

**CardiOCARE****Newsletter**

## Editorial

***Prof. Dimitrios Fotiadis (Coordinator, UOI)***

During the last months, CARDIOCARE progressed according to the plan, producing high quality deliverables and achieving key milestones. Initially, the ethical approvals from each clinical centre of CARDIOCARE were obtained. Moreover, the design of the CARDIOCARE prospective study was finalized. Multidimensional data (including clinical, cardiac imaging, biochemical and psychological biomarkers and omics, intrinsic capacity and Quality of Life (QoL) indicators) from 750 elderly breast cancer patients from 6 clinical sites (IEO, BOCOC, KSBC, UOI, NKUA, IOL) will be collected at baseline and every 3 months, up to 18 months. Furthermore, in the last months continuous technical refinement has been performed in the CARDIOCARE mobile application; the ePsyncHeart and eHealthHeart. The CARDIOCARE application supports the user-friendly collection of data in order to deliver and also test the efficacy of patient-oriented behavioural and psychological interventions, which aim to improve patients' resources, intrinsic capacity and QoL and mitigating cardiotoxic effects of cancer therapy.

You can visit our [website](#) for more details. You are also welcome to share your comments on our social networks.

## Enjoy the reading!



CardiOCARE has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 945175 - This publication reflects only the author's view and the Commission is not responsible for any use that may be made of the information it contains

<https://cardiocare-project.eu/>

## Design of the CARDIOCARE prospective study

*Dr. Margherita Zenoni (Researcher, Applied research unit for cognitive and psychological science, IEO)*

### 1. Overview

Over 50% of newly diagnosed breast cancer patients are 65+ years old. Due to age-related factors and the presence of multiple comorbidities, these patients are particularly vulnerable to developing cardiac toxicity associated with cancer treatments, which may lead to suboptimal interventions and undertreatment, resulting in poorer health outcomes, QoL deterioration and increased healthcare costs. Given the under-representativeness of elderly breast cancer patients in clinical trials and the increasing recognition of psychosocial and behavioural factors' impact on cardiovascular disease onset, broader and interdisciplinary studies are required to develop new best practices for this clinical population.

To date, the most effective approach to minimize cardiotoxicity is early detection and early onset of prophylactic treatment. However, although advances have been made in the detection and management of cardiac toxicity based on imaging technologies (i.e., 2D and 3D Echocardiography and cardiac MRI) and circulating biomarkers (i.e., troponin I and brain natriuretic peptide (BNP)), such instruments lack the sensitivity to detect subclinical changes, and indeed detect cardiac toxicity only once a functional impairment emerges, precluding any chance of effective prevention.

### 2. Novelty and CARDIOCARE Clinical Study Objectives

Currently, no extensive studies have allowed the collection of all necessary data to make a meaningful assessment of elderly breast cancer patients' intrinsic capacity and QoL. By using the innovative eHealth approach of the CARDIOCARE mobile application and technologically advanced wearable devices, the CARDIOCARE prospective study pursues a twofold aim: (a) testing the effectiveness of the CARDIOCARE mobile application to monitor, assess, and improve elderly breast cancer patients' intrinsic capacity and QoL; (b) developing a holistic, patient-centered risk prediction model able to detect cardiotoxicity before it clinically emerges. The risk prediction model will be developed using retrospective and prospective data, i.e. novel biochemical, -omics (metagenomics, microRNA, Single Nucleotide Polymorphisms), and psychological markers to better assess how patients' intrinsic capacity (physical and mental) and QoL influence their risk of developing cardiac toxicity when exposed to oncological treatments. Furthermore, the CARDIOCARE clinical study will be the first to explore, in a clinical setting, how the gut microbiome of elderly breast cancer patients is affected by different oncological treatments, and if any association exists between the gut microbiome, cardiac toxicity etiopathogenesis and intrinsic capacity, paving the way for future potential biotic treatments.

### 3. Methods

#### 3.1 Clinical study design and participants

The study is multicentric and involves 6 clinical centres (IEO, BOCOC, KSBC, UOI, NKUA, IOL). 750 breast cancer patients aged 65+ will be randomised into either the intervention or the control arm, with only patients in the former receiving access to eHealth psychological, behavioural, and functional interventions implemented on the CARDIOCARE eHealthHeart application. Patients will undergo clinical procedures to collect multi-modal data including clinical data, cardiac imaging, biochemical and psychological biomarkers and omics, as well as intrinsic capacity and QoL indicators, that will be measured at baseline and every 3 months, up to 18 months.

#### 3.2 Instruments and measures

Patients in the intervention arm and those in the control arm of the study will receive wearable devices (the Garmin Venu SQ smartwatch and the Polar H10 chest strap) and complete an initial evaluation on the CARDIOCARE mobile application, which includes seven modules:

**1) Questionnaires Module:** This module includes 15 self-reported measures providing critical information on the patient's QoL, the levels of perceived stress, resilience, anxiety and depression, self-management and emotion regulation capacity, coping skills, perceived social support, as well as their levels of optimism.

**2) Mobility and Vitality Module:** This module includes the Nutrition Questionnaire, the Physical Activity, the Cardio Recording Session (CRS), and the Hand Grip Session (HGS) submodules, for monitoring patient's overall wellbeing, sleep duration, physical activity, average heart rate, and stress levels.

**3) Cognitive Stimulation Module:** This module includes 4 cognitive games:

- Find the Word: the goal of this game is to identify the displayed word within the letter grid.

- The Tic Tac Toe: the goal of this game is to be the first player to get three Xs in a row on a 3 by 3 grid.
- Color Beans: the goal of this game is to select and place the bean with the same color as the plate has, in the container to the box above the plate.
- Drawing: the goal of this is to fill the contents of an image with the same colors as the displayed sample image.

