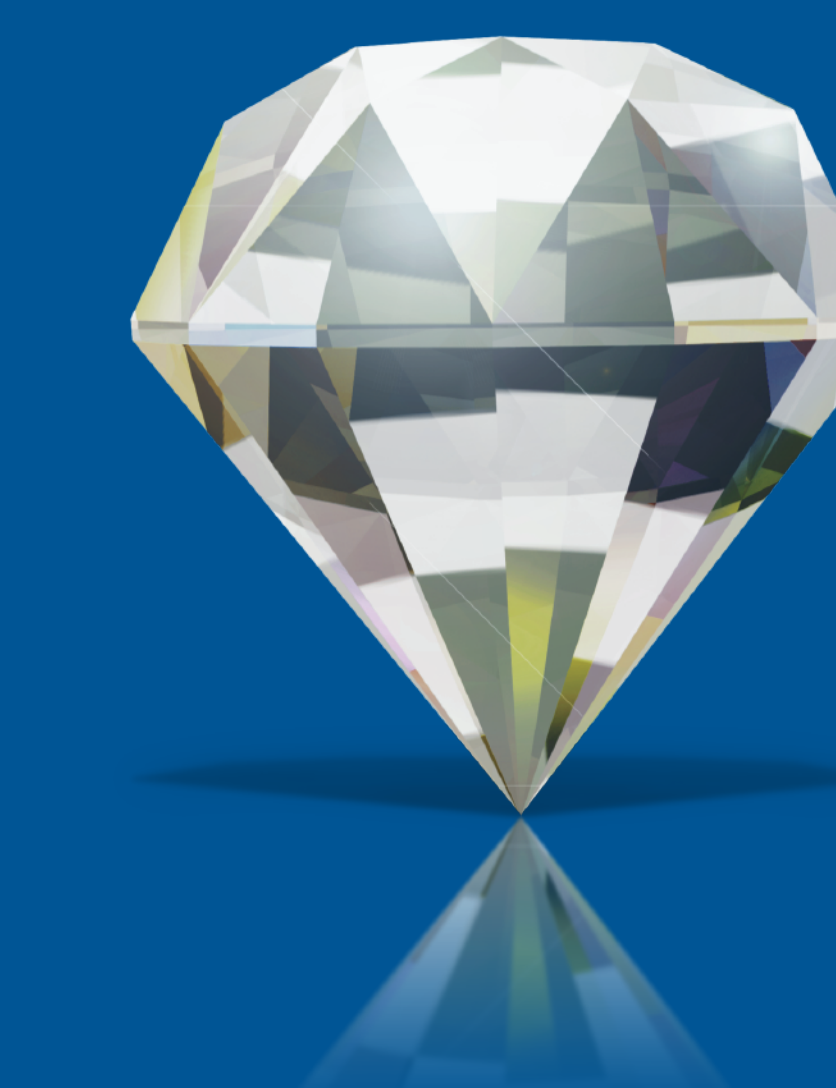# A Netherlands Federation of University Medical Centers eHealth program: The first Academic eHealth collaboration in the Netherlands

