

*Una manera de hacer Europa*

# BUENAS PRÁCTICAS Actuaciones Cofinanciadas

Lightweight intervention devices for health emergencies project,  
EQUILIN

Ministry of Science and Innovation. FID program

**Programa Operativo  
Plurirregional de España**

Año 2022

**Fondo Europeo de Desarrollo Regional**

## GOOD PRACTICES. LIGHTWEIGHT INTERVENTION DEVICES FOR HEALTH EMERGENCIES PROJECT - EQUILIN.

The project "Lightweight Intervention Devices for Health Emergencies" (hereinafter referred to as EQUILIN) has been launched by the Public Company for Health Emergencies (EPES), under the jurisdiction of the Andalusian Regional Ministry of Health and Consumption. The project aims to address the need for lighter equipment that ensures clinical safety for both patients and professionals. This equipment should be lightweight, leading to a new scenario in the provision of healthcare in the out-of-hospital setting.

The project has a total budget of 1,000,000 euros, co-financed to 80% by the European Regional Development Fund (ERDF) through the Multiregional Operational Program of Spain 2014-2020. The project has received 800,000 euros in funding from the Ministry of Science and Innovation through the "Promotion of Innovation from Demand" FID program.

This project is presented as a Good Practice because it satisfies the following criteria:

### 1. THE INITIATIVE HAS BEEN ADEQUATELY DISSEMINATED AMONG BENEFICIARIES, POTENTIAL BENEFICIARIES, AND THE GENERAL PUBLIC

The EQUILIN project has been disseminated through various means and events, which are detailed below.

#### Website of the Public Company for Health Emergencies (EPES) Portal:

The website of the Public Company for Health Emergencies features an image of the emblem and motto of the European Union on its main page, immediately visible upon opening the site. This image leads to a dedicated page for projects financed with European Funds, including links to different Programs and related regulations.



Homepage in EPES website



European projects web page in EPES website

Additionally, there is a page dedicated to the Multiregional Operational Program of Spain (POPE), as well as the EQUILIN project with its description, objectives, expected outcomes, received ERDF funding, and a link to the project's dedicated website.



POPE web page in EPES website



EQUILIN project web page in EPES website

## Specific EQUILIN Project Website:

A dedicated website has been created for the EQUILIN project, providing detailed information about its co-financing with ERDF funds, project details, phases, and activities carried out to date.



EQUILIN project website

## Plaque:

An A3-sized informative plaque about the project's funding has been installed in the main building of the 061 Emergency Health Centre (at 28 Severo Ochoa Avenue, Malaga).



## Media Channels:

Dissemination has taken place on various websites related to the fields of health, innovation, and medical outreach, such as Diariofarma, IM Medico, Biomechanics Institute of Valencia, Healthcare Technology Platform, etc. Progress updates of EQUILIN have also been featured on social media platforms including Twitter, YouTube, and LinkedIn. Additionally, online media outlets such as Darío de Almería, Europapress, Huelva Red, etc., have covered the project's advancements.

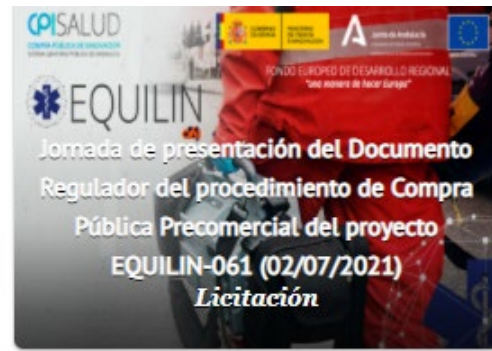


## Public Presentation Events:

The project has been publicly presented at forums, conferences, or workshops such as the XXV SADECA Congress, 2021 Amparo Poch Awards, Committee meetings held at 061, presentations at the Andalusian School of Public Health (EASP), etc. It has also been showcased in events organized to inform about different stages achieved in the projects, such as informative workshops for Preliminary Market Consultations and Presentations of the Conclusions of Preliminary Market Consultations.







All presentations used include the logos of the European Union and the Ministry of Science and Innovation, along with information about its ERDF funding.

## **2. THE INITIATIVE INCORPORATES INNOVATIVE ELEMENTS**

The EQUILIN project incorporates highly significant unique innovative characteristics in its development and outcomes for the assessment of 5 biosignals (Heart and Respiratory Rate, Blood Oxygen Saturation, Blood Pressure, and Temperature) from a distance of up to 2 meters without direct patient contact. The device's weight cannot exceed 500 grams.

Emergency Teams (ET) must carry and transfer equipment to the patient's location, and after providing assistance, the patient's weight adds to the load. This is where the necessity for the EQUILIN project arises. Accidents involving emergency medical personnel that resulted in temporary disability (TD) from overexertion account for 48% of all cases within the 061 Emergency Health Centre. These mishaps are primarily the result of patient movement and material handling.

The introduction of lightweight equipment such as EQUILIN will result in a progressive reduction in accidents over a four-year period, as well as associated expenditures for lost work hours and healthcare help. Additionally, inpatient costs (length of stay) are predicted to be reduced as a result of faster and safer help in 9 time-critical processes in mobile emergency care.

Finally, it is critical to emphasize that future out-of-hospital health care delivery should be geared toward a wireless, integrated setting that allows for quick decision-making and prioritizes diagnostic and treatment safety for both patients and professionals.

## **3. ALIGNMENT OF ACHIEVED RESULTS WITH ESTABLISHED OBJECTIVES**

The tendering proposals awarded by EPES' contracting body (now the 061 Emergency Health Centre) have a high degree of conformity with the initially defined project objectives.

