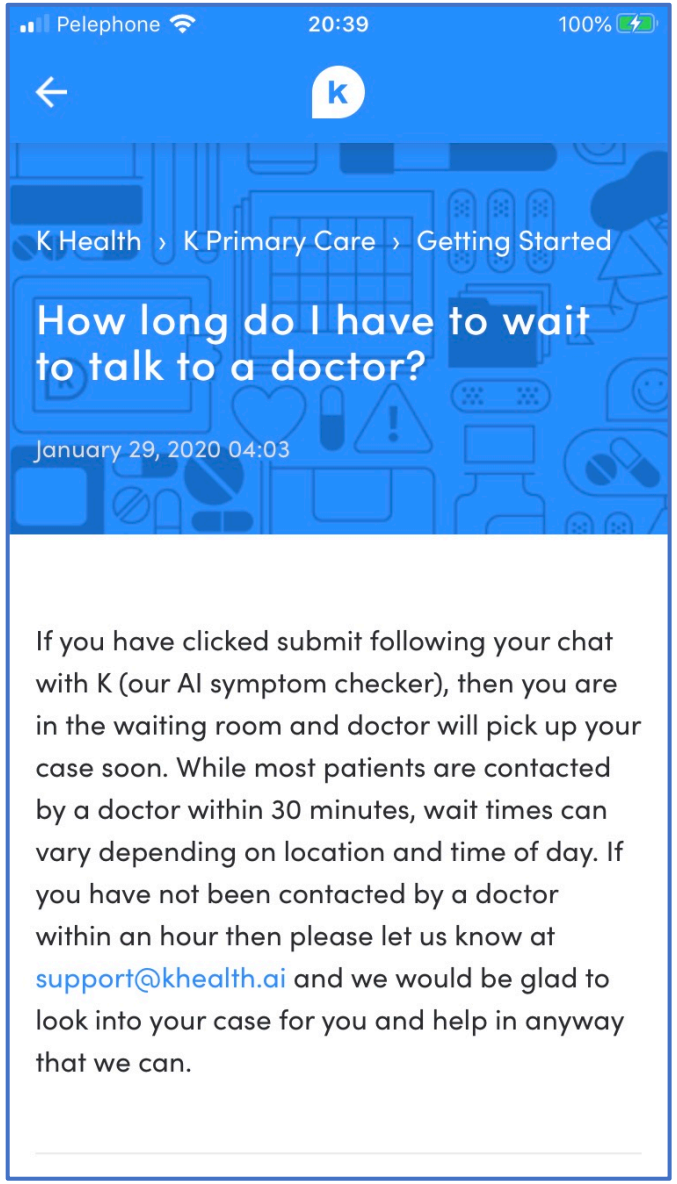
What hours are doctors available?

