



Ministry of Health, Welfare and Sport

Digital health in The Netherlands

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Healthcare in the Netherlands...

Main principles

- Access to healthcare for all
- Solidarity through medical insurance
- High quality healthcare services

Public requirements

- Private individuals are required to purchase basic health insurance
- Insurers have to accept all clients
- Price is equal to all insured individuals
- Insurers have duty of care
- The contents of the insures basic health coverage is provided for under law.

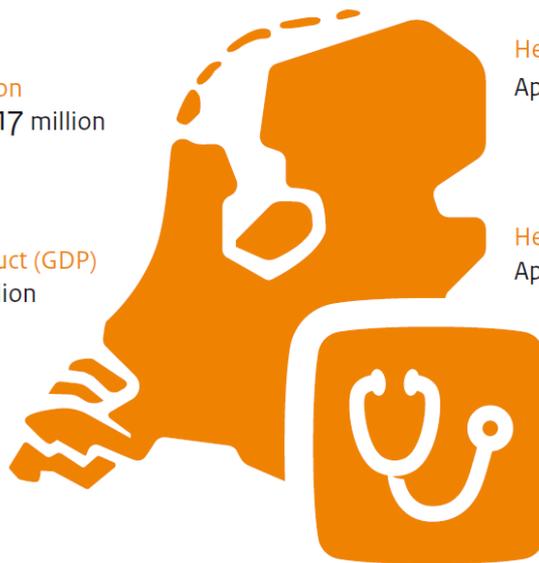
Population
Approx. 17 million

Gross Domestic Product (GDP)
Approx. EUR 700 billion

Healthcare expenditure in EUR
Approx. EUR 70 billion

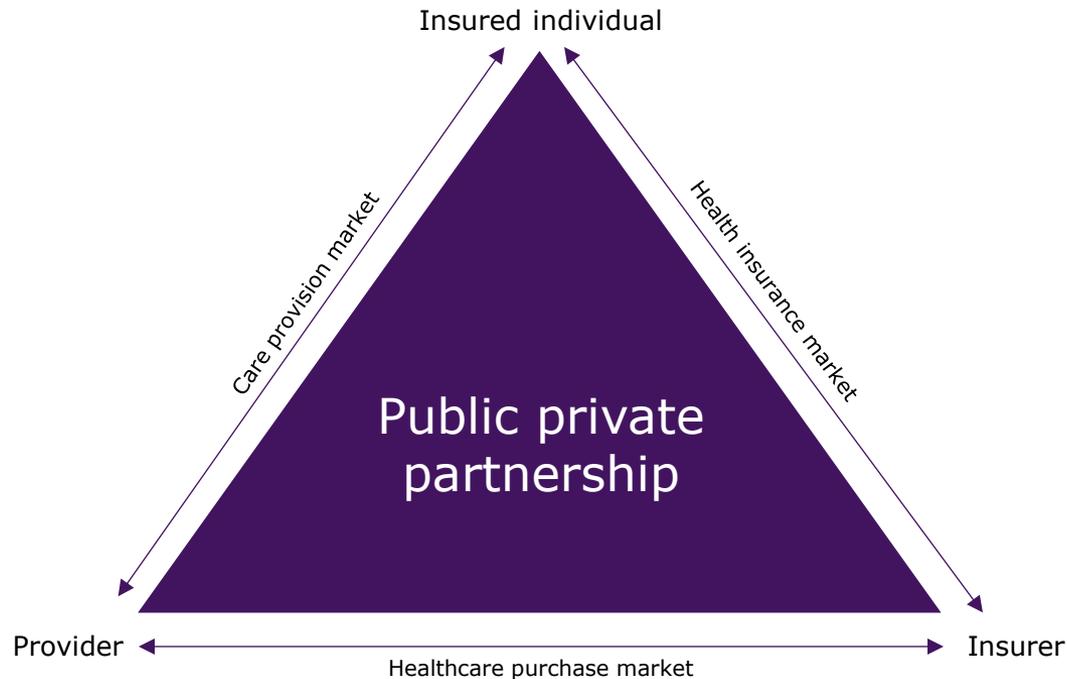
Healthcare expenditure
Approx. 10% of GDP