These cognitive games, if played consistently, can foster the patient's attention, concentration, and working memory capacities, therefore counteracting the cognitive impairment often found in patients undergoing oncological treatments.

**4) Education and Training Module:** This module includes two submodules. The first submodule is the Breast Cancer Material, which consists of patient-oriented information for breast cancer and cardiotoxicity and the possible psychological and social implications breast cancer and its treatment can have. This submodule aims to provide to the patients deeper awareness about what they are experiencing and take the necessary steps to take care of their psychological wellbeing. The second submodule is the Training Module and contains a video tutorial for patients to improve their balance and reinforce their muscles' strength.

**5) Geriatric Syndrome Assessment Module:** This module includes the Incontinence Management submodule, which allows patients to report urination incidents, to perform guided exercises for pelvic floor strengthening, and to set reminders for the toilet usage and the Fall Mitigation submodule, where patients can access the OTAGO programme, a set of exercises designed to help them enhance and restore their balance.

**6) Vision and Hearing Module:** This module includes the Vision Test, which provides an assessment of the patient's vision capacity based on the Snellen test guidelines and the Hearing Test submodule, which provides an assessment of the patient's hearing capability designed based on the Whisper test guidelines.

**7) Psychology and Wellbeing Module:** This module includes the Expressive Writing, the Best Possible Self, the ABCDE (A = Activating event or situation; B = Beliefs; C = Consequences; D = Disputation of beliefs; E = Effective new approach), and the Biofeedback Session. Such interventions aim to mitigate the psychological risk factors associated with cardiotoxicity development and deterioration of the patient's QoL.

As foreseen by the intervention vs. control design of the study, the Cognitive Stimulation, the Education and Training and the Psychology and Wellbeing modules will only be accessed by the intervention arm of the study.

The CARDIOCARE mobile application will process data collected from the Garmin Venu SQ smartwatch and the Polar H10 (a heart rate monitor chest strap). The former will collect data on the patient's heart rate, body battery (percent, charged, drained), stress, intensity minutes (per week, today, goal), steps, calories, and respiration; while the latter is a chest strap that measures highly accurate information about the patient's heart rate and ECG.

The patient will be asked to wear the Garmin Venu SQ and the Polar H10 as much as possible for the first twelve months of the study. The patients will be recommended to wear the devices for at least 48 continuous hours each week.

### 3.3 Study timepoints and procedures

As per protocol, after the patient signs the Informed Consent form, she will follow the study procedures set for each study timepoint, as shown in Table 1 (Study timepoints and procedures scheduled). The study foresees 6 follow-ups, with a duration of 18 months from patient enrollment. The procedures scheduled include demographics and biological samples collection, clinical visits, and questionnaires fulfillment.



**Table 1.** Study timepoints and procedures scheduled.

Study Procedures	As one single or two separate visits		Day 0	M3	M6	M9	M12	M18	14-25 days after end of treatment
	T0	T1	Oncological treatment starts	T2	T3	T4	T5	T6	Tn
ICF signature	✓								
Diagnosis	✓								
Personal and Family Medical History (Including diagnosis of severe psychiatric disorders)	✓								
Smoking habits		✓							✓***
Co-morbidities	✓								
Oncological visit		✓			✓			✓	✓
Psychological visit ¥ (if the center has a psychological support service)		✓		✓	✓	✓§	✓	✓	
Cardiological visit (if needed)	✓	✓		✓	✓	✓§	✓	✓	
BP and HR measurement		✓		✓	✓	✓§	✓	✓	
Routine blood analysis (i.e., hematology and biochemistry)*		✓		✓	✓	✓	✓	✓	
ECHO assesment**		✓		✓	✓	✓§	✓	✓	
ECG assesment		✓		✓	✓	✓§	✓	✓	
Plasma troponin   level assesment	✓	✓		✓	✓	✓	✓	✓	
Plasma BNP assesment		✓		✓	✓	✓	✓	✓	
Plasma myeloperoxidase and high-sensitivity CRP (if available)		✓		✓	✓	✓	✓	✓	
I/E criteria checklist		✓							
Collect blood sample for genetric analysis		✓							
Collect plasma sample for miRNA analysis		✓							✓***
Collect stool sample		✓							✓***
Oncological treatment (plan/changes), cycle			✓	✓	✓	✓	✓	✓	✓***
Information on treatment status (ongoing/completed)				✓	✓	✓	✓	✓	

Concomitant medications	✓	✓	✓	§	✓	✓	✓	***
Gastrointestinal Symptom Rating Score (GSRS)	✓							***
Patient Lifestyle questionnaire	✓							***
Verify completion of self-administered scales/questionnaires (ePsychHeart application)#	✓	✓	✓	✓	§	✓	✓	
Cognitive effect assessment	✓			✓			✓	
Verify collection of data from wearable services	✓		✓	✓	§	✓		
Collect information on patient's out-of-pocket expenses				✓		✓	✓	
AE assessment	✓	✓	✓	✓	✓	✓	✓	***

### Abbreviations:

ICF: Informed Consent Form

BP: Blood Pressure

HR: Heart Rate

ECHO assessment: Echocardiographic assessment

ECG: Electrocardiogram

I/E checklist: Inclusion/Exclusion criteria checklist

AE: Adverse Events



### Legend

§ Only if possible.

¥ These visits can be conducted in presence or remotely, if the center can involve the required experts.

The psychological visit consists of meeting the patient in person (if she/he is already in the clinical centre) or remotely to touch base about the study: how they feel about it and whether they would like something to be different / modified. Within the visit, a motivational intervention will also be carried out with the aim of minimizing dropouts as much as possible.

