

A Collective Intelligent Platform to Support Cancer Champions

Welcome to the second issue of the LifeChamps Newsletter!

We are pleased to announce the publication of the second issue of the LifeChamps newsletter!

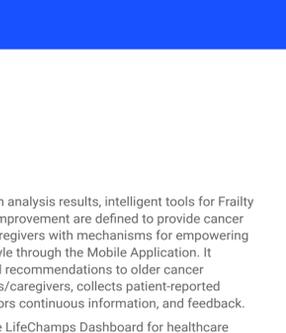
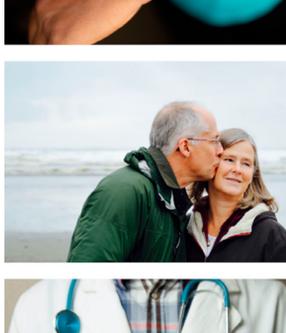
LifeChamps is a 3-year Research and Innovation Action (RIA), running from 2019 to 2022, funded under Horizon 2020. Its main focus is on delivering a smart, personalised and secure platform that will monitor health outcomes and address cancers' comorbidities of older adult cancer survivors by preventing long-term side effects and improving Quality of Life (QoL).

The LifeChamps project aims to support and deliver the highest care and Quality

of Life to older cancer patients, their caregivers and clinicians, using emerging developments in the fields of Big Data, Data Analytics, and Artificial Intelligence. Furthermore, LifeChamps' objective is to disrupt Big Data modelling, analysis, and aggregation under a novel context-aware, data-intensive and large-scale analytics framework towards delivering person-centred care solutions for three different types of cancer (breast cancer, prostate cancer and melanoma), most prevalent in the older age.

Vision statement:

We believe in a society where ageist stereotypes and discrimination against older adults will be eliminated from the clinical practice.



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LifeChamps Architecture

LifeChamps targets recovering older adult cancer patients (pre-frail and frail), caregivers and multidisciplinary healthcare professionals with a comprehensive solution capable of offering tools and mechanisms to promote patients' empowerment and improved Quality of Life via timely and more accurate clinical decision support at the point of care.

The LifeChamps project delivers a comprehensive architecture that can effectively collect and harmonise information sources related to cancer life champions and create a Big Data structure composed of a context-aware, data-intensive and large-scale analytics framework for the collection and processing of streaming data.

The LifeChamps architecture comprises three main components, the LifeChamps Dashboard, the LifeChamps Platform and the Mobile Application for QoL Assessment.

The LifeChamps Platform integrates the ground-breaking technologies in Big Data and Artificial Intelligence towards delivering a smart, personalised, and secure platform for analysing health outcomes and addressing co-morbidities of older cancer survivors by preventing long-term effects and improving QoL.

Based on the Platform analysis results, intelligent tools for Frailty monitoring and QoL improvement are defined to provide cancer survivors and their caregivers with mechanisms for empowering their health and lifestyle through the Mobile Application. It provides personalised recommendations to older cancer survivors and relatives/caregivers, collects patient-reported outcomes, and monitors continuous information, and feedback.

On the other hand, the LifeChamps Dashboard for healthcare professionals presents the patients' progress and allows detecting and obtaining a persons' progress over time and evolution qualitatively and quantitatively. For this purpose, it includes individual patient ill-health trajectory modelling, patient stratifications, cohort level insights, and quality of clinical cancer care service, combining Patient Reported Experience Measures (PREMs), clinical events from Electronic Health Records (EHRs), and patients' responses to treatment.

Based on this, the LifeChamps Architecture will deliver an open, data-centric, secure, and smart solution capable of supporting cancer champions in their endeavours from the moment of diagnosis to therapy and recovery.



Involving Stakeholders

One of the fundamental concepts in the LifeChamps project is that the platform is being developed as part of a co-creation process. Co-creation is crucial in developing new interventions and services to ensure that they are aligned with the needs, priorities, and expectations of potential end-users. This, in turn, can facilitate uptake, implementation, and integration within everyday clinical practice. In LifeChamps, co-creation is crucial for the refinement of the proposed pilot use-case scenarios, identifying core clinical and patient requirements and previous experience, which could lead to the subsequent selection of appropriate outcome metrics that will be used for the data collection and platform evaluation during the pilot phase of the project.

Co-creation aims to identify the post-treatment health needs, the priority clinical outcomes, and patient care requirements of potential LifeChamps end-users' while establishing their views, preferences, and expectations from the developing LifeChamps platform. In the co-creation workshops with end-users, our prospective mixed-methods approach, which employed a descriptive and cross-sectional study design, ensured a strong engagement with all the targeted stakeholder groups, which included two different clusters of systems' potential end-users, the primary (active end-users) and the secondary (assistive or advisory end-users) (Figure Stakeholders Map):

A. Primary Stakeholders

- Older cancer survivors (breast, prostate and skin cancer)

B. Secondary Stakeholders

- Healthcare professionals & Professional Caregivers (oncologists, geriatricians, nurses, GPs etc.)



