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PROJECT DETAILS

Project number: 101057103

Project full title: Combining Artificial Intelligence and smart sensing TOward better management and improved quality of LIFE in chronic obstructive pulmonary disease

Project acronym: TOLIFE

Granting authority: European Health and Digital Executive Agency

Start date: 1 September 2022

Duration: 54 months

EU contribution: 5.988.859 Euro

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TOLIFE

Combining Artificial Intelligence and smart sensing TOward better management and improved quality of LIFE in chronic obstructive pulmonary disease

PROJECT

TOLIFE will clinically validate an artificial intelligence (AI) solution to process daily life patient data captured by unobtrusive sensors to enable optimised personalised treatment, assessment of health outcomes and improved quality of life in chronic obstructive pulmonary disease (COPD) patients.

OBJECTIVES

ARTIFICIAL INTELLIGENCE
Artificial Intelligence based solution able to smartly process daily life patient-specific data captured by unobtrusive sensor technologies.

NEW SOFTWARE TOOL
Analytics tools able to process patterns of daily life patient-specific data to predict exacerbations.

COLLECTION DATA
To develop a multisource platform or supporting ongoing and future research on chronic obstructive pulmonary disease monitoring and management.

CLINICAL STUDIES

Clinical Study A: Observational cohort

A group of 150 patients will be followed for 12 months in the period February 2024-June 2025 by registering exacerbations and by performing periodic clinical examinations to provide the clinical references for the Artificial intelligence tools.

Clinical Study B: Validation cohort

A group of 130 patients will be followed for 12 months in the period September 2025-March 2027 with the set of smart sensors. During study B, the prediction of exacerbations and assessment of health outcomes enabled by the analytics tools will be made available to the clinicians through a software interface to support the clinician decisions for a precise and optimized management of COPD.
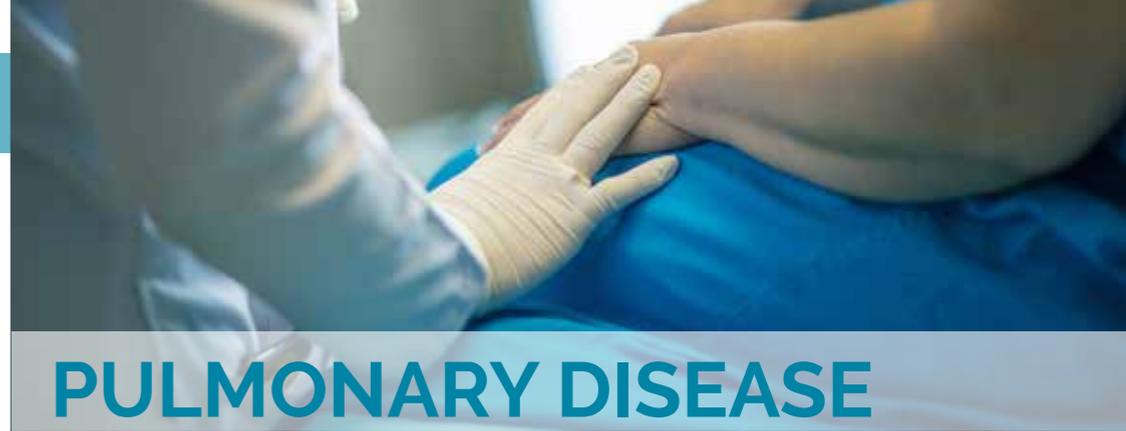
PULMONARY DISEASE

Chronic obstructive pulmonary disease (COPD) is a highly prevalent chronic condition. While COPD is a lung disease, it is mainly the exacerbations and extrapulmonary comorbidities which affect the quality of life, health care costs, and prognosis. The optimal COPD treatment needs to focus on both the characteristics and consequences of the lung disease itself and the diagnosis and treatment of comorbidities.

SMART-SENSORS

SMARTWATCH

HOME IoT & WEBSERVICES

SMARTPHONE

SMART-BED

SMART-SHOES