\* Including cholesterols, glucose levels and renal and liver function tests, platelet activation, IL-6, TNF- $\alpha$ , HRV, CRP, Fibrinogen, Ferritin (if available).

\*\*Including right and left ventricles dimensions and functions and diastolic functions.

\*\*\*at the first visit after the end of each treatment which should be within 14-25 days. The time of these samples collection will vary in relation to the therapeutic schedule of the patient

\*\*\*\* To be repeated for each treatment if the patient undergoes a second treatment (including anthracyclines or anti-HER2 therapy) within the CARDIOCARE study

### 3.4 Recruitment and Follow-up

The patient recruitment process started in April 2023 and will follow the procedures detailed in Table 1. Therefore, the first recruited patient should be followed-up in June 2023 (M3, T2).

### 3.5 Implications

The CARDIOCARE prospective study will contribute to developing new best practice guidelines for managing elderly multimorbid breast cancer patients while preserving their intrinsic capacity and QoL. Furthermore, the CARDIOCARE mobile application and wearable devices will allow clinicians to identify trajectories across the cardiotoxicity disease continuum and thus intervene in a preventative way on higher-risk patients. Such a healthcare approach will also benefit the healthcare system, which currently spends almost 40% of its resources on patients over 65, with long-term care and hospital admissions being the primary cost drivers.

## The CARDIOCARE application in a Nutshell

*Dr. Lefteris Koumakis (Senior Researcher, FORTH)*

CARDIOCARE will perform a multicentre prospective observational parallel cohort study, in 1:1 ratio, to test the efficacy of behavioural and psychological supportive interventions on improving intrinsic capacity and QoL and mitigating the cardiotoxic effects of cancer treatment. The CARDIOCARE mobile application has been designed to support the user-friendly collection of data and the monitoring of patients' intrinsic capacity and QoL.

Patients assigned to control and supportive care arms have access only to the ePsyHeart application. The ePsyHeart application monitors patients' QoL, caregiver burden, cost-effectiveness and intrinsic capacity including:

- psychological and cognitive states
- mobility and locomotion (activity, distance, balance, gait speed, falls)
- vitality status (ECG, HRV, exercise, energy (calories burned) state,
- sleep overview/fatigue, grip strength

Mobility, vitality, sleep monitoring, fatigue and grip will be performed by means of wearable sensors (Polar H10 heart rate chest sensor) coupled with wrist watches (Garmin fitness tracker) and hand grip dynamometer. The psychological and cognitive states have been developed using validated questionnaires that include patient reported outcome and experience measures (PROMs and PREMs). For the sensor measurements, specific APIs have been developed enabling the communication and data transfer between the monitoring devices and the mobile application.

