The FDA-cleared AI Algorithm[1] That Predicts HF Hospitalizations

SignalHF Predictive AI

Addressing Heart Failure: A Vital Concern for Patients and Health Systems

» HF affects 64 million[2] people globally

» HF is a leading cause of hospitalization over the age of 65 in the US[3]

» Hospitalizations for HF place financial burden on healthcare systems

» Reducing HF hospitalizations requires a multifaceted approach, including strategies for prevention and early detection

SignalHF, the First Manufacturer-Agnostic HF Prediction Score Based on Cardiac Implantable Electronic Devices (CIED) Data

» SignalHF[4] is an FDA-cleared AI algorithm

» Uses data collected from CIEDs (PM, CRT-P, ICD, CRT-D)

» Algorithm is agnostic for Biotronik, Boston Scientific and Medtronic CIEDs using 90 days of physiological data, demographics, lead measurements and episodes & therapies

» Evaluates the risk of HF hospitalizations in the next 30 days

» Generates alerts for SignalHF score above alert threshold

SignalHF Performance[5]

	SignalHF by Implicity FORESEE HF (ICD/CRT-D)	SignalHF by Implicity FORESEE HF (IPG/CRT-P)
Sensitivity	60%	46%
Unexplained Alert Rate PPY	0.66	0.47
Lower Quartile on Alerting Time[6] (in days)	35	37

Advancing Care Quality for Individuals with Heart Failure

» Identify indications of deterioration in heart failure patients

» Evaluate the risk of hospitalizations due to heart failure

» React by adjusting the care and treatment for your heart failure patients

[1] SignalHF is an FDA-cleared Class II medical device, see the instructions for use for more information.
[2] Groenewegen, A., Rutten, F. H., Mosterd, A., & Hoes, A. W. (2020). Epidemiology of heart failure. European Journal of Heart Failure, 22(8), 1342–1356. doi:10.1002/ejhf.1858
[3] Healthcare Cost and Utilization Project (HCUP). (2011). HCUP Facts and Figures: Statistics on Hospital-Based Care in the United States, 2009. Agency for Healthcare Research and Quality (US).
[4] SignalHF is compatible with ICD/CRT-D from Medtronic, Boston Scientific and Biotronik and IPG/CRT-P from Medtronic and Biotronik able to measure thoracic impedence.
[5] "Heart Failure Events Prediction Algorithm for Patients Implanted With Multi-brand CIED – FORESEE-HF StudyResults". N. Varma. EHRA 2024
[6] Number of days before the event when the alert is reached (for 75% of the events)

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SMART REMOTE MONITORING

NEW!

The FDA-cleared AI Algorithm That Predicts HF Hospitalizations

SignalHF
Predictive AI

Heart Failure at a glance

1 Latest alerts if the score is above the threshold

2 Current SignalHF status indicating the decompensation risk estimation for the patient within the next 30 days
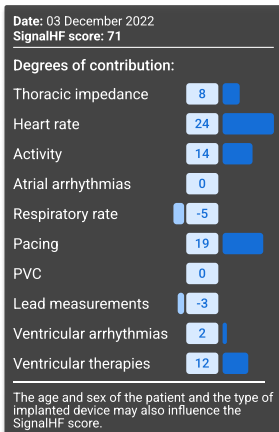
3 Display of SignalHF score evolution over the last 6 months

4 Based on main contributing factors, cardiologists are able to look directly at the patient's physiological data and confirm SignalHF risk assessment

implicity — Dashboard — Patients — Reports — Billing — Schedule — Your hospital — Dr. Heart

Susan Brown Born on 11/26/1947
Medtronic Solara CRT-P W1TR06
Implanted on: February 22, 2021
DAIPP2   HF

Connectivity status: • Connected — Latest reports April 27, 2022 (5)
Next transmission date : 25 Dec, 2023
Request an action — View open actions — DAIPP
Draft   a month ago (March 22, 2022)   Edit   New report

SignalHF score crossed the alert threshold The patient's assessed risk of hospitalization within the next 30 days is high.
received on 23 oct. 2022 06:17 AM   Archive

Open events — Summary — Leads/Device — Brady/CRT — Arrhythmias — HF Monitor — Device Settings — Clinical Data — Documents — Notifications — Patient info

SignalHF Risk score of hospitalization for Heart Failure within the next 30 Days

See data over 6 months

High risk of HF since 23 Oct. 2023
The SignalHF score has crossed the alert threshold and is still above the recovery threshold, the patient's assessed risk of hospitalization within the next 30 days is high.

• HF score ---- Alert threshold --- Recovery threshold

Physiologic Data

Right Ventricle Day Rate Mean   Right Ventricle Night Rate Mean

Heart rate (bpm)

Sdann

Heart rate variability (Sdann)

An explicable and actionable score

Date: 03 December 2022
SignalHF score: 71

Degrees of contribution:

Thoracic impedance	8
Heart rate	24
Activity	14
Atrial arrhythmias	0
Respiratory rate	-5
Pacing	19
PVC	0
Lead measurements	-3
Ventricular arrhythmias	2
Ventricular therapies	12

The age and sex of the patient and the type of implanted device may also influence the SignalHF score.

» **Leverage contributing factors** to quickly pinpoint relevant physiological signals

» **Identify clear next steps** based on SignalHF's assessment:

◇ Check patient symptoms, with a phone call or an automated SMS
◇ Pause the alert to follow up on the patient in a few days
◇ Adapt medication