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1. Background

Future proofing of health care is one of the biggest challenges of the 21st century. The costs keep rising and the pressure on the health care system gets bigger due to the aging population and amount of patients with a chronic disease. Because of their network of people, well functioning infrastructure, the knowledge and possibilities to translate ideas to creative innovations, The University Medical Centers (UMCs) play an important role in the search for sustainable solutions. For effective collaboration of the eight Dutch UMCs to, enhance the work on the healthcare challenges, the minister of Health, Welfare and Sport (HWS), decided to found the Citrinefund for the period 2014 – 2018. The fund holds 25 million Euros and the Netherlands Federation of UMCs (NFU) is responsible for the execution of this fund. The NFU and HWS appointed five program themes that should be focused on for now. They also emphasize the importance of collaboration between all kinds of health care parties in order to succeed towards a sustainable healthcare system. The **fifth program 'eHealth'** focuses on the creation of synergy in the fragmented eHealth landscape. By performing 32 *Evidence Based* projects, the eight Dutch UMCs strive to have always and everywhere your health care data available and to create a digital health environment that enables the patient to manage its health condition.
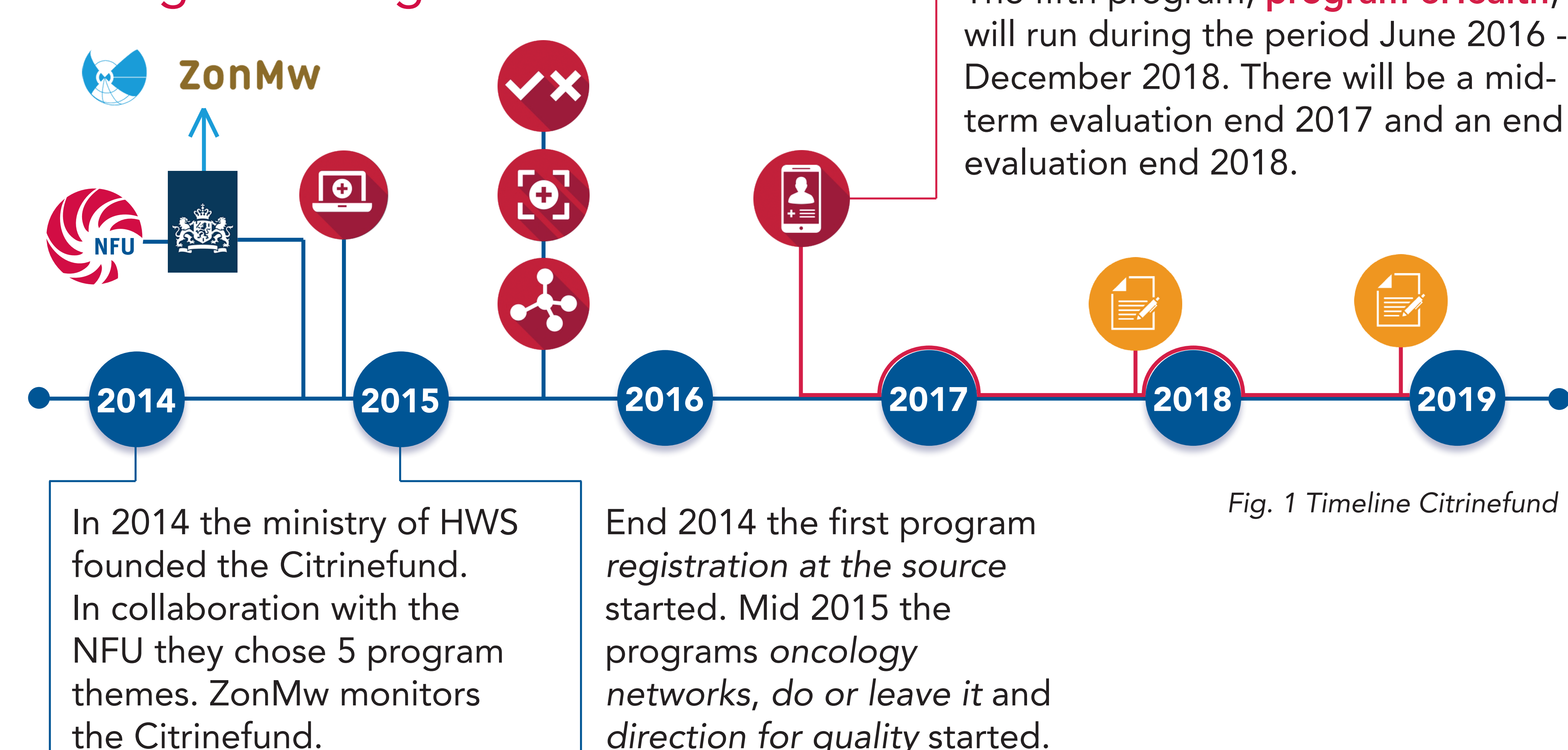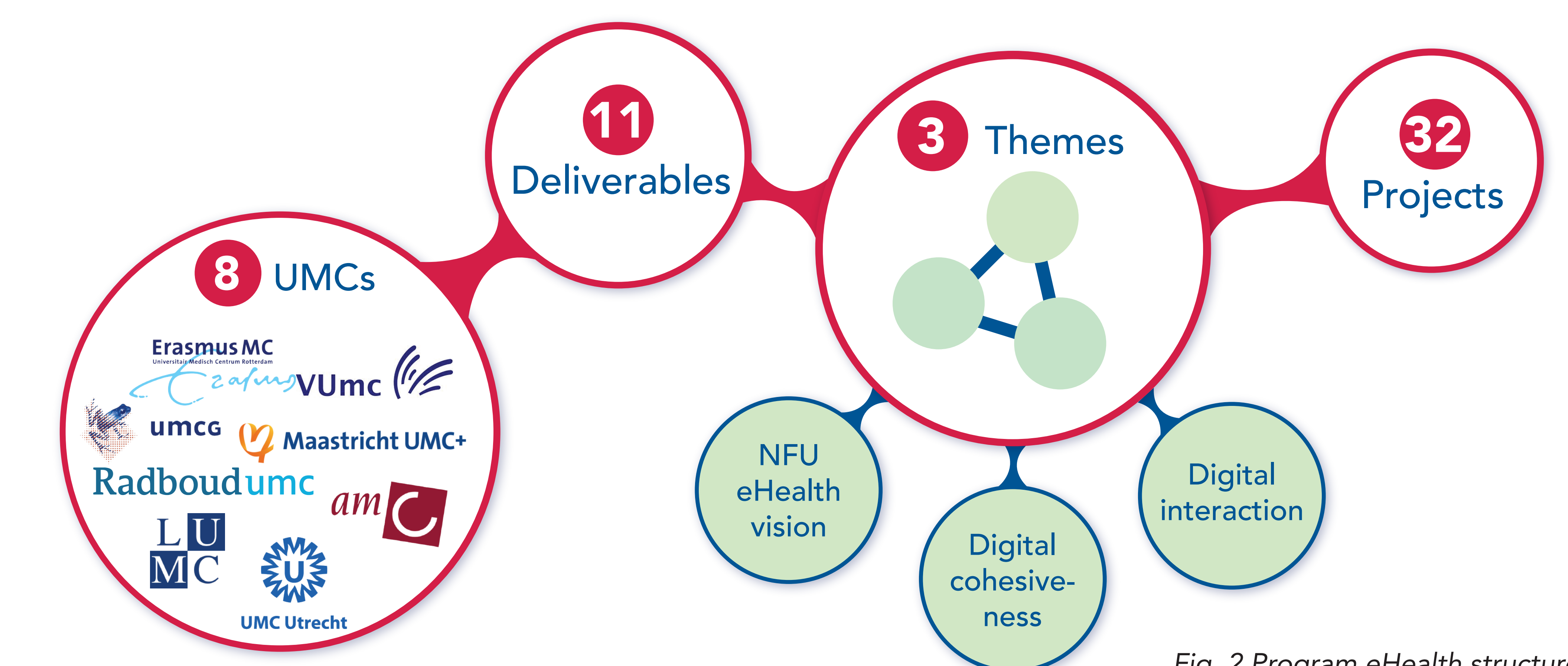
2. Deliverables

