

CITIZENS ENGAGEMENT STRATEGY FOR IMPLEMENTATION OF PILOT CPPA ACTIONS (deliverable D3.4)

Contribution to WP3 – Design of Pilot Programme Methodology and
Tools

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1. Introduction: Citizens' Engagement Strategy definition

1.1. UcanACT Project

UcanACT - *Urban ACTION for cancer prevention: adult and senior citizens practice physical activity within public urban green spaces to prevent cancer diseases* - is an intersectoral project funded by the European Union, and joining together physiotherapists, local authorities, non-profit organisations, higher education and research institutions. They all combine their efforts to reach the overall objective of the project: to engage adults and senior citizens to practice physical activity (PA) as a tool for cancer prevention within public urban green spaces (PUGS).

The promotion of physical activity as a tool for cancer prevention has been given priority due to the high urgency and importance of this topic in the European public health. According to the Eurostat data¹ 3.5 million people in the EU are diagnosed with cancer and 1.3 million deaths from it every year. Statistics data and numerous researches, presented in the World Cancer Report (WHO, 2020) show that between 30% and 50% of cancer deaths could be prevented by two ways:

- 1) modifying or avoiding key risk factors (among them: exercise regularly and maintaining healthy weight);
- 2) implementing evidence-based prevention strategies (one of them is practicing Health Enhancing Physical Activity (HEPA)).

However, despite all efforts made by Member States in order to promote physical activity, there is still a significant lack of awareness-raising activities on the positive impact of physical activity, especially for cancer prevention among EU

¹ Eurostat Statistics Explained. (2023) "Cancer statistics" in European Commission. Available at: https://ec.europa.eu/eurostat/statistics-explained/index.php/Cancer_statistics

citizens. The World Health Organization (WHO) report on World Cancer (2020) also recognises the lack of practical guidelines for physiotherapists and other health professionals to provide cancer-preventive physical activity sessions, in spite of the growing number of scientific researches, proving that PA is a tool for cancer prevention and rehabilitation.

Moreover, existing recommendations on how to provide appropriate PA for cancer prevention are mainly done for clinical conditions (hospitals, rehabilitation centres) even though there are numerous scientific studies demonstrating that practicing PA within open nature environments increases positive effects of cancer prevention², provides opportunities for social inclusion of cancer survivors and positively influences on their mental health and healthy lifestyle³. It is an important factor to consider when we know that around 80% of the European population is expected to live in urban areas (cities and towns) by 2030, according to the EC Urban Data Platform Plus⁴. In this regard, urban areas play a pivotal role in promoting and protecting health and well-being.

To uncover the needs and priorities of adults and senior citizens, the UcanACT project will therefore promote green public spaces as places for people of all ages and abilities in which they can be engaged in physical activity. To reach this aim, a set of actions, tools and recommendations to empower the target group to take active attitudes towards their health will be developed.

UcanACT will be implemented within three pilot territories (Bologna, Munich, Kilkenny) from three different EU Member States (Italy, Germany, Ireland) representing very diverse urban contexts in terms of geography, mobility, density and population. Munich is a densely populated area by being the most populous

² Thompson Coon, J., Boddy, K., Stein, K., Whear, R., Barton, J., & Depledge, M. H. (2011). Does participating in physical activity in outdoor natural environments have a greater effect on physical and mental wellbeing than physical activity indoors? A systematic review. *Environmental science & technology*, 45(5), 1761-1772. [6] Zijlema et al., 2017

³ Siqueira, K. M., Barbosa, M. A., & Boemer, M. R. (2007). Experiencing the situation of being with cancer: some revelations. *Revista latino-americana de enfermagem*, 15(4), 605-611.

⁴ <https://urban.jrc.ec.europa.eu/#/en>

city of the German state of Bavaria and the third-largest city in Germany after Berlin and Hamburg. The city serves a population of 1,487,708 citizens (Destatis 2021). Bologna, on the other hand, is ranked as one of the most developed cities in Italy with a total population of some 387,842 citizens (Demo 2022). The third pilot territory of the project, is a smaller community playing a key role in creating healthy inclusive communities through the implementation of the Healthy Ireland, Age Friendly and Local Sports Partnership programmes in Kilkenny. Kilkenny County Council ensures that physical activity is promoted among its population of 103,685 citizens (CSO, 2022).