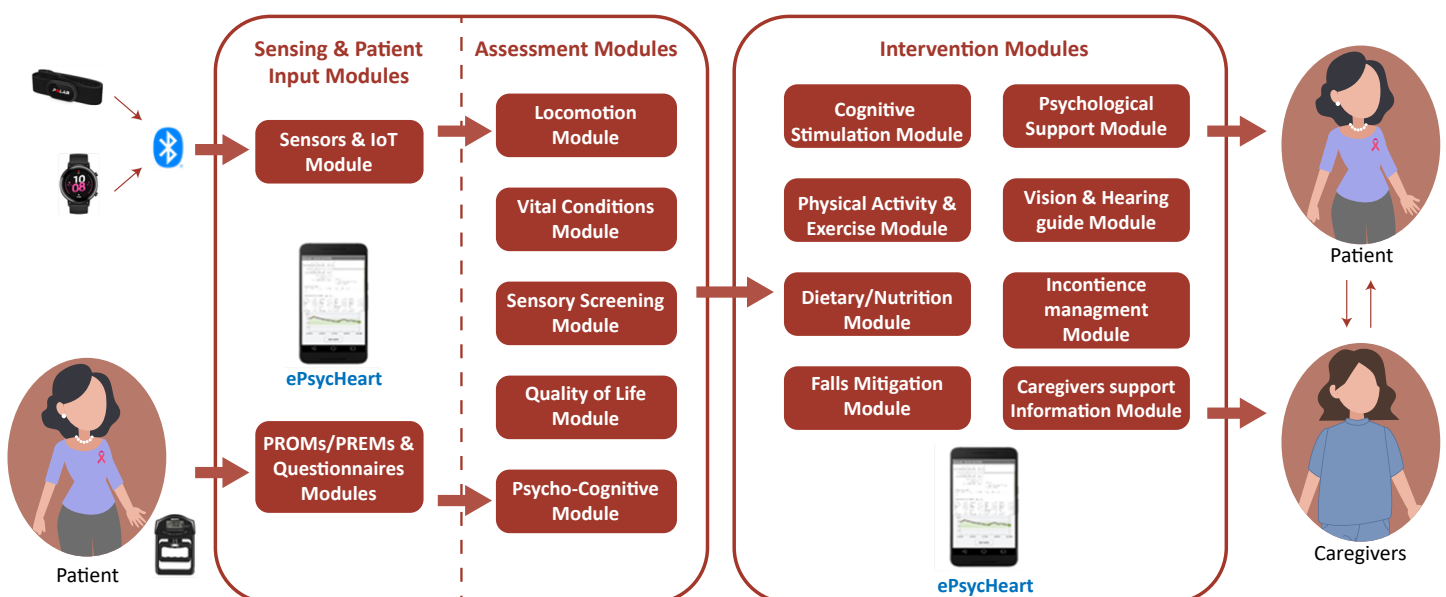


Figure 1: The CARDIOCARE application

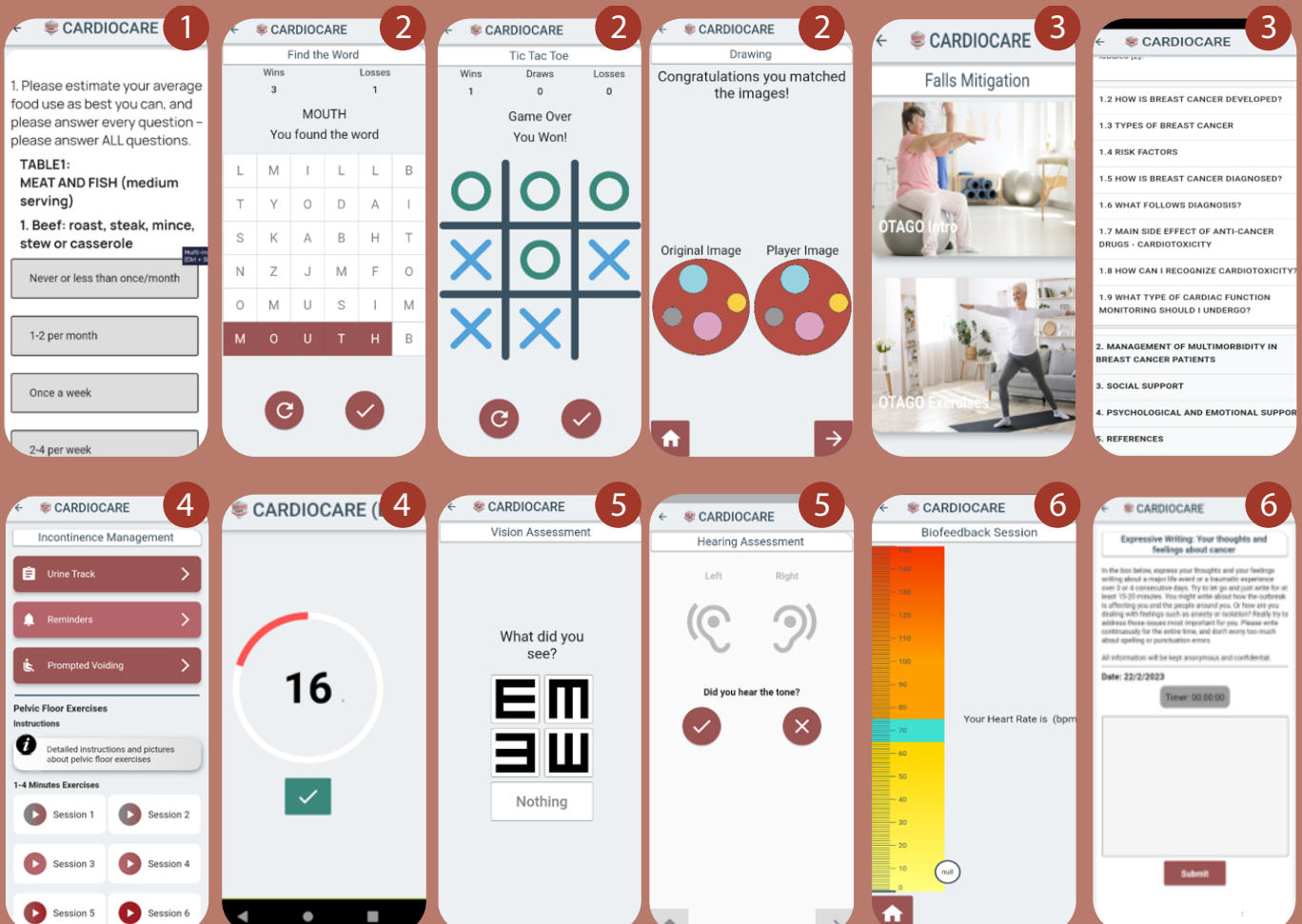
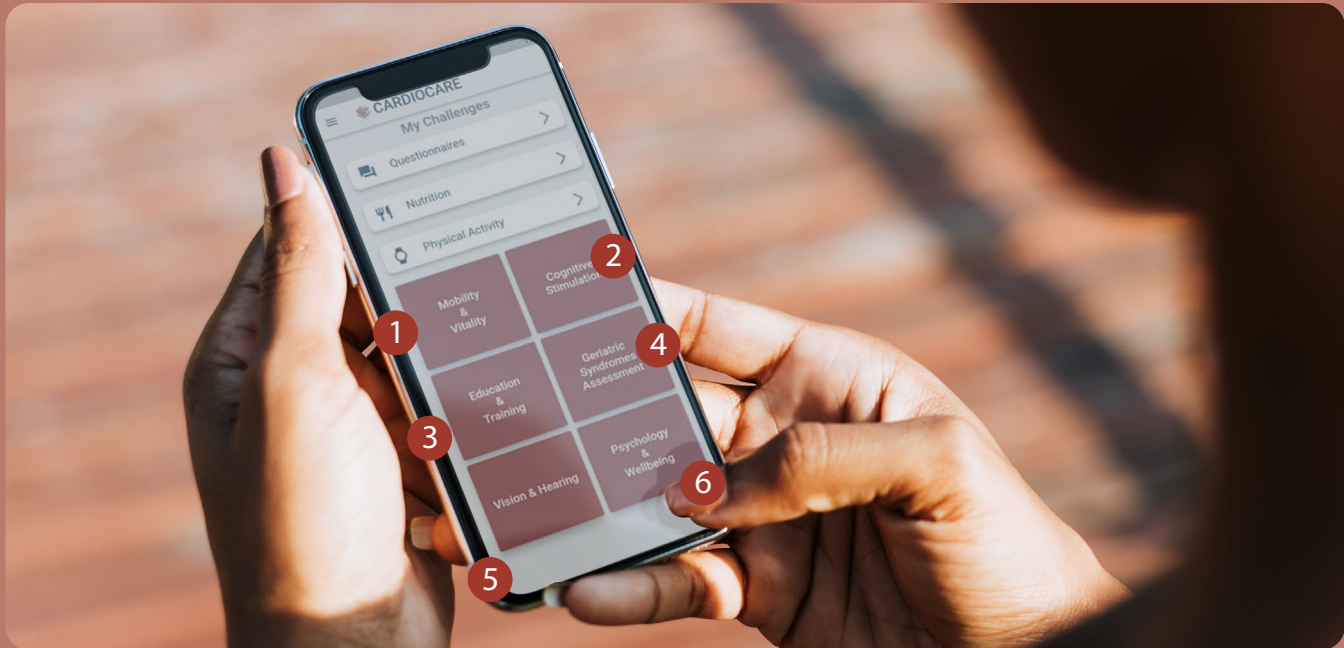