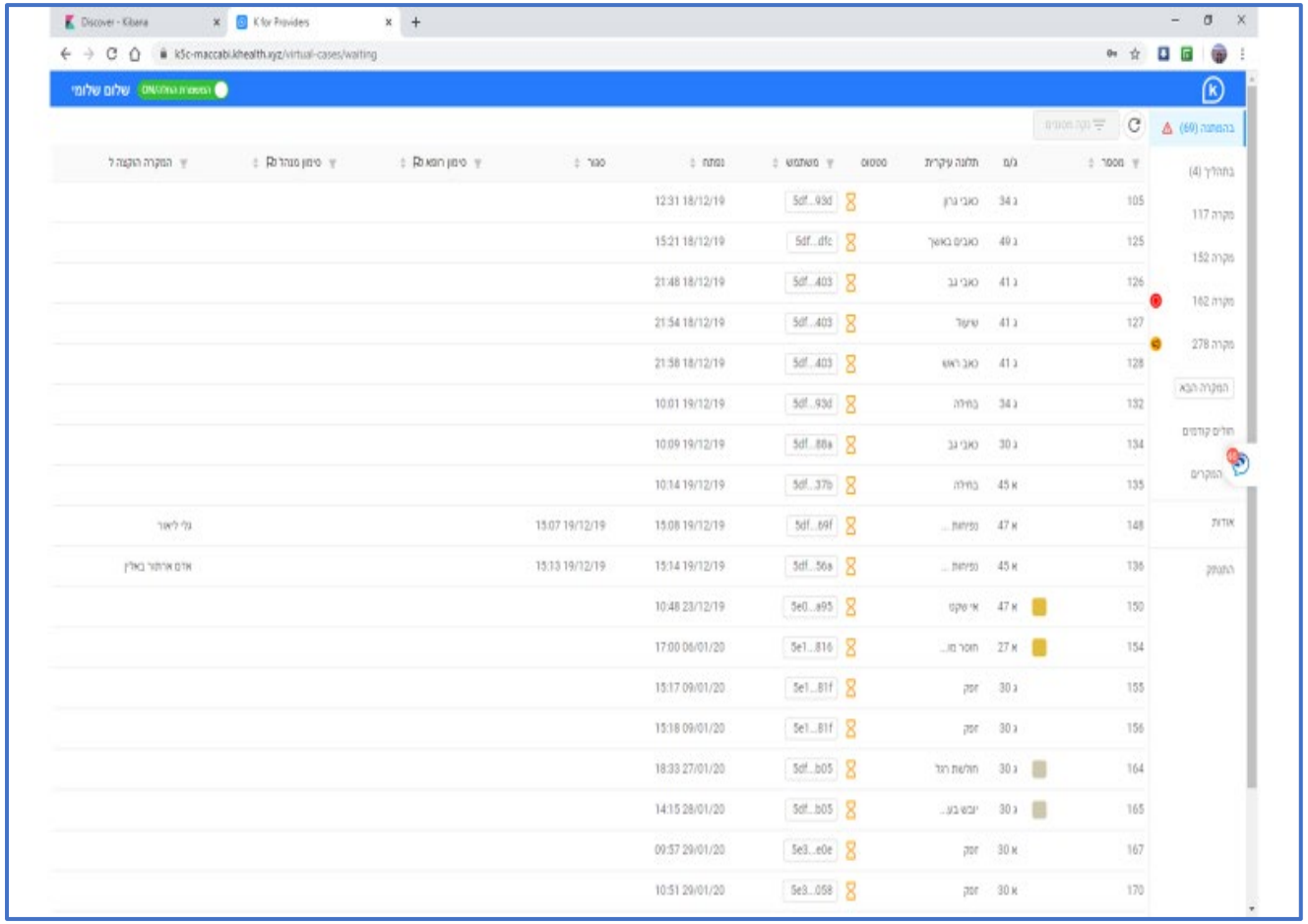
February 10, 2019 17:52

Chatting with a Doctor is available from 11am to 11pm ET, 7 days a week, in select states. Hours and availability may change, but the most up to date hours will always be presented in the app when you choose to share your report with a doctor.