Total number of people employed
in the healthcare field
Roughly 1,1 million





...is a system of managed competition



Government is responsible for organising accessibility, defining basic package and supervising market and quality

Insured individuals are free in their choice of insurer; possibility to change every year

Providers compete for contracts with insurers on price & quality of care

Insurers compete for insured on premium, quality, service level



Dutch ambitions

- 80% of the chronically ill have direct electronic access to some of their medical data, such as medication data, vital functions and test results, and is able to use this data in mobile apps or internet applications.
- Of the chronically ill (diabetes, COPD) and vulnerable elderly, 75% who are willing and able can take their own measurements, mostly in combination with remote monitoring by a professional.
- Everyone in need of care at home will be able to communicate by video with their care professional remotely 24 hours a day. Also, smart home technology will be used to support home care.
- The next 4 years: > 50% of healthcare value based



eHealth in NL - digitization of patient records

Digital EHRs

GPs	99%
Specialists	90%
Nurses (cure)	75%
Nurses (care)	31%

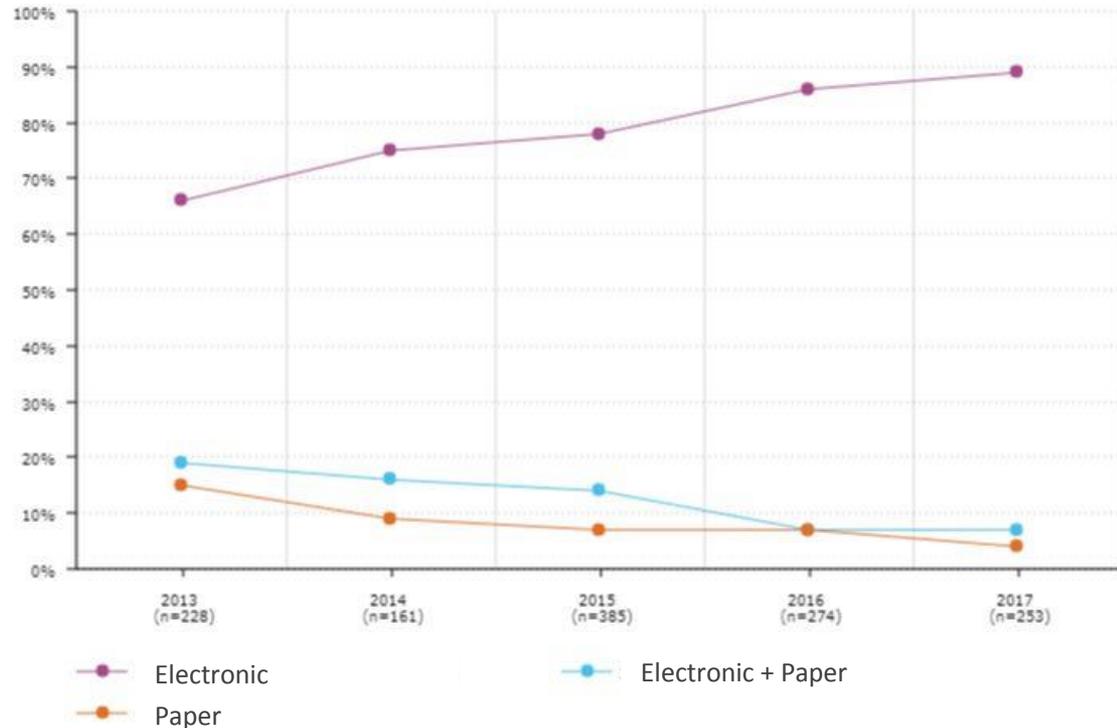
Medication interaction warning

GPs	98%
Specialists	60%

Effects (eHealth Monitor)

- Higher quality of care	72%
- Increased safety	67%
- Less administration	33%

Use of EHR by specialists





Shared decision making based on same information by empowered citizens & empowered professionals