Figure 2: The eHealthHeart mobile application

Complementary to the ePsychHeart monitoring, behavioral and psychological interventions to preserve intrinsic capacity and QoL and to counteract cardiotoxicity are delivered to the supportive care arm via the eHealthHeart mobile application. The eHealthHeart interventions will target patients and caregivers aiming at improving patients' intrinsic capacity including psychological interventions, cognitive stimulation, physical activity and performance exercises, vision and hearing suggestions, dietary guidance on nutrition, guidance to improve management of urinary incontinence (e.g. alerts, self-monitoring) and falls (e.g. remove home hazards, manage polypharmacy) together with providing education and support to caregivers. The eHealthHeart interventions are in line with the 2019 American Heart Association Scientific Statement on Cardio-Oncology Rehabilitation<sup>1</sup>, endorsed by

the American Cancer Society and with the WHO's guidelines on Integrated Care for Older People (ICOPE)<sup>2</sup> with evidence-based recommendations for health care professionals to prevent, slow or reverse declines in intrinsic capacity of older people. In this context the interventions of supportive care implemented via the eHealthHeart application aim to:

- Promote psychological well-being with interventions on depression, emotional and dispositional states and stressors (e.g. Best Possible Self, Biofeedback as self-regulation to stressors methodologies, ABC model, Cognitive Behavioral Therapy)
- Provide cognitive stimulation and training (e.g. games, drawing, reading, cooking and other hobbies to improve memory and executive functions)
- Improve mobility and vitality (personalized daily plan and goals for physical activity and performance exercises, medication adherence, dietary guidance on nutrition, with reminders, alerts and motivational feedback to act including changing bad habits and engaging a healthy lifestyle concerning diet, alcohol and smoking behavior)
- Provide sensory screening (Snellen test, whisper test) and recommendations for vision and hearing aids to preserve social participation and engagement and counter limited mobility and risk of falls.
- Manage geriatric syndromes including urinary incontinence (alerts, prompted voiding, pelvic floor muscle training together with bladder control strategies and self-monitoring) and falls (polypharmacy review and management, functional training, home modifications to remove hazards, alarms on falls) that can lead to loss of self-esteem, restricted social activities, depression as well as injuries and hospitalizations.
- Support patients and caregivers providing information on psychological and social support, training, and educational material. This will include access to all relevant information concerning the interventions within the CARDIOCARE platform to raise awareness of breast cancer treatment adverse effects on cardiac function, QoL and management of multimorbidity as well as information to support-groups online, and performance of patient and medical professionals focus groups and events to collectively inform about care and treatment options available, enhance self-management but also offer counselling to mitigate physical, emotional and economic burden of caregivers.

The CARDIOCARE mobile application is an advanced data collection ecosystem that supports multiple modules and wearables. All the data gathered by the mobile application is sent to the backend for storage, analysis and processing by the CARDIOCARE consortium. The backend has been implemented using the Django Web Framework, a Python based open source framework used for the creation of web applications. The authentication of the end users is performed through an OAuth2.0 server, while the data collected through the mobile application is stored in a database system (PostgreSQL DB) that reflects the CARDIOCARE data model. Other CARDIOCARE modules can be authorized to have access to these data, either directly to the database or indirectly through the DataAPI (REST calls) and utilize the data for the purposes of the project. Throughout the design of the platform, the GDPR legislation<sup>3</sup> and best practices, so that no personal user information is stored in the backend and no user can directly or indirectly be identified, have been taken into consideration.

The CARDIOCARE mobile application aims to simplify the process of monitoring patients and informing patients, caregivers and healthcare professionals on the overall psychological and functional wellbeing of the patient. The mobile application provides the infrastructure designed with a patient-oriented approach for self-management and social innovation in healthcare. In this context, healthcare professionals will be supported with new services that allow central coordination and cost-effective care by:

- identifying patient care gaps
- considering patient's preferences
- improving patient outreach and monitoring
- saving time and improving efficiency of patient encounters
- supporting delivery of home-based care
- strengthening patient confidence
- advancing patients' health awareness and adherence to treatment

<sup>1</sup>Gilchrist SC et al. Cardio-Oncology Rehabilitation to Manage Cardiovascular Outcomes in Cancer Patients and Survivors: A Scientific Statement From the American Heart Association. *Circulation* 2019; 139(21):e997-e1012.

<sup>2</sup> <https://www.who.int/publications/i/item/9789241550109>

<sup>3</sup> <https://gdpr-info.eu/>



## Blended-Collaborative Care - what's it all about?

Rochelle Caruso (Project Officer, ERINN Innovation)



The ESCAPE project is a research and innovation project aiming to improve the way elderly patients with multiple health conditions receive care. The project is funded through Horizon 2020 with an interdisciplinary team working on developing a holistic, patient-centred intervention using digital health technologies.

