



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

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

Grant Agreement Number

101057103

Topic

HORIZON-HLTH-2021-DISEASE-04-04

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EUR 5,988,859.00

Start date of the project

September 1st, 2022

End date of the project

February 28th, 2027

Project Coordinator

Università di Pisa (UNIPi)

Project Website

<https://www.tolife-project.eu>



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Two Years into the TOLIFE Project: Non-Invasive Devices Developed as Clinical Study A Begins

25th October 2024 - The TOLIFE project, acronym of “Combining Artificial Intelligence and smart sensing TOward better management and improved quality of LIFE in chronic obstructive pulmonary disease (COPD),” is now in the heart of its mission, two years since its inception. Following the successful development of non-invasive devices, these have been shipped for the official start of Clinical Study A, a pivotal step in the project’s goal of improving COPD treatment through personalized and innovative solutions.

The primary objective of TOLIFE is to enhance the management and personalization of care for COPD patients using advanced artificial intelligence (AI) and non-invasive sensing technologies. The sensor kit developed includes a WiFi router, smartwatch, smartphone, smart shoes, a smart mattress cover with a Bedroom Box Case (detecting light, temperature, humidity, and noise), and a mini spirometer. These devices allow real-time monitoring of patients' health data during daily activities, providing valuable information to predict exacerbations, improve daily management, and continuously evaluate health status.

Clinical Study A plays a central role in this process. The study involves the long-term monitoring of participants over a 12-month period, collecting essential data on COPD exacerbations, disease progression, and health outcomes. This data will feed into the development of AI-driven models designed to detect early signs of severe exacerbations and assess the broader impact of COPD and its comorbidities on patients' quality of life.

With the launch of Clinical Study A in June, TOLIFE is entering a critical phase. The collected data will provide the foundation for innovative tools aimed at improving COPD management, reducing mortality, improving health-related quality of life, and ultimately helping to lower healthcare costs for patients with complex chronic conditions.

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