The Value of Diagnostic Information in Heart Failure

About: Heart Failure

Heart Failure is a prevalent health condition as one in five people is expected to suffer from it at some point during her or his lifetime1.

Survival is lower than for certain types of cancer, with the majority of patients passing within five years of diagnosis2. Heart Failure also has an undeniably negative impact on patients’ quality of life and in particular on their mental well-being. Many patients, for example, are not able to perform physical and social activities or engage in fulfilling relationships3.

Furthermore, it challenges the sustainability of healthcare systems: direct health related expenditure in Heart Failure is high (i.e. in Germany it amounts to €2.9bn4) and is expected to increase as a result of an overall aging population.

Until confirmation of the diagnosis and treatment decision, the patient pathway for Heart Failure is complex as symptoms are not specific to the condition7. Timely diagnosis, treatment and effective monitoring are crucial. However, missed or late diagnosis, re-hospitalisation, inefficient use of healthcare resources and poor patient involvement (i.e. lack of communication to patients on the status of their disease may potentially exclude them from their diagnosis and treatment journey) currently represent a significant barrier to optimal and high quality Heart Failure care8.

Untapped opportunities along the Heart Failure patient pathway lead to suboptimal care

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Patient care can cost from €14,297 to €19,762, depending on the frequency and length of hospital stays5. Comorbidities such as diabetes add to these costs per patient5.

Heart Failure also poses a significant socio-economic burden to society, as it negatively impacts the productivity of the patient and their carers. Ireland, for example, incurs direct medical costs of €158m due to Heart Failure. The cost of informal care for the same country is estimated to twice as much6.

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END-STAGE
Discharge
Acute Treatment / Monitoring
Monitoring
Treatment / Stabilisation
Diagnosis / Referral
Discharge
ACUTE PHASE
Diagnosis
Treatment / Stabilisation
Monitoring
Diagnosis / Referral

CHRONIC PHASE
Discharge
Acute Treatment / Monitoring
Monitoring
Treatment / Stabilisation
Diagnosis / Referral
Discharge

ACUTE PHASE
Diagnosis

How to address the shortcomings in Heart Failure care?

Even though personalised information on health-related outcomes is readily available and critical for diagnosis, treatment and monitoring, its value is often neglected as it is used ineffectively or in a non-timely manner.

In the case of Heart Failure, diagnostic information is an important part of the solution to improve care of this condition. In particular, the information provided by NT-pro B-type Natriuretic Peptide cardiac biomarkers* adds value to each step of the patient journey. Exploiting this information by means of In-Vitro Diagnostics may benefit all stakeholders in the healthcare system:

- Patients can be aware of the disease, and hence, can adjust their lifestyle. With optimal treatment, patients and carers would be more active in their social-economic life and more productive citizens.
- Primary healthcare professionals can recognise the immediate medical need at an early disease stage and in a more accurate manner.
- Hospitals can allocate resources efficiently to the right patient and where they generate the most value, whilst optimising downstream costs.
- Healthcare systems can tackle sustainability challenges by profiting from improved care and optimisation of resource allocation.

Pilots show the real world impact of guideline-driven protocols in heart failure management that use diagnostic information, leading to a reduction of hospitalisation and an increase in life expectancy9.

Therefore, healthcare systems need to recognise and fully leverage the value of information provided by In-Vitro Diagnostics in Heart Failure for patients, healthcare professionals and society.**

How can this be achieved?

- By removing barriers to timely diagnosis, optimal treatment and guideline-based care through an efficient and appropriate use of In-Vitro Diagnostic information at an early disease stage to provide high value care. A redistribution of resources towards high value care creates improved outcomes, care and well-being for patients who can become more active members of society. It also allows for sustainable cost savings for healthcare systems.
- By improving education of healthcare professionals, be it nurses, general practitioners or specialists, to raise awareness of the value of diagnostic information along the Heart Failure patient pathway.
- By establishing a reliable source of Heart Failure patient data at European level (as it is the case for diabetes) that allows to collect, analyse and compare real-world data to further leverage the value of diagnostic information and improve Heart Failure care in Europe (via the European Health Data Space, for example).

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* A cardiac biomarker is a measurable biochemical indicator of the condition of the heart.
** Reinforced by The Value of Diagnostic Information (VODI) framework which emphasises the value of information brought by diagnostics and captures the benefit to all stakeholders (Hural V et al. Public Health Genomics. 2019; 22(1-2): 8-15)