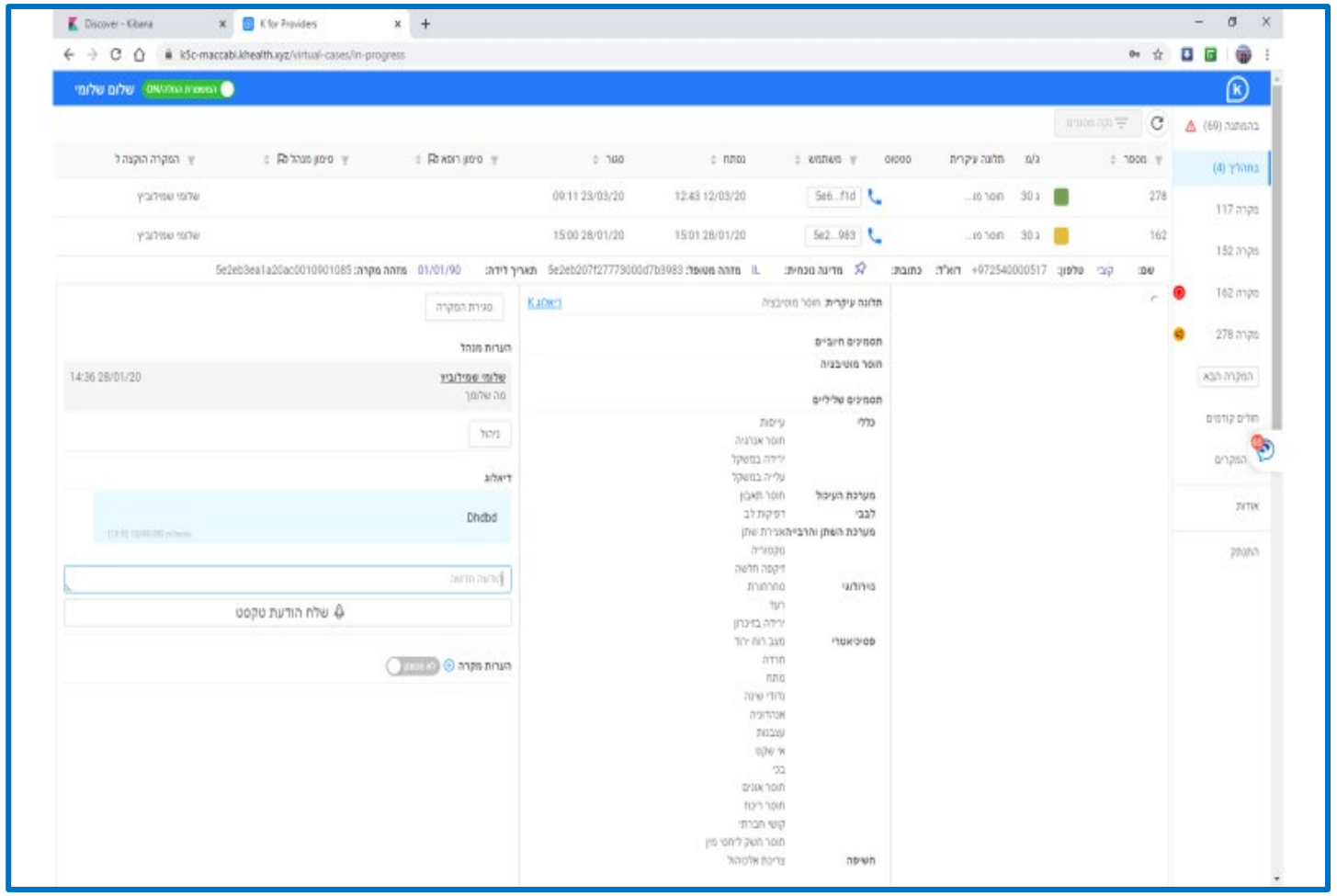
Please note that cases that are submitted within 30 minutes of 11pm may not be addressed until the following morning depending on patient volumes.

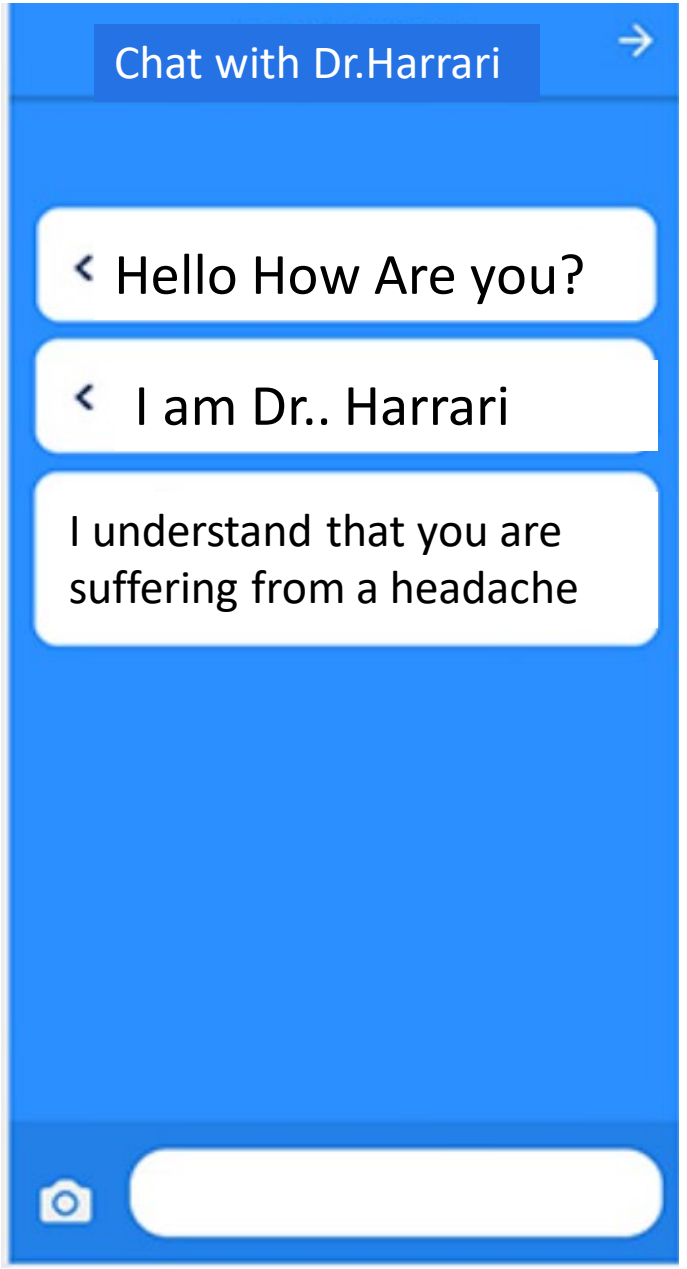
The doctor sees all of the patients who have requested a chat in the “K” Portal



