

# 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 lifetime<sup>1</sup>.

Survival is **lower than for certain types of cancer**, with the majority of patients passing within five years of diagnosis<sup>2</sup>. 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 relationships**<sup>3</sup>.

Furthermore, it challenges the sustainability of healthcare systems: direct health related expenditure in Heart Failure is high (i.e. in Germany it amounts to **€2.9bn**<sup>4</sup>) and is expected to increase as a result of an overall aging population.

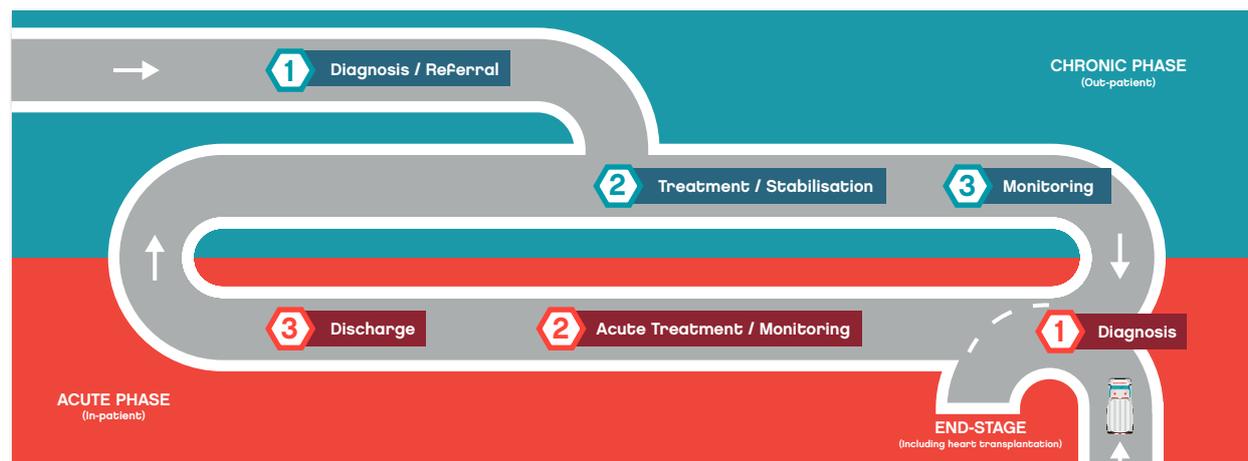


Patient care can cost from **€14,297** to **€19,762**, depending on the frequency and length of hospital stays<sup>4</sup>. Comorbidities such as diabetes add to these costs per patient<sup>5</sup>.

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 much**<sup>6</sup>.

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

Until confirmation of the diagnosis and treatment decision, the patient pathway for Heart Failure is complex as symptoms are not specific to the condition<sup>7</sup>. **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 care**<sup>8</sup>.

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2) Heart Failure Policy Network . The handbook of multidisciplinary and integrated heart failure care. 2018; Available at: [https://www.hfpolicynetwork.org/wp-content/uploads/2018/09/HFPN\\_handbookD\\_DIGITAL.pdf](https://www.hfpolicynetwork.org/wp-content/uploads/2018/09/HFPN_handbookD_DIGITAL.pdf) [Accessed 22/11/19]  
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3) Mbakwem A et al. Card Fail Rev. 2016; 2(2): 110-112.  
4) Lesyuk et al. BMC Cardiovasc Disord. 2018; 18(1): 74.

5) Dunlay S et al. Circulation. 2019; 140: e294–e324.  
6) International Alliance of Carer Organizations. Carers of persons with heart failure A FOUR NATION STUDY. 2017. / Jaarsma T, Stromberg A. Can J Cardiol. 2014; 30(3): 272-5. The Heartbeat Trust, Irish Heart Foundation, NUI Galway. / The Cost of Heart Failure in Ireland: The social, economic and health implications of Heart Failure in Ireland. 2015.  
7) Di Lenarda A et al. Int J Cardiol. 2019; 274: 248-249.  
8) Chapman et al. J R Coll Physicians Edinb. 2015; 45: 27–32. / Di Lenarda A et al. Int J Cardiol. 2019; 274: 248-249. / Hayhoe B et al. Heart. 2019;105(9): 678-685. / Braun V et al. Eur J Heart Fail. 2011; 13(1): 93-9. / Irish Cardiac Society. 2016. Irish Cardiac Society calls for rapid Community Heart Failure diagnosis [Online]. Available at: [http://www.irishcardiacsociety.com/pages/news\\_box.asp?NewsID=19792213](http://www.irishcardiacsociety.com/pages/news_box.asp?NewsID=19792213) [Accessed 22/11/19] / Smith et al. Echo Res Pract. 2017; 4(3): E1–E2.

## 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 expectancy**<sup>9</sup>.

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).

\* 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* (Wurcel V et al. Public Health Genomics. 2019; 22(1-2): 8-15)

<sup>9</sup> Hausärzterverband Baden-Württemberg. Evaluation of the AOK cardiology specialist contract in Baden-Württemberg shows significantly fewer deaths for cardiac patients. 2019; Available at: <https://www.hausarzt-bw.de/news-13653/> [Accessed 25/02/2020]

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