

Partners



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Project details

PROJECT NUMBER: 101095653

PROJECT TITLE: BIOmarker based diagnostic TOOLkit to personalize pharmacological approaches in congestive heart failure

TOPIC: HORIZON-HLTH-2022-TOOL-11-01

START DATE: 1 October 2023

DURATION: 60 Months

GRANTING AUTHORITY: HADEA

EU CONTRIBUTION: 9.600.663,00 Euro

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BIOmarker based diagnostic TOOLkit to personalize pharmacological approaches in Congestive Heart Failure



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Project

Heart failure is a chronic clinical syndrome involving up to **6.5 million people in Europe**. It is the leading cause of hospitalisation in adults, yielding a healthcare cost of 17 billion euro/year.

The mortality rate is comparable/superior to several type of cancers in the EU perspective, **reaching 70% at 5-year** in the advanced stages of heart failure.

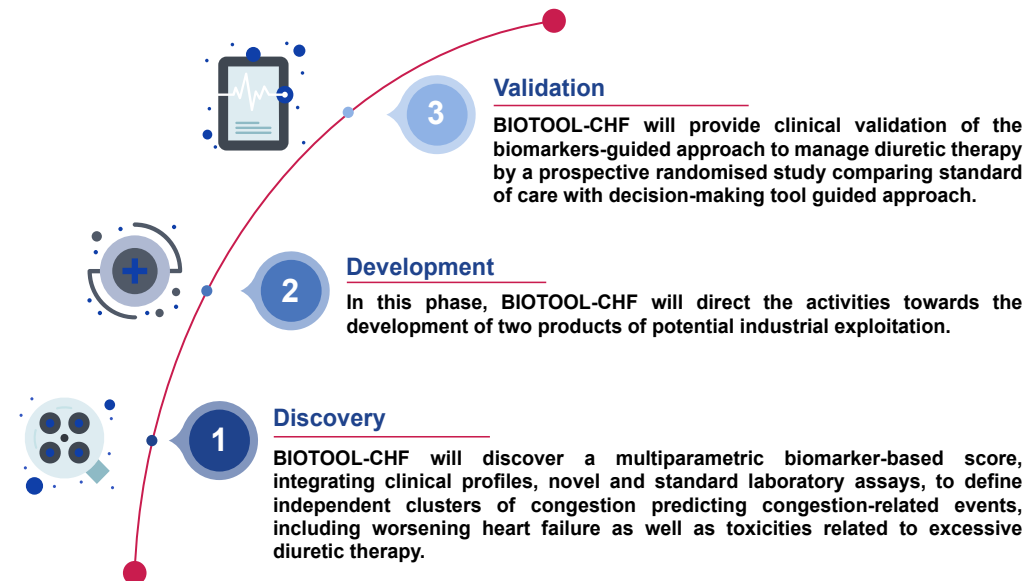
The innovation potential of BIOTOOL-CHF is built on the overall approach that will be adopted to tackle the unsolved issue of **improving the efficiency of fluid management in systolic heart failure**.

BIOTOOL-CHF research activities will lead to identification of a selected pool of biomarkers **validated for prediction of fluid overload** to be implemented in a companion **diagnostic prototype**. This tool, coupled with a fluid retention score and a prognostic score integrated with a set of specific patient characteristics, will be the basis to develop the BIOTOOL-CHF Decision-Making Tool functional **to help health care providers in managing fluid balance**.

Objectives

BIOTOOL-CHF will **discover, develop, and validate** a personalised approach to manage diuretic therapy in heart failure and reduced ejection fraction, **to reduce heart failure hospitalizations and improve the quality of life**.

BIOTOOL-CHF: conceptual framework



Impacts

BIOTOOL-CHF gathers major European **heart failure and big data analysis experts** to provide an innovative approach to the management of heart failure with reduced ejection fraction which is one of the most frequent, costly and deadly pathological conditions in Europe.



Set of validated biomarkers to estimate congestion and related clinical outcomes of patients with chronic heart failure with reduced ejection fraction



AI-derived algorithm from multiparametric analysis of patients characteristics to identify congestion and to predict prognosis



Decision-making tool to implement management of fluid retention by means of loop diuretics



Prototype of Point of Care companion diagnostic to assess biomarkers concentrations



Strategy plan to comply for CE marking of the Companion Diagnostic