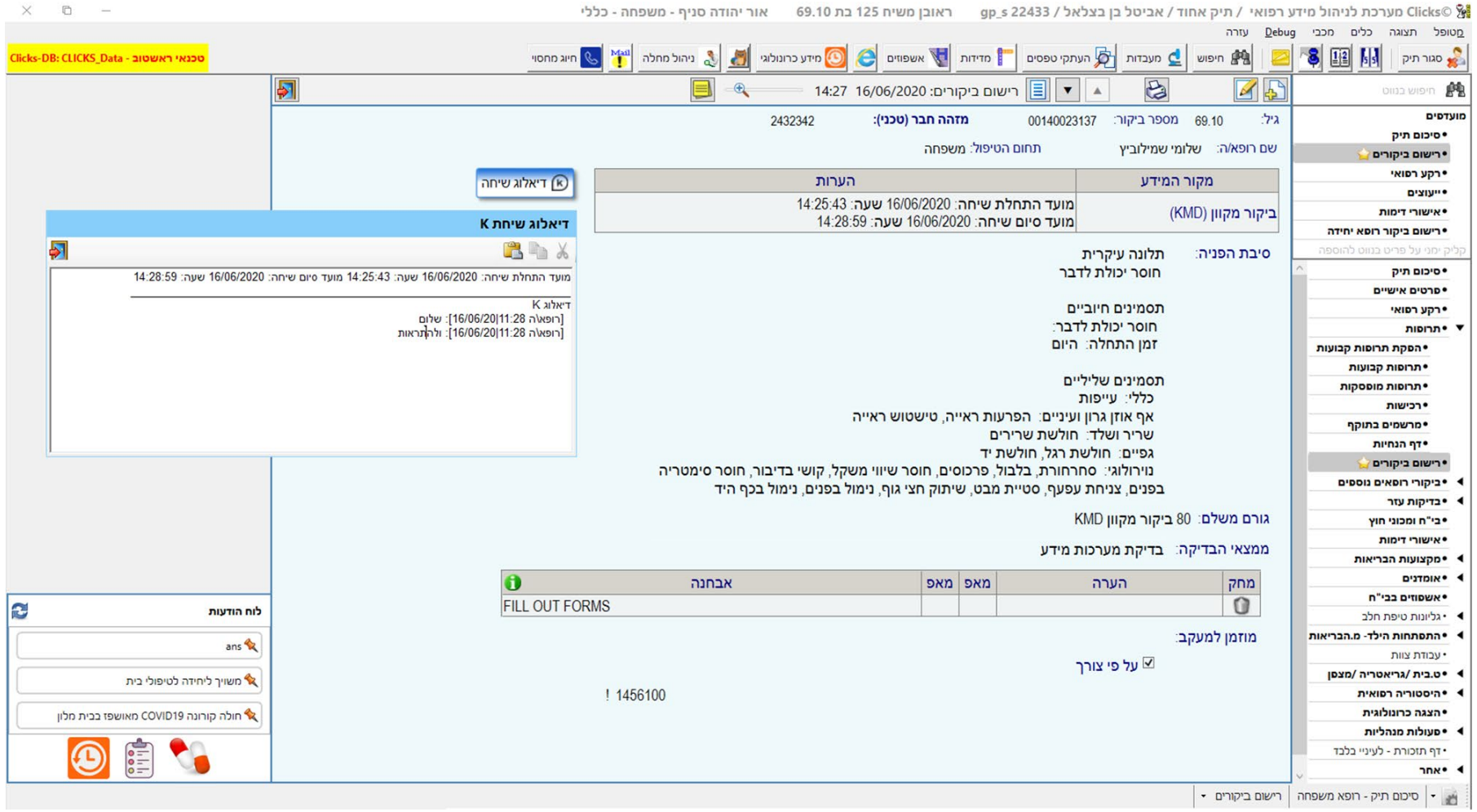


The doctor sees all of the problems and symptoms that the patient has chosen using the “K” app and initates the chat with the patient