ESCAPE is assessing the effect of a blended-collaborative care (BCC) intervention on patient QoL. BCC is a patient-centred, holistic approach that considers the patient's entire physical and mental health, rather than just focusing on one condition. By acknowledging that improving physical health will benefit from improvements in mental health, and vice versa. The BCC intervention requires two critical components for implementation, care managers and the eHealth platform, imergo®.

In the context of ESCAPE, care managers are primarily nurses who support patients with their numerous conditions and healthcare providers in close collaboration with their general practitioners (GPs) and relevant specialist providers. A core element of the intervention is systematically integrating the knowledge of their patients, including their health status and their health goals, to facilitate the development of integrated and personalised treatment plans. An interesting element of ESCAPE is that the role of the informal carer is also assessed as part of the clinical trial. Too often informal carers are overlooked, despite the essential role they play in developing and managing their loved one's care pathways. As such, the randomized controlled trial (RCT) is involving the responses of informal carers and the impact that BCC has on them as well.

ESCAPE's RCT kicked off in April 2022 and continues to recruit patients across 11 different trial sites in 6 countries, Germany, Denmark, Ireland, Lithuania, Italy and Hungary. To date, over 90 patients have been randomized. The project's Clinical Trial Protocol was published in ESC Heart Failure Journal, and outlines the clinical trial study objectives and design, including the study procedures, the principles of BCC and the quality control and monitoring.

While the main RCT results won't be available for some time, ESCAPE conducted a feasibility study at the onset of the project which tested the intervention arm of the main trial in a reduced capacity at the Göttingen site. Specifically, the feasibility study included ten patients who received the BCC intervention for three months. This work provided the team with invaluable lessons on the patient screening process, the assessment of patient data from questionnaires and phone conversations, and the use of the patient registry. These learnings were then applied to the main clinical study to optimize the imergo® e-health platform and develop standard operation procedures (SOPs) and care managers guidelines.

ESCAPE's mission is to streamline, integrate and simplify these pathways to improve health outcomes for patients across Europe, and we are optimistic that the BCC intervention will provide an effective way to do so. Follow ESCAPE on its ground-breaking journey.

Keep up to date with the [project website](#), watch the [video](#), [subscribe to news](#) and follow ESCAPE on [Twitter](#).



*EU This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 945377 (ESCAPE). This output reflects the views of the authors and the European Commission is not responsible for any use that may be made of the information contained therein*



## CARDIOCARE Publications

### Journal

Gkikas S, Tsiknakis M. Automatic assessment of pain based on deep learning methods: A systematic review. *Comput Methods Programs Biomed.* 2023;231:107365. doi:10.1016/j.cmpb.2023.107365

### Conference

1. Karanasiou G, Grigoriadis G, Alexandraki A, et al. A multimodal approach for the management of co-morbid cardiotoxicity in the elderly breast cancer patients. *Eur J Cancer.* 2022;175:S40. doi:10.1016/S0959-8049(22)01456-3 (Abstract & poster presentation)

2. Kalliatakis G, Manikis G, Karanasiou G, et al. Automated left ventricular ejection fraction measurement in 2d echocardiography using deep learning-based segmentation. 2023 IEEE 20th International Symposium on Biomedical Imaging (ISBI), Cartagena de Indias, Colombia, 2023 (Abstract & poster presentation)

## CARDIOCARE Events

### Past Events

#### Communication activity by KSBC

Communication with oncologists at the KSBC breast center and the patient association “[Amazona](#)” informing on the CARDIOCARE project and providing links to the website and social media channels, September 2022.

#### 13th European Breast Cancer Conference

Grigoris Grigoriadis, UOI, participated in the 13th European Breast Cancer Conference (EBCC13) with a poster presentation entitled "A multimodal approach for the management of co-morbid cardiotoxicity in the elderly breast cancer patients", that took place in Barcelona, Spain, on November 2022.



#### Communication event by HMU

Presentation of the CARDIOCARE project in an event for the presentation of the Research and Innovation profile of HMU to the representatives of American Universities, November 2022.

#### 5th Pan-Hellenic Cancer Research Conference

Prof. Davide Mauri, UOI, participated in the 5th Pan-Hellenic Cancer Research Conference with an invited presentation entitled "CARDIOCARE: A cardiotoxicity prediction system in breast cancer patients – A multidisciplinary approach" that took place on December 2022, online.

#### Communication activity by IEO

Presentation of the CARDIOCARE project as an example of multidisciplinary and Artificial Intelligence in the Post Graduate specialization in Artificial intelligence and machine learning in cancer medicine at the University of Milan, December 2022.

#### Communication activity by ESC

Distribution of the CARDIOCARE brochure and the Patient Information Leaflet (PIL) in the ESC Board meeting at the European Heart House, December 2022.

## ESC Spring Summit 2023

The CARDIOCARE project and the latest developments on the management of the elderly multimorbid patient with breast cancer therapy induced cardiac toxicity was presented in the ESC Spring Summit 2023, March 2023.

## International Symposium on Biomedical Imaging (IEEE ISBI 2023)

FORTH participated in the 20th IEEE International Symposium on Biomedical Imaging (IEEE ISBI 2023) with a poster presentation entitled “Automated left ventricular ejection fraction measurement in 2d echocardiography using deep learning-based segmentation” that took place in Cartagena de Indias, Colombia on April 2023.