STAKEHOLDERS MAP

- Family members/ informal caregivers of older adult cancer survivors
- Health managers

C. Customer Buyers

LifeChamps' recruitment strategy included workshops, extensive use of online advertisement platforms, social media awareness campaigns, as well as direct emails/invitations to healthcare professionals', networks and patients' associations to involve a diverse sample of the targeted end-user groups. To maximise recruitment rates and ensure a rich diversity of perspectives, potential participants were provided with a choice of either:

- an online survey, or
- telephone/online interview.

Collectively, our rigorous work allowed for our recruitment goals to be achieved, and we surpassed the minimum recruitment target of 120 participants in total. At the end of November 2020, 155 end-users were recruited across groups and partners. The total sample included 70 patients, 23 family members/caregivers, 56 health professionals, and 6 health managers. At a country-specific level, accrual rates varied widely, which can be attributed to several influencing factors, predominantly COVID-19. Our converging evidence suggested key priorities and issues for middle-aged/older adults and their family members/caregivers in the post-treatment period, and expected advantages, anticipated challenges, desired functionality and implementation aspects of the developing LifeChamps system.

Workshops involving Healthcare Professionals

LifeChamps' pilot partners performed a series of workshops with the involvement of healthcare providers, from different specialties, in order to provide an initial definition of LifeChamps pilot use-cases. The four clinical/pilot partners are: Aristotle University of Thessaloniki (AUTH), Academic Primary Health Care Centre (APC), Hospital Universitario La Fe (HULAFE), and University of Glasgow (UoG). The results of this task are reported in the document "Deliverable 2.1".



The COVID-19 pandemic had a significant impact on this task due to the subsequent difficulties in recruiting clinicians and the development of interactive activities. Fortunately, this challenge was overcome by adopting mitigation measures, exploiting virtual and non-virtual means and adapted to each clinical site's specific situation. The methodology used by partners to interact with the health professionals was either face-to-face or online workshops. Furthermore, Delphi method, combining video, text and presentations, was used to introduce

LifeChamps and demonstrate mock-ups of technology. The objectives were to gather relevant information about the current use-case scenario, determine the potential added value of LifeChamps in each specific scenario, familiarise clinicians with the project and stimulate involvement for the project development. After the initial introduction to LifeChamps project, each pilot partner presented their initial use-cases. Partners selected a set of open-ended questions, from a common survey, which was fitted to address the following 5-key dimensions:

Goal, Actors, Workflow, Expected Measures and Technology

At each pilot site, healthcare professionals involved in the delivery of care services for older adults with cancer were invited to join the activity. Following a multi-actor approach, the following of the attendants was one of the profile: Oncology consultants, geriatricians, urologists, and general cancer surgeons, acute care nurses, community nurses, general practitioners, physiotherapists, health organization managers, oncology clinics managers.

LifeChamps Project

As people get older they have to face an accumulating life (i.e., family, professional, social responsibilities) and disease (i.e., frailty symptoms, multi-morbidity burden). Epidemiological data show that this burden increases especially after getting 50 for all genders, as the cancer incidence and mortality increases. Furthermore, we have an increase of multi-morbidity, frailty and other discouraging factors for the health related Quality of Life (HRQL) of these people. For all these reasons, and because LifeChamps will focus on the cancer care provided to people above 50 years old, we refer to them as Champions. We use this term in order to honour their effort to face cancer, despite the accumulated burden in their lives. LifeChamps complements the patient movement to support those at risk of developing cancer or recently diagnosed with the disease. It does so with the introduction of novel technologies and clinical methodologies to support them for their HRQL, and care provided during and after their treatment as well. Vision statement: We believe in a society where ageist stereotypes and discrimination against older adults will be eliminated from the clinical practice

Introduction of the project

Technology Mock-ups

End-user's applications will consist of mobile apps for patients and caregivers, and a dashboard for professionals

Breast Cancer Mobile App

Participants were recruited by receiving personal invitations via e-mail or phone calls, including explanations for the purpose and objectives of the workshops.

In total, 32 healthcare professionals attended a number of 16 workshops (online or face-to-face) and online asynchronous Delphi studies in all the pilot sites of the project. In order to conduct both focus groups and online Delphi study, research protocols were approved by local ethics committees. To comply with the General Data Protection Regulation (GDPR), the members' involvement followed a strict procedure, guaranteeing the preservation of personal data of the potential participants, and avoiding its use without their expressed permission. In summary, the involvement of healthcare professionals at this phase of the project was served to verify clinician's interest in LifeChamps use-cases as a valuable tool to improve the patients' Quality of Life in daily practice. The four pilot partners acquired valuable data from the next

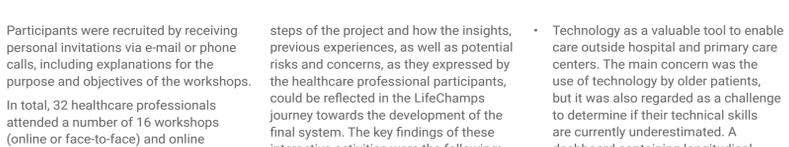
steps of the project and how the insights, previous experiences, as well as potential risks and concerns, as they expressed by the healthcare professional participants, could be reflected in the LifeChamps journey towards the development of the final system. The key findings of these interactive activities were the following:

- Effective QoL assessment instruments need to be integrated in daily practice, including PROMs and PREMs to understand the determinants of patients' life priorities and expectations.
- Patient's environment needs to be considered to guide clinical decision making. Age is important, but there are other dimensions to evaluate: physical and mental wellbeing, stage of cancer, treatment and comorbidities.
- Caregiver as a key actor to provide additional information about patients that cannot be measured directly from objective measurements.