The awardee has successfully completed the development of a prototype that will enable the 061 emergency care teams to remotely assess vital signs (Heart Rate, Respiratory Rate, Temperature, Blood Oxygen Saturation, and Blood Pressure) of the patient from a distance of up to 2 meters.

### Project Objectives:

This project intends to improve the process of out-of-hospital treatment for individual and collective health emergencies by using lightweight patient care and monitoring devices. The equipment should allow for rapid diagnosis and treatment initiation, while also maintaining

clinical safety for patients and professionals.

Specifically, the objectives of this project are as follows:

- Desing, develop, and test in real-world settings an innovative market-ready device with necessary functionalities for patient monitoring and electrical therapy application. This device must meet quality requirements for time-dependent disorders while also improving portability and convenience of use greatly.
- Create an integrated device or one that can be incorporated into a terminal that is capable of taking, recording, processing, and exchanging biosignals and has environmental connection. It should also offer modular additional defibrillation capabilities.
- Reduce Temporary Disability days due to overexertion among emergency healthcare professionals.
- Decrease healthcare expenses associated with overexertion-related accidents.

#### Functionalities:

##### Basic Functionalities:

- Lightweight.
- Small volume, easily portable.
- Monitoring of heart rate, respiratory rate, blood oxygen saturation, and blood pressure.
- Integration with the Mobile Digital Clinical History (HCDM) of the 061 Emergency Health Centre.
- Connectivity with another unit's equipment.
- Remote measurement of biosignals without sensors.
- Wireless environment.

##### Optional Functionalities:

- Battery as an additional element, with high discharge capacity and minimal weight.
- Modular design.
- Integration with Tablets / Smartphones.
- Embedded Autonomous Units.

#### **4. CONTRIBUTION TO RESOLVING A DETECTED PROBLEM OR WEAKNESS IN THE TERRITORIAL EXECUTION SCOPE**

At the level of out-of-hospital emergency care, the proposed solution minimizes response times while improving aid quality. This technology will improve decision-making and out-of-hospital care quality. Overall, it is expected to result in fewer Temporary Disability cases at the Centre due to overexertion, resulting in decreased expenses.

#### **5. HIGH DEGREE OF COVERAGE FOR THE TARGET POPULATION**

We are talking about a small, portable device that greatly encourages creativity in individual as well as collective emergency care. In the event of a medical emergency, this connected gadget will record patient vital sign data, speed up decision-making with diagnostic and

treatment guidance, and ensure the safety of both patients and staff. Without sensors or wires, it operates wirelessly while monitoring remotely and, if necessary, enabling defibrillation through a separate module.

The new scenarios in the delivery of emergency healthcare services where clinical safety (for patients and professionals) is paramount, the innovative technologies embedded in the device, the reduction in equipment weight, and the potential impact on providing pertinent information for clinical assessment and immediate treatment of patients facing time-dependent pathologies during health emergencies will all work together to improve the quality of emergency care.

## **6. CONSIDERATION OF HORIZONTAL CRITERIA OF EQUAL OPPORTUNITIES, NON-DISCRIMINATION, SOCIAL RESPONSIBILITY, AND ENVIRONMENTAL SUSTAINABILITY**

The social influence of the initiative on health can be highlighted. The EQUILIN project's orientation and aims are geared at the development of a lightweight, wireless device that measures the 5 important biomarkers for early emergency diagnosis. This development will improve patient care by drastically shortening the time required to receive a diagnosis when compared to current methods. Furthermore, it will make experts' jobs easier by allowing them to carry lighter equipment, resulting in higher job quality and less strain when transferring equipment to the patient's location. This emphasis on the well-being of professionals contributes to the reduction of temporary workforce shortages.

The project seeks new solutions to improve the existing state of market technologies while also ensuring that the technologies created are affordable and sustainable for Public Health Systems. The 061 Emergency Health Centre's contracting service upholds values and commitments for promoting gender equality among citizens and professionals.

Throughout the tendering and contracting process, information has been consistently accessible and transparent. The transparency and thorough dissemination throughout the process underscore equal opportunities and non-discrimination for all interested companies.

The territorial improvement is achieved by implementing the project in all the 8 emergency health centers of the Andalusia region in Spain.

If the desired findings are obtained, the Andalusian Health Service's 061 Emergency Health Centre will be the first public health system to have instruments capable of measuring the 5 vital signs without direct patient contact from a distance of up to 2 meters.

Furthermore, in accordance with the requirements of equal chances and non-discrimination, the implementation of this project will take place without any gender discrimination for both patients and professionals.

## **7. SYNERGIES WITH OTHER POLICIES OR PUBLIC INTERVENTION INSTRUMENTS**

The offered solutions are highly aligned with the Regional Ministry of Health and Consumption of the Junta de Andalucía and, by extension, the contracting service's plans and policies for supporting innovation and the development of creative solutions.

The EQUILIN-061 initiative is part of PPI strategy for the Public Health System of Andalusia (SSPA), led by the General Secretariat for Research, Development, and Innovation of the Andalusian Regional Ministry of Health and Consumption. It operates within the context of the Health R&D Strategy, the Innovation Strategy of Andalusia 2014-2020 (RIS3), and involves the 061 Emergency Health Centre of the Andalusian Health Service.

Incorporating such initiatives into broader regional strategies for innovation and health, not only strengthens the overall impact of the project, but also aligns with the broader goals of the region's innovation and health development efforts.



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