The right care at the right place

Therefore the right information at the right place at the right moment

Empowered citizens

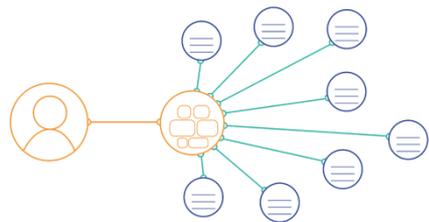
- Everyone CEO of their own health
- Shared decision making
- Make informed healthy decisions in daily life
- MedMij: National Trust Framework for Personal Health Environments
- Outcome data for value based shared decisions for 50% of disease burden

Empowered healthcare professionals

- Mandatory electronic exchange
- Unity of language
- Unity of technology
- Reducing administrative burden: let doctors doctor

MedMij allows you to collect, share and manage your health data in your own **personal health environment**

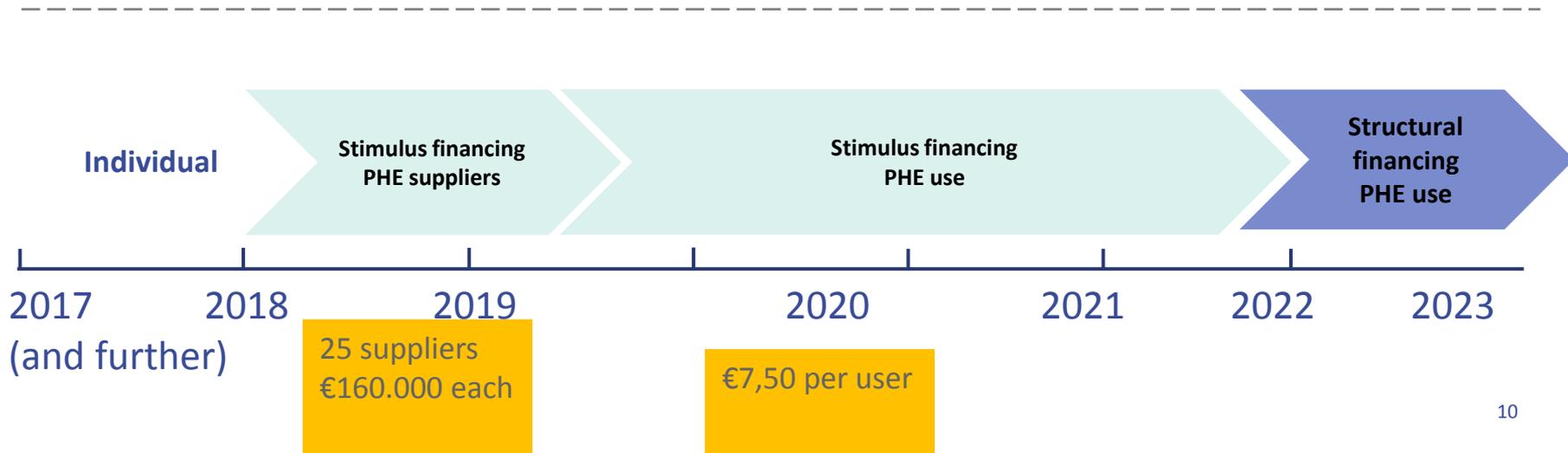
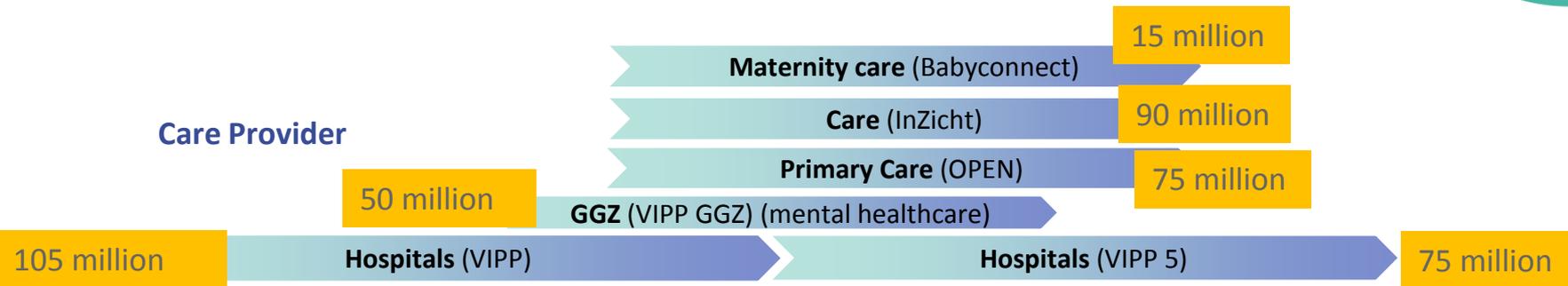
- Copy of own data by law
- Nationwide FHIR implementation
- Based on Health and Care Information Models (semantical and technical standards)
- 8 Certified PHE's, dozens in line