## Forthcoming Events

### 45th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (IEEE EMBC 2023)

The papers, prepared by UOI, entitled “CARDIOCARE: An integrated platform for the management of elderly multimorbid patients with breast cancer therapy induced cardiac toxicity” and “Risk Stratification for Cardiotoxicity in Breast Cancer Patients: Predicting Early Decline of LVEF After Treatment” were accepted for presentation in IEEE EMBC 2023, that will be held in Sydney Australia, on July 2023.

### European Society of Cardiology Congress (ESC Congress 2023)

A dedicated session on CARDIOCARE will be organized in the framework of the ESC Congress 2023, which will be held in Amsterdam, on August 2023.

### 24th World Congress of Psycho-Oncology (IPOS 2023)

The paper, prepared by IEO, entitled “Elderly breast cancer patients’ preferences in using the CARDIOCARE eHealthHeart Application developed for the assessment and management of cardiotoxicity due to cancer treatment” was accepted for presentation in IPOS 2023, which will be held in Milan, Italy, on August 2023.

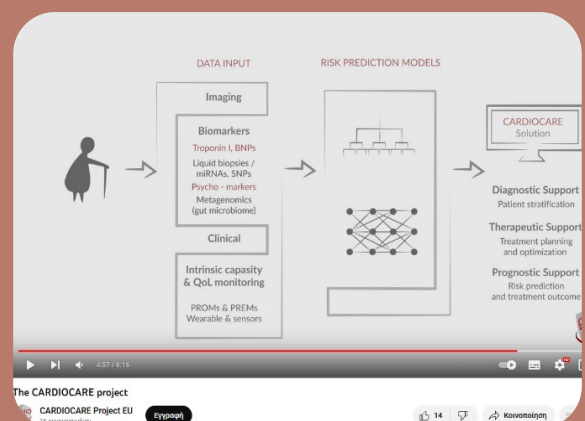
### Symposium in IPOS 2023

A dedicated Symposium on CARDIOCARE in IPOS 2023, which will be held in Milan, Italy, on August 2023.

## Other news

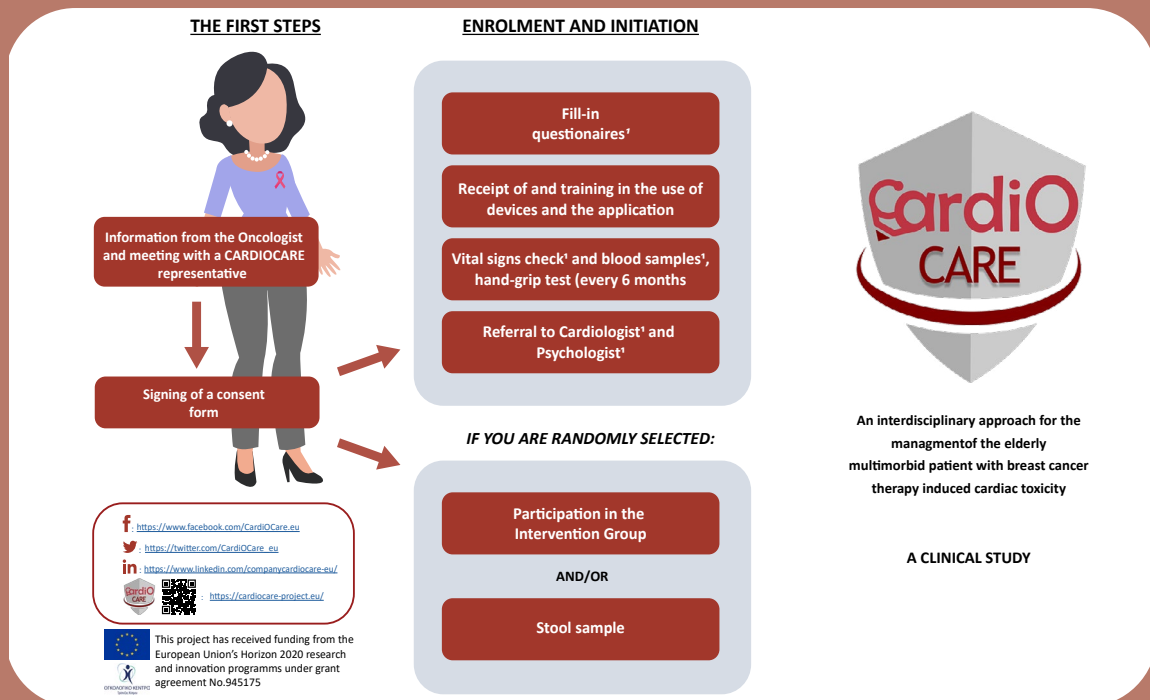
### CARDIOCARE video

The 1st video of CARDIOCARE entitled “The CARDIOCARE project” was released. It is an informative video aiming to attract the general public, presenting the objectives of the project and its multidisciplinary nature and the consortium. Follow this [link](#) to watch the video.



## CARDIOCARE Patient Information Leaflet (PIL)

A PIL was produced to be distributed to the patients during the clinical trial's recruitment process. The PIL has been translated in English, Greek Slovenian, Swedish, and Italian.



## CARDIOCARE plenary meeting

The CARDIOCARE plenary meeting took place on 29-30 November, 2022 at FORTH facilities in Heraklion Crete, Greece. This was the first physical meeting where all partners were present and we were glad to know each other. During the project, the progress and various issues for the implementation of the project were discussed.



## CARDIOCARE People

### *Dr. Anastasia Constantinidou (MD, MRCP, MSc, PhD) (BOCOC)*

European School of Oncology (Southern Europe and Arab Countries) Meeting for oncology trainees and junior oncologists, since 2017 and she serves as the local chair since 2021.

