

PASSION-HF

PAtient Self-care uSIng eHealth In chrONic Heart Failure



Disclosures

- Collaboration in Interreg project
 - Sananet
 - Nurogames
 - Exploris



What is Heart Failure? Why to Treat at Home?

- Heart failure (HF) – one of the most important chronic diseases
- 3,600,000 people in NW Europe and by 2025 >5,000,000
- Increasing burden on healthcare labour/costs is unsustainable
- Integrating eHealth is vital to maintaining high quality care
- Current HF-care systems still rely on healthcare professionals to provide most care

How to solve this problem?

- Involvement of the health care provider that is most motivated

The patient

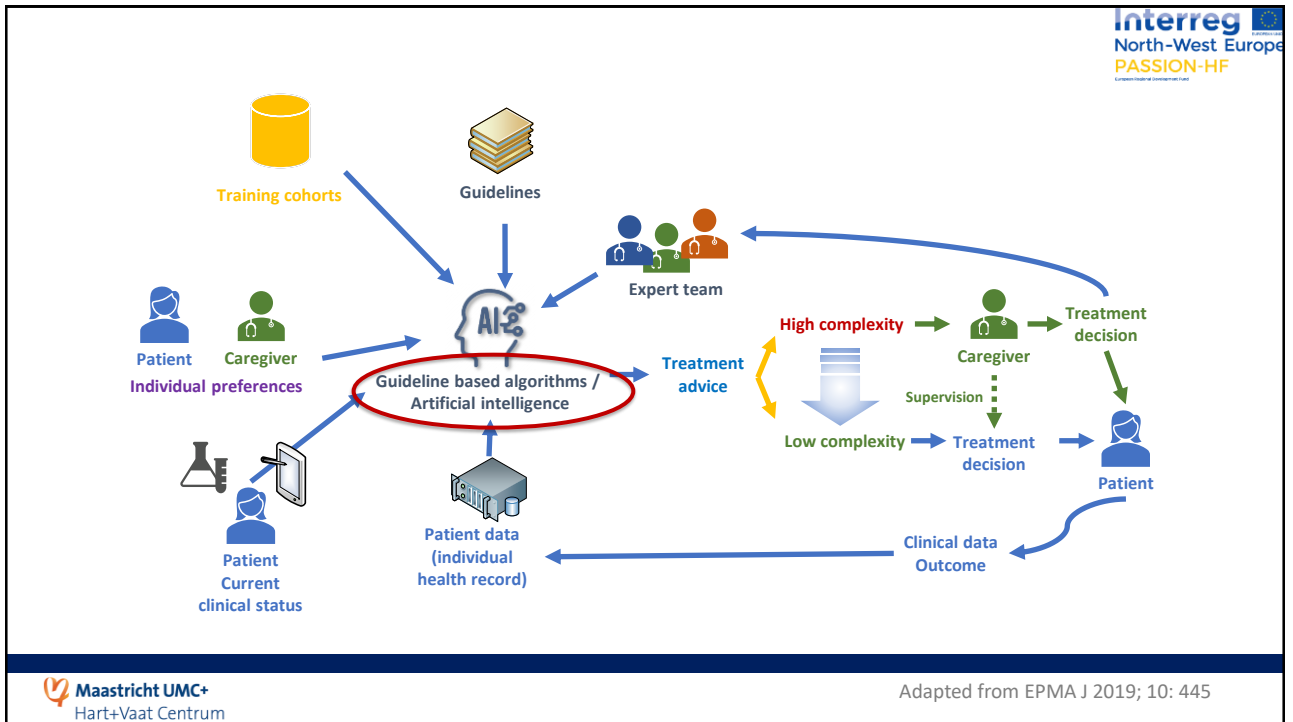
- Remote care and monitoring
- Early and targeted intervention
- Care as close to patient as possible – at home
- Finally, self treatment

What is DoctorME? (video)



What is DoctorME?

- Integrated eHealth-system enabling true self-care of chronic HF including:
 - ‘self-prescription’ & ‘self-titration’ of medication
- Decision engine of algorithms based on HF guidelines
- Integration of self-learning AI algorithms and feedback systems
- Interactive physician avatar interface and serious gaming tools (stimulate/improve compliance)



7

What are the true innovative aspects of your project?

- DoctorME will facilitate true self-care. Patient will treat themselves with help of an app. This will reduce approx. 70% of patient and physician contact.
- Translating guidelines in an application is challenging, but manageable

Logos: Maastricht UMC+ Hart+Vaar Centrum (bottom left), Interreg North-West Europe PASSION-HF (top right).

8

What are key technological challenges you have faced?

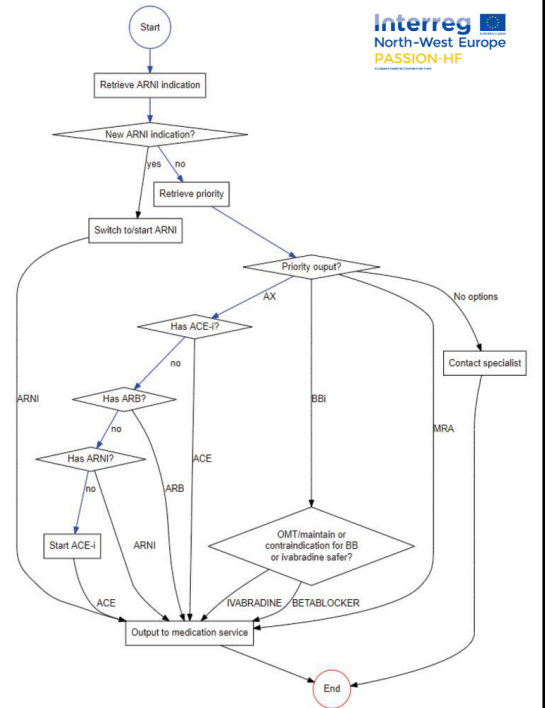
- Translating guidelines in an application is challenging
 - Technical skills
 - Guidelines are incomplete and ambiguous on some/most topics
- Integration with hospital information systems is difficult. Hospitals do not just give access to the data.

What measures have you taken to make sure your solution is truly acceptable and usable?

- We have used Business Process Model and Notation to translate guidelines.

Guideline-based algorithms

- Initial set-up as business process modelling (BPMN) for visualisation
- Programmed in >100 micromodels
 - Flexibility to add new knowledge / recommendations
 - Link and integration with artificial intelligence (AI)



What measures have you taken to make sure your solution is truly acceptable and usable?

- We have used Business Process Model and Notation to translate guidelines.
- This method has been used before.
- Acceptable for technicians and clinicians
- Synthetic testing and testing with use of real-life data (retrospectively)

Which evidence have you collected to date ?

- We are still in the process of running simulations and are involved in a pilot study
- Preliminary results: output as expected

How can your solution integrate with current practice ?

- Because there is still a great distance to bridge between the present and true integration into hospital information systems, we think that one current practice could be using our technology as decision support system.
- Health care professional responsible for chosen therapy.
- In this way you can give heart failure expert level care, e.g., also at general practitioners.

How can your solution integrate itself with other platforms and/or with native systems?

- We have developed the platform to be ready for any connection (in the future) to other systems.
- Goal FHIR/HL7 compliant



hesam.amin@mumc.nl



<https://doctor-me.eu>