All of the information from the K portal is automatically transmitted to the Maccabi EMR for the patient including the doctor's decision for treatment/follow-up



Some Observations

- We are progressing toward digitally enabled integrated care
- Technology is not really a barrier
- Organizational culture and processes, clinical staff attitudes and values, inter-organizational relationships, interpersonal relationships
- Crisis such as COVID- is a great accelerator
  - Telemedicine has flourished
  - The barrier between the EMR and Patient reported data is changing
- Will these changes continue and be sustainable post-COVID?

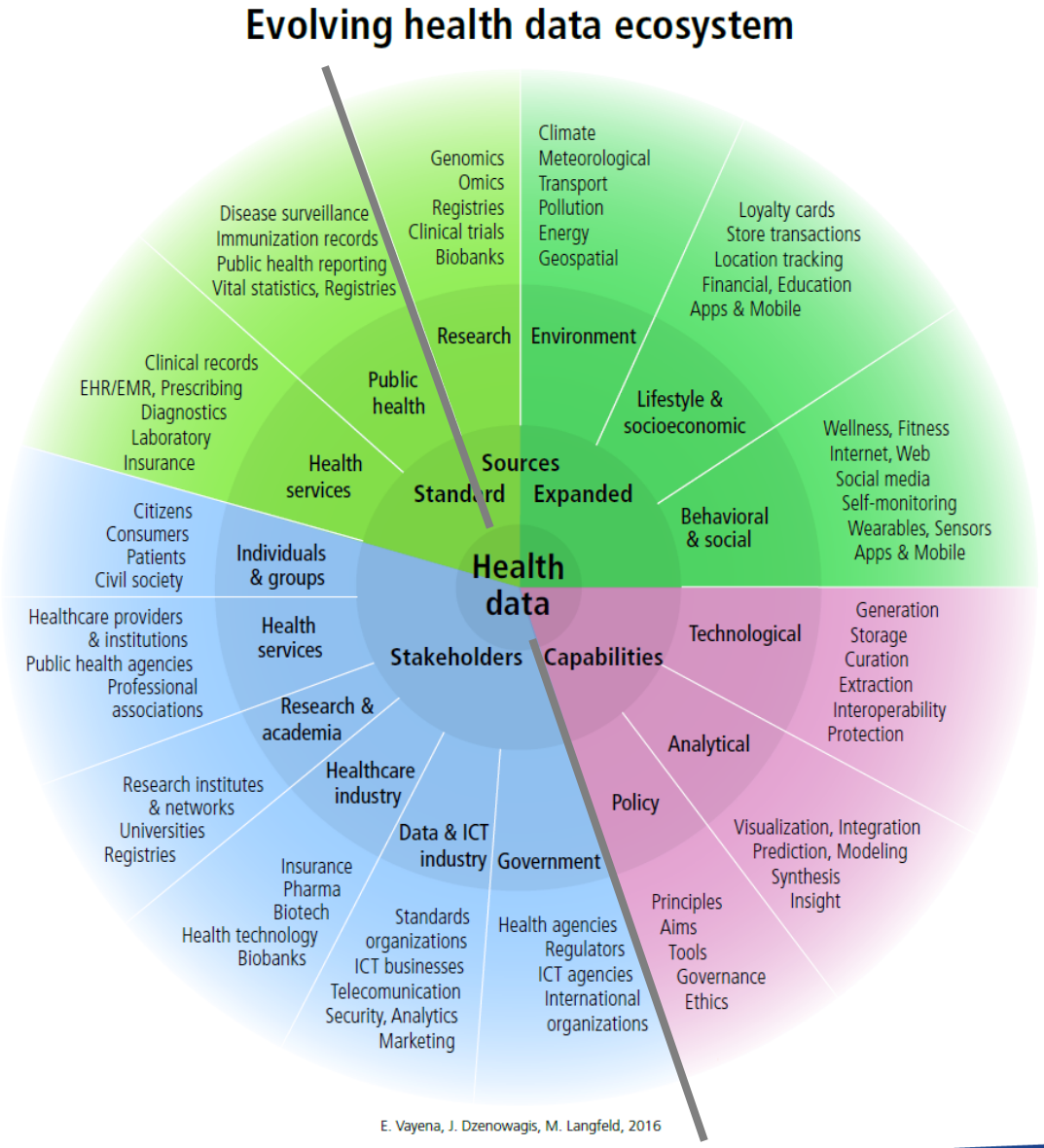
THANK YOU

Wrapping up for discussion

Core elements

Obstacles

Mobilisers



EHTEL