Dr Constantinidou is the coordinator of the first postgraduate programme of the Medical School of the UCY, entitled Precision Medicine in Clinical Practice, which enrolled its first students in September 2021. She is the Acting Research Director at the Cyprus Cancer Research Institute (CCRI) since 2020. She is the coordinator of the designated Affiliated National Centre and Coordination Hub (Cyprus) in the European Reference Network for rare adult cancers, EURACAN, and she is a member of the EURACAN Steering Committee since June 2022. She also serves as the Vice President of the Cyprus Oncology Society since February 2022, the Representative of Cyprus in the ESMO National Societies Committee and a member of the National Bioethics Committee since 2018.

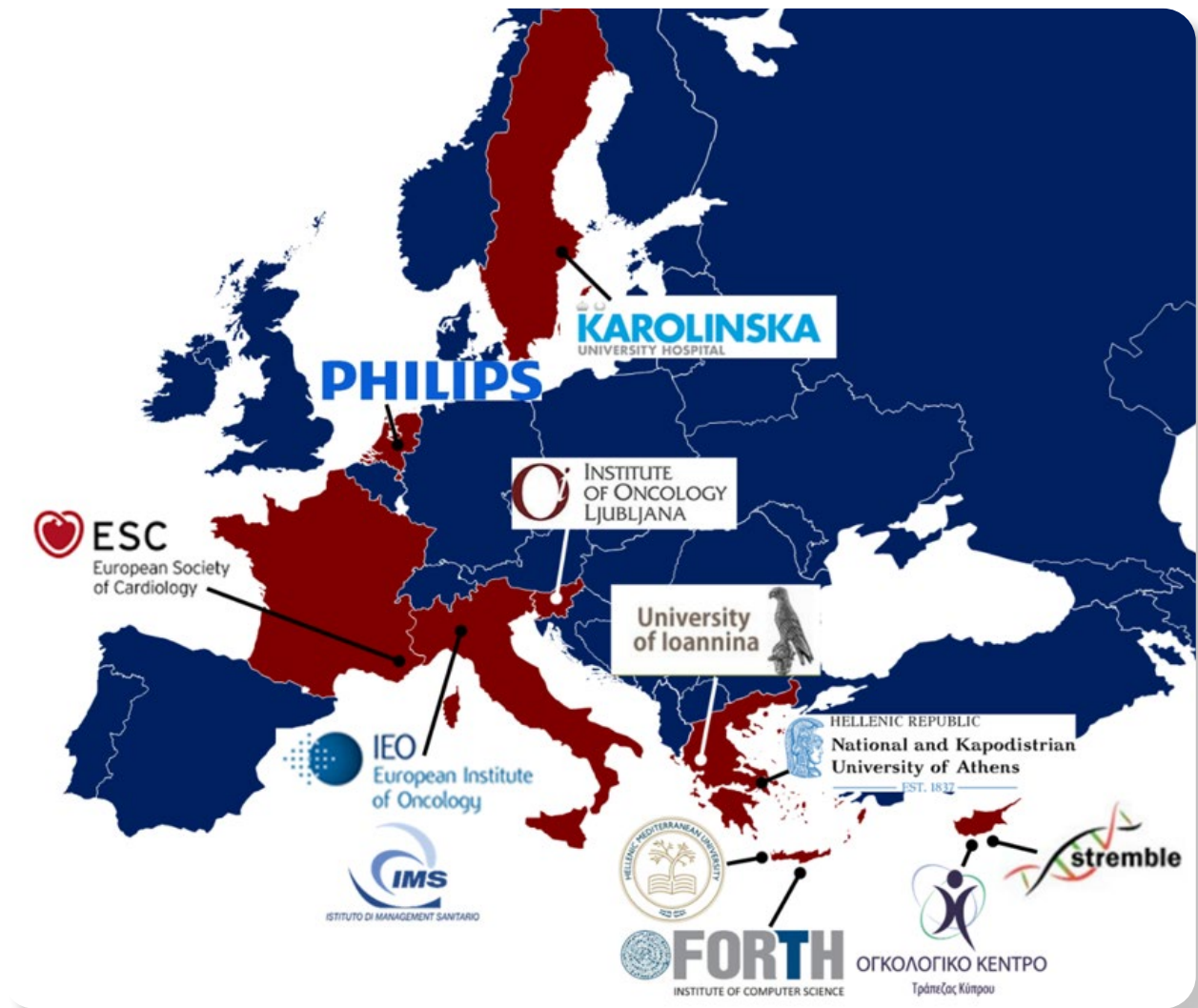


### *Dr. Carlo Cipolla (IEO)*



Dr. Carlo Cipolla received his Degree in Medicine and Surgery in 1980 in Milan, Italy, obtained the Specialization in Cardiology in 1982, the Specialization in Sports Medicine in 1987 in Pavia and the Specialization in Anesthesia and Rescue Medicine in 1990 in Milan. In January 2009, he founded the International Cardioncology Society and in September of the same year he organized the first International Cardioncology Congress. He is Director of Cardiology Division, European Institute of Oncology in Milan Italy and Past President of European Branch of ICOS (International Cardioncology Society). His main research interests are in the newborn area of Cardioncology and include intensive oncological care, early detection and possible prevention of cardiotoxicity, treatment of neoplastic pericardial tamponade and prevention of recurrences, permanent cardiac electrical stimulation in cancer patients, pacemakers and radiotherapy, diagnosis and care of heart tumours, and cardiac risk assessment for oncological surgery.





### Social Media



<https://www.facebook.com/CardiOCare.eu>



[https://twitter.com/CardiOCare\\_eu](https://twitter.com/CardiOCare_eu)



<https://www.linkedin.com/companycardiocare-eu/>



<https://cardiocare-project.eu/>



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