medmij



Investing in patient empowerment



‘The right information at the right place at the right time’



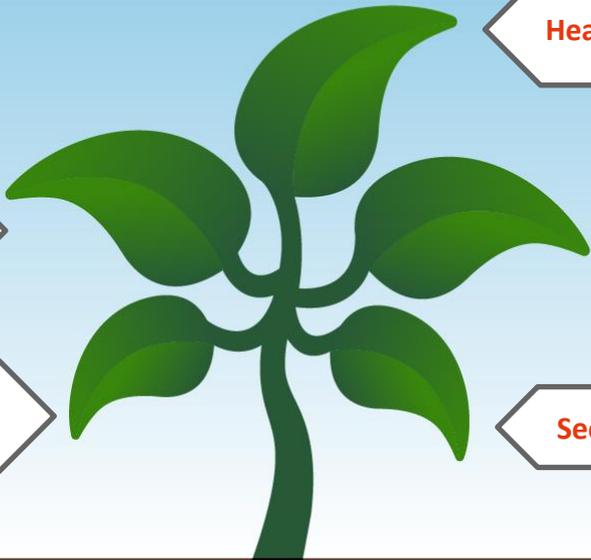
eHealth week

Public Campaigns

Health Innovation School

Health deals

Seed Capital



Fertile Soil

Sustainable Health Information

Standards
Registries
Semantic unification
Authentication
Monitoring

Basic Infrastructure

Indicators
Safe Communication
Funding
Enforcement
Patient access
Monitoring

Whole system in the room: National Health Information Council





Electronic exchange between care providers gets mandatory

- Usecase by usecase
(Medication, Images, Discharge to and from nursing homes, Patient summary exchange)
- Based on mandatory use of semantic and technical standards
- Incorporating same HCIM's as in MedMij
- Certification of ICT systems used









Consortium
for Global eHealth Interoperability (HIMSS, IHE and HL7)

A global community of stakeholders working together to achieve rapid, coordinated, and efficient deployment of the next generation of API-based interoperable standards to improve health.



By 2022 we want to use outcome information for shared decision making for 50% of disease burden



Shared decision-making leads to...



... and the use of outcome information supports shared decision-making.