1. One coordinating NFU vision on eHealth and NFU eHealth road map
2. A virtual nationwide expertise center for eHealth
3. (Inter)national positioning by promoting in journals, media and during closure event
4. Conditions for downloading medical data described and if possible realized
5. Blueprint for interoperability between hospital information systems and EHRs
6. Agreements and standards for data sharing between consumer and professional eHealth
7. A framework for regional collaboration in favor of effective implementation of eHealth
8. Models that can strengthen the empowerment of the patient
9. A developed multidisciplinary infrastructure to stimulate development of digital health
10. Development, evaluation and implementation of eHealth instruments in collaboration with companies and start-ups
11. A blueprint of education on behalf of eHealth competences and skills of health care professionals

3. Program Design

The fifth program, **program eHealth**, will run during the period June 2016 - December 2018. There will be a mid-term evaluation end 2017 and an end evaluation end 2018.

Fig. 1 Timeline Citrinefund

In 2014 the ministry of HWS founded the Citrinefund. In collaboration with the NFU they chose 5 program themes. ZonMw monitors the Citrinefund.

End 2014 the first program *registration at the source* started. Mid 2015 the programs *oncology networks*, *do or leave it* and *direction for quality* started.

Fig. 2 Program eHealth structure

4. Highlighted Projects

Wireless Vitals

Background
When patients are recovering of complicated surgery they are at higher risk of developing complications once returned home.
Aim of this project
To investigate which 'medical-grade' wearables can be used to monitor post-operative patient safely at home.

Deliverables: 4 6 8 10
Theme: Digital cohesive-ness
UMC Utrecht

MyHeart Counts

Background
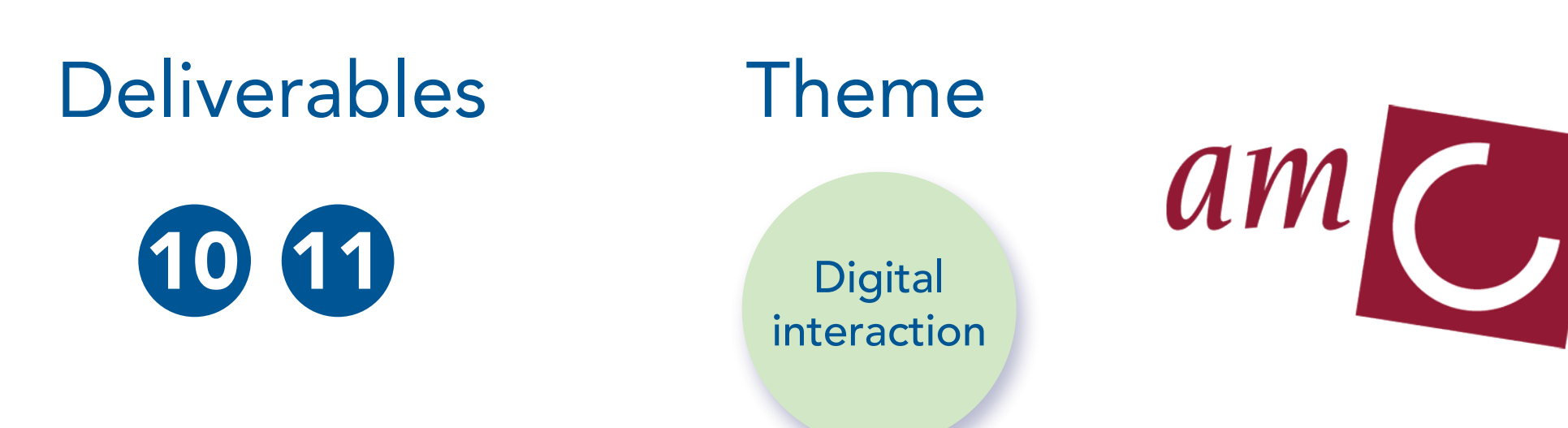Apple's ResearchKit is developed to collected research data via a smart phone.
Aim of this project
To develop a Dutch Toolkit to enable Dutch researchers to use ResearchKit. In order to have this Toolkit the MyHeart Counts app will be translated to the Dutch situation.