Collaborating for Digital Health and Care in Europe

@ehtel_ehealth

Front row

Esteban de Manuel – Kronikgune

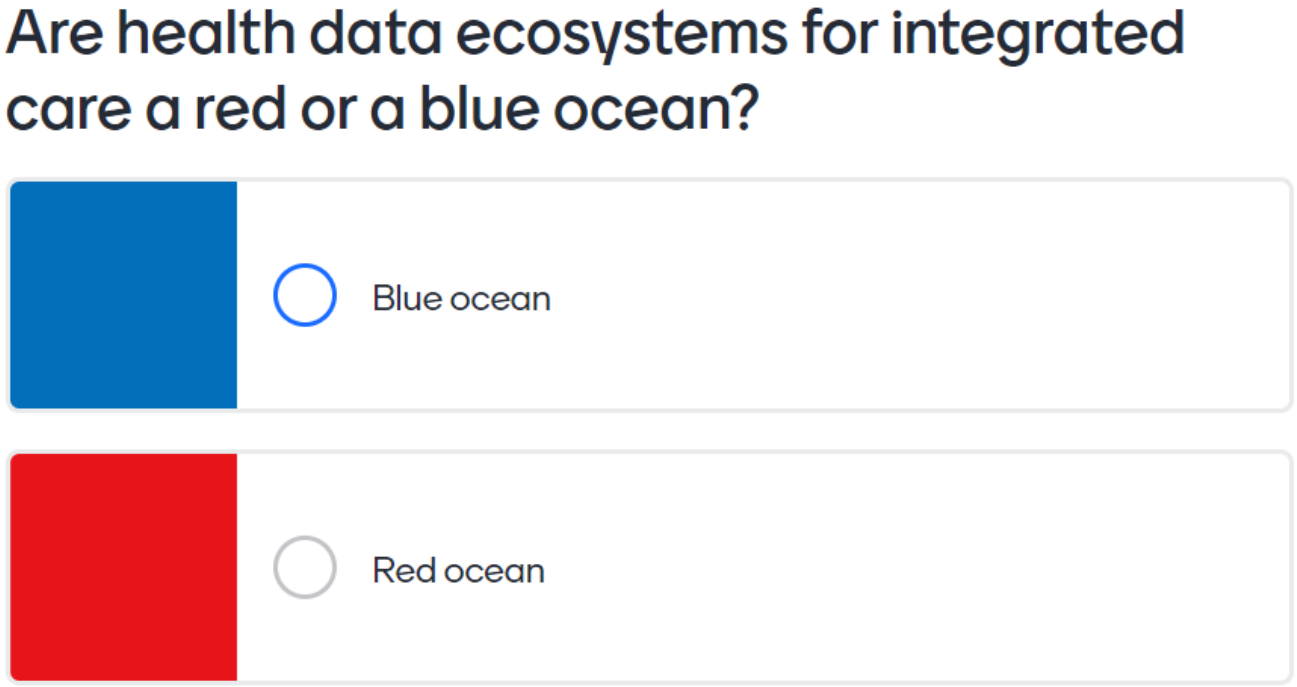
Donna Henderson – Scottish Government

Zoi Kolitsi – Digital Health Europe

Andrea Pavlickova – Scottish Government – Scirocco Exchange

Carme Pratdepadua - TicSalutSocial

Go to **www.menti.com** and use the code **59 20 71**



https://www.menti.com/vhzrjx4ho4

Conclusions

Next events

Webinar ELO Network

Making real-world data fit for EHDS: Architectures and processes enabling data re-use

Monday, 29 June 2020, 11:00 - 12:30 CET

DICT Virtual Workshop

Cross-sectoral health data ecosystems: business and governance models

EHTEL Innovation Initiative

Digital Therapeutics and interacting with human beings