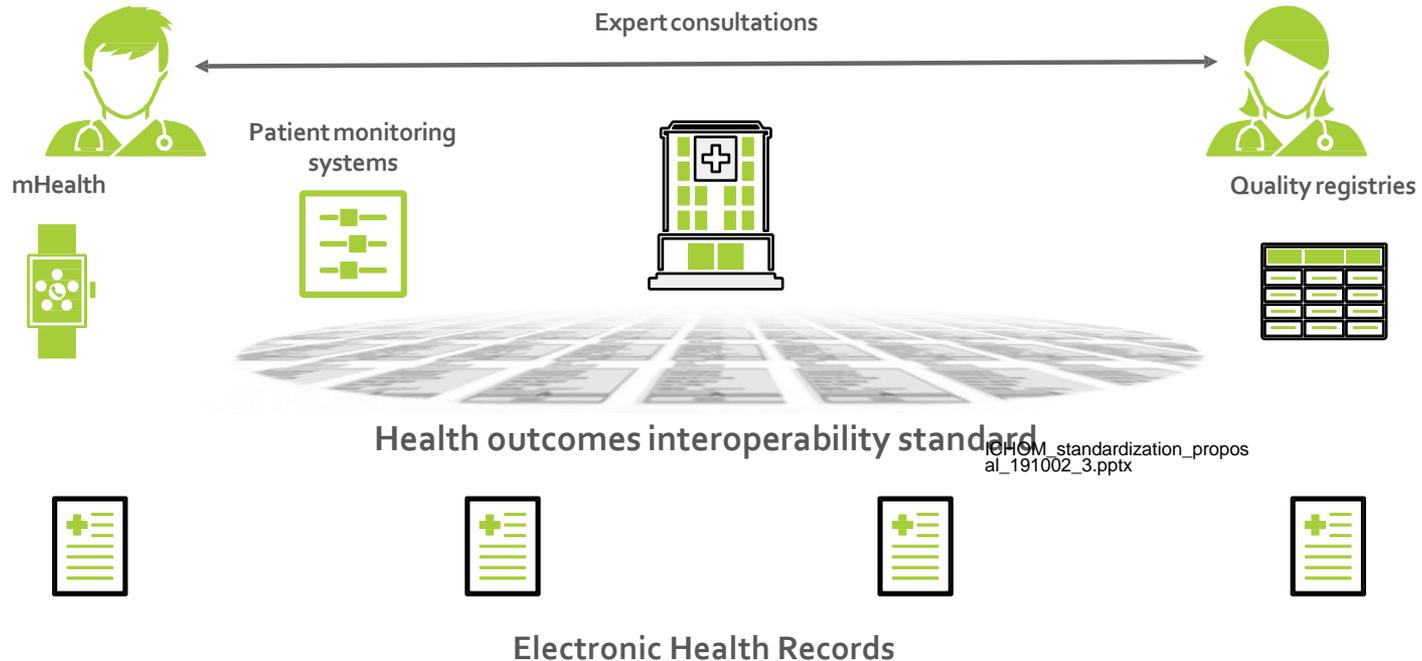
Sources

- Stacey *et al.*(2017), Decision aids for people facing health treatment or screening decisions;
- Knops *et al.*(2013), Decision aids for patients facing a surgical treatment decision: a systematic review and meta-analysis;
- Veroff (2013), Enhanced Support For Shared Decision Making Reduced Costs Of Care For Patients With Preference-Sensitive Conditions.

Better access to relevant and up-to-date outcomes information

- All patients are able to report their outcomes.
- Data management (collection, management and processing) is well organised and can be scaled up, without administrative burden.
- Data automatically extracted out of EMR's.
- All persons and organizations involved in patient care have access to outcome information.
- Outcome information is safely available for other purposes, taking privacy guidelines into account.

The ICHOM health outcomes interoperability standard is created by standardizing the ICHOM outcome sets and expressing them in a reference information model. Once in place, the standard promotes the interoperability required for valid health data capture and exchange.





The condition-centric approach to defining terms has not addressed the need for a global taxonomy and term bank, which makes standard sets challenging to implement