Deliverables: 10 11
Theme: Digital interaction
LUMC

Develop your own eHealth app

Background
Due to the rise of eHealth, the role of the health care professionals is changing. In the present health education there is no attention how the handle this change.
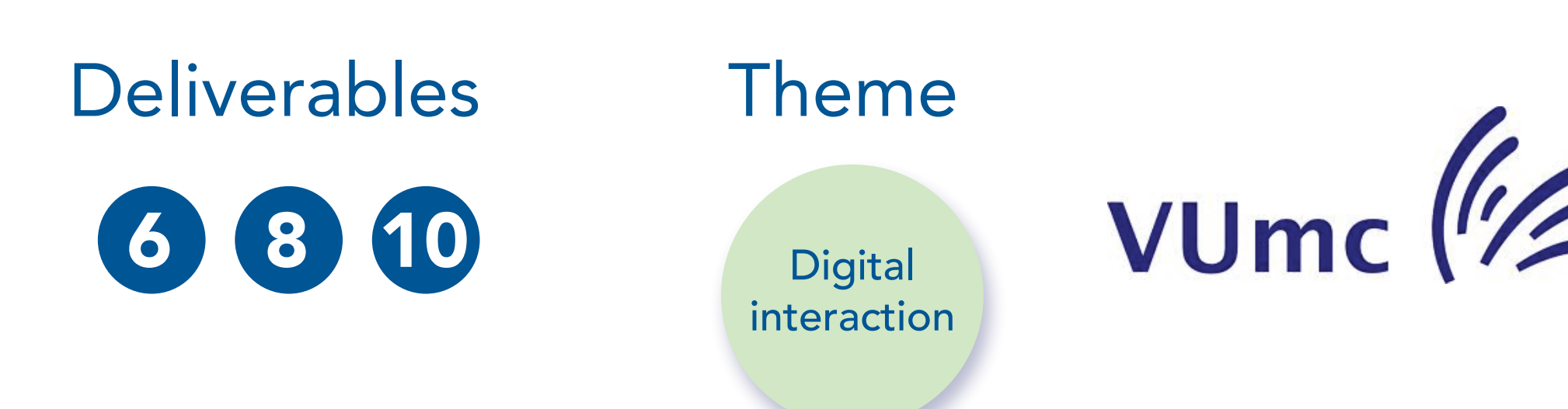*Aim of this project*
To develop an online education module which educates health care students about the development and evaluation of eHealth apps.

Deliverables: 10 11
Theme: Digital interaction
amC

Integrate the patient portal in the process of medication verification

Background
It is possible to register and share routine medication with a health care professional through the patient portal. The safety of this medication registration process is unknown.
Aim of this project
To gain knowledge about how the patient portal can be used within the medication verification process.

Deliverables: 6 8 10
Theme: Digital interaction
VUmc

5. Program Evaluation

In June 2016 the selection of the 32 projects started. Each UMC has to perform 4 projects within different pre-selected themes. The projects need to be written down in a pre-designed SMART *(fig. 3)* format document with an explicit planning *(fig. 4)*.

Fig. 3

	2016			2017				2018		
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Preparation										
Research										
Idea development										
Prototyping										
Analysis										
End product										

Fig. 4 Example planning

The clearly defined background, aim(s), research question(s), and methods in the SMART format, together with the explicit planning, enable the steering group to review the projects during the mid-evaluation Dec. 2017 and end-evaluation Dec. 2018.
The researcher of this NFU eHealth program will focus on how the projects succeed to achieve the in section 2. mentioned deliverables.

About ZonMw

ZonMw stands for innovation: we enable others to develop new (scientific) knowledge. And we do everything we can to ensure that this new knowledge is used in policy and health care practice.
If we are living longer lives, how will we stay healthy? How should we respond to the increased prevalence of such diseases as depression, obesity and dementia? Will we have enough health care workers? And how will we keep health care affordable?
Research and innovation help to answer these kinds of questions. In the Netherlands, ZonMw has a central role in this area as national funding organisation. Our activities cover the entire spectrum from basic research to the implementation of new treatments, disease prevention, and health care improvements. In everything we do we link research, practice, policy, education and training – and we provide opportunities for patients and clients to participate in projects.

About the NFU

The Netherlands Federation of University Medical Centres (Nederlandse Federatie van Universitair Medische Centra) (NFU) represents the eight cooperating UMCs in the Netherlands, as an advocate for and employer of 65,000 people. The NFU was founded in 2004 as a spin-off from the University Hospitals Association (Vereniging Academische Ziekenhuizen) (VAZ), which was established in 1989. The objective has remained the same: to ensure that agencies that decide healthcare issues in the Netherlands take into account the special role of the academic hospitals (in the past) and the UMCs (presently).

Contact info

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