Technology as a valuable tool to enable care outside hospital and primary care centers. The main concern was the use of technology by older patients, but it was also regarded as a challenge to determine if their technical skills are currently underestimated. A dashboard containing longitudinal information of patient's QoL will be helpful for healthcare professionals.

LifeChamps platform needs to be perceived as an extension of patient's care in order to be accepted and adopted. The app should use a common, not complicated language and avoid causing anxiety with many reminders. Sensors should be transparent and user-friendly for the patients.

Personalized recommendations to patients and caregivers can help them to cope with the situation better, as lack of information about their treatment is regarded as one of their main concerns.



LifeChamps Events – The Highlights

SIOG embraces LifeChamps H2020 project

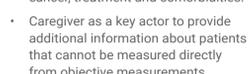
The International Society of Geriatric Oncology, also called SIOG (Société Internationale d'Oncologie Gériatrique) in French, is a multidisciplinary membership-based society with members engaged in more than 80 countries around the world. The goal of SIOG is to strengthen the capacity of health professionals in the field of geriatric oncology, in order to optimise treatment of older adults with cancer (https://www.sio.org/).

On November 2020, SIOG and LifeChamps H2020 project inaugurated a close collaboration, aiming at joint initiatives and mutual exchange of know-how between the two sides in the fields of geriatrics and the support of professionals in the treatment and care of older cancer patients. In this framework, SIOG promoted the online survey of LifeChamps, addressing related healthcare professionals and aiming at understanding the needs of healthcare professionals who treat and follow-up older cancer patients, especially in terms of Quality of Life.

[Read more](#)

LifeChamps project and AUTH by the side of Women with Breast Cancer

LifeChamps project, represented by AUTH project coordinator, participated in the awareness campaign of Alma Zois Thessalonikis- Association of Women with Breast Cancer (almazoisthes.g), entitled "Sail for Pink" and held every year in the framework



of October 2020 "Breast Cancer Awareness Month". This year, and due to the COVID-19 restrictions which didn't allow the conduction of the annual 5km "Health Road", the academic, research and admin staff members of the AUTH Medical Physics Laboratory were photographed, wearing the special edition of the 2020 "Sail for Pink" t-shirt and sent their own message that "Breast cancer can be defeated if diagnosed early".

[Read more](#)

3rd Health IT Conference

The 3rd Health IT conference, due to the COVID-19 pandemic, was held online from 11th to 12th June 2020. It was organised by the LifeChamps project in collaboration with HL7. The conference focused on strengthening e-Government, e-Health strategy and the National Interoperability Framework between health care providers. Furthermore, it focused on issues of improving Administrative Informatics and Quality.

During the conference, were presented several IT projects. LifeChamps project coordinator Prof. Panagiotis Bamidis made a presentation, entitled "LifeChamps: Integrated Large-Scale Data Solution to Improve the Quality of Life of Older Cancer Patients Through Prompt and Accurate Support."

[Read more](#)

ECPC scientific committee kick-off meeting

On Wednesday 28th of October 2020, a virtual meeting of the EU Parliamentary Inter-Group on Cancer "Challenge Cancer" was held to discuss the agenda with the proposed activities for 2021, aiming to address new challenges related to cancer care in Europe. The Inter-Group also discussed projects aligned with forthcoming Europe's Beating Cancer Plan and with the Cancer Mission's concept in Research and Innovation. ECPC, the LifeChamps partner responsible for networking with third parties, given the opportunity of attending this meeting, presented LifeChamps project to policy makers and academic partners of the Inter-Group from several EU countries.

[Read more](#)

INFORSALUD

The XXII National Congress of Health Informatics organized by the SEIS (Spanish Society of Health Informatics) on March 5th, 2020, in Madrid, Spain, under the slogan "The Pillars of Digital Transformation". SALU presented the poster entitled: LifeChamps: A collective intelligence platform to support cancer champions.



[Read more](#)

Webinar on the Quality of Life of Cancer Patients

AUTH, in cooperation with the University of Glasgow and Alma Zois Thessalonikis, in the context of the LifeChamps project, co-organized a webinar, on the occasion of October "Breast Cancer Awareness" Month to disseminate the project and promote LifeChamps online survey, which is aiming to understand the needs and priorities and requirements regarding the care of the elderly and patients with cancer as well as the support of caregivers / relatives, with the aim of developing a digital platform to improve their QoL for Cancer Patients.

The Head of Alma Zois Thessaloniki, Mrs Derekenari shared her personal experience of breast cancer. The webinar was live on Facebook, reaching more than 2,500 views and 21 shares, receiving attendants' positive comments.

[Read more](#)

Consortium Partners



Get in Touch

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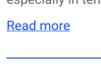
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