Trivial
Trim away blank space, correct typos



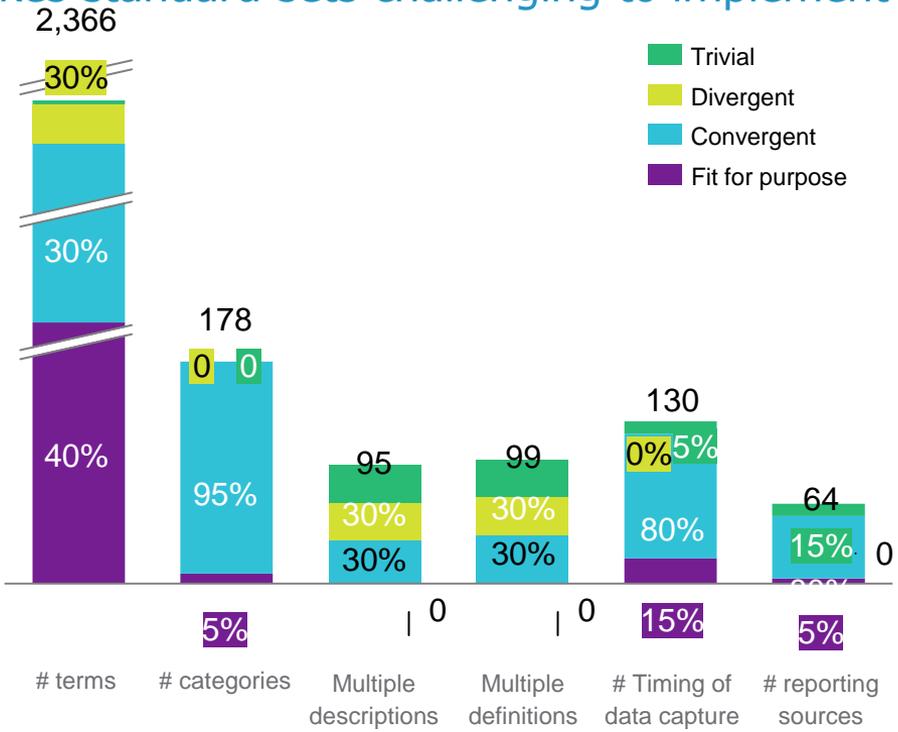
Divergent
Split entities to capture unique meaning



Convergent
Merge overlapping entities to prevent redundancy



Fit for purpose
Term is valid for implementation and tracking



Over the course of summer 2019, a pilot study has been conducted to implement the process for creating the ICHOM health outcomes interoperability standard. A proof of concept, illustrated by 4 standardized ICHOM outcome sets was delivered on September 18, 2019.

Steering Committee



Mona Khalid
Stefan Larsson
Martin Ingvar



Ministerie van Volksgezondheid,
Welzijn en Sport

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Technical advisors*



ChipSoft



Project team



May 2019

4.5 FTEs

Sep 2019

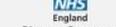


**Individuals affiliated with these institutions have provided technical input informing the work, however, affiliations do not necessarily represent an official endorsement by the listed organizations.*



World leaders launched Global Coalition for Value in Healthcare 2019

ViHC Executive Board

 Bernard Tyson <i>Chairman and Chief Executive Officer</i>	 Bruno Bruins <i>Minister of Health, Welfare and Sport of the Netherlands</i>	 Bruce Broussard <i>President and Chief Executive Officer</i>	 Hans-Paul Bürkner <i>Chairman of the Board</i>
 Omar Ishrak <i>Chairman and Chief Executive Officer</i>	 Michael Porter <i>Bishop William Lawrence University Professor</i>	 Rick Valencia <i>President</i>	 Frans van Houten <i>Chief Executive Officer</i>
 Vasant Narasimhan <i>Chief Executive Officer</i>	 Simon Stevens <i>Chief Executive Officer</i>	 Christophe Weber <i>President and Chief Executive Officer</i>	 Marc Harrison <i>Chief Executive Officer</i>

Health informatics standardization initiative could transform the sector

Workstreams for this effort

- Vision and person-centric principles
- Endorsement and coordination
- Use cases
- Implementation and policy recommendations

Organizations that have endorsed proposal



This initiative will be championed by the Global Coalition for ViHC

Expect that this initiative will take up to 4 years, and would start with a lean team to execute in 2019



Ministry of Health, Welfare and Sport

Evidence for e-Health





Telemonitoring in Heart Failure

- 40% less days in hospital
- 30% less ambulance rides
- 70% less emergency care visits





And we do have
multiple programs
in the areas of:

- > **data**
- > **AI**
- > **Cyber**
- > **...**