These specificities will facilitate creating research and insights for the wider European urban, health and physical activity sector, based on actual data gathered via the evaluation of the UcanACT project. Partners will be able to test their methodology in completely different contexts and to develop recommendations for its further use which will be suitable for any size of urban areas. The recommendations and findings will be shared among other cities, community organisations and healthcare providers, but also policymakers at local, regional/national and EU level.

The design of Citizen Engagement Strategy (CES) is strongly supported by the research activities previously developed by the project partners. This strategy document is mainly based on the results of the “Target groups’ NEEDs analysis: barriers & issues for practicing CPPA within PUGS” document, on the “Desk Study on recent scientific evidence of PA for cancer prevention for adult and senior citizens used for CPPA”, and on the “Desk Study on good practices in organizing PA sessions for cancer prevention for adult and senior citizens within urban environments”. The design of the Strategy also relies on EU policy

recommendations, existing models of encouraging citizens participation and scientific research⁵ on community engagement.

1.2. Context

The Citizens Engagement Strategy project has been conceived from a policy framework including two main documents: the Leipzig Charter on Sustainable European Cities (2007) and the EUROCITIES Declaration on citizens engagement (2019). Both recognize the need for more citizen engagement in the decision-making processes that affect their lives.

The Leipzig Charter on Sustainable European Cities (2007)⁶ advocates for a participative approach, a common vision for the sustainable development of Europe's urban areas, shifting from "we know best" to "between us, we know best". The Charter outlines a set of common strategies and principles for urban development policy through two key principles: "the promotion of an integrated urban development approach that takes account of the various spatial, sectoral and temporal aspects of urban policy and involves all stakeholders, including the public; and the need to pay special attention to deprived urban neighbourhoods. It encourages cities to draw up integrated urban development programmes, highlighting issues such as creating and ensuring high-quality public spaces [...] as key actions within the scope of urban development policy".

Citizen engagement represents therefore an important factor regarding the urban development policy. As mentioned in EUROCITIES Declaration on citizens engagement (2019): "Cities can and must lead the way towards a more citizen focused European society. Representative democracy must be enhanced with

⁵ De Weger E, Van Vooren N, Luijkx KG, Baan CA, HW D. Achieving successful community engagement: a rapid realist review. BMC Health Serv Res. 2018;18(285). <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-018-3090-1>

⁶[https://www.europarl.europa.eu/RegData/etudes/ATAG/2020/652020/EPRS_ATA\(2020\)652020_EN.pdf#:~:text=Adopted%20during%20the%202007%20German%20Presidency%20of%20the,of%20the%20current%20German%20Presidency%2C%20in%20December%202020.](https://www.europarl.europa.eu/RegData/etudes/ATAG/2020/652020/EPRS_ATA(2020)652020_EN.pdf#:~:text=Adopted%20during%20the%202007%20German%20Presidency%20of%20the,of%20the%20current%20German%20Presidency%2C%20in%20December%202020.)

participative mechanisms to respond to pressing public concerns,”⁷ such as the lack of participation of EU citizens in physical activity and the lack of recommendations on how to provide appropriate PA for cancer prevention within open nature environments.

1.3. Citizens’ Engagement Strategy

Definition and Objectives

The Citizen Engagement Strategy project is a core project output of the UcanACT project which aims to improve opportunities to enable the project target groups (mainly adults and senior citizens) to actively take part in the cancer-preventive physical activity actions to be implemented in the three pilot territories of the project. To pursue this objective, the CES aims to provide tools, methods and activities for the engagement of the target groups, and maintain their motivation to participate in physical activities within public urban green spaces.

The CES aims to provide the public with an objective guidance tool as a method of engaging the public in an intervention. It allows community managers, administrators and health professionals to gauge public interest, feedback, concerns and aspirations of citizens. To sum up, the Citizen Engagement Strategy project can be understood as a planned process for encouraging adults and senior citizens to actively take part in making decisions, in order to increase impact on decisions.

This planned process developed by the consortium of the UcanACT project is built taking into account:

- The findings of the conducted Desk Study on recent scientific evidence of PA for cancer prevention for adult and senior citizens used for CPPA, which identified the positive benefits of PA for cancer prevention;

⁷ https://eurocities.eu/wp-content/uploads/2020/08/2018_C4Europe-DeclarationCitizensEngagement-A4.pdf

- The findings on the conducted Desk Study on good practices in organizing PA sessions for cancer prevention for adult and senior citizens within urban environments, which identified efficient ways of organising cancer-preventive physical activity actions within public urban green spaces;
- The results of the target groups' NEEDs analysis: barriers & issues for practicing CPPA within PUGS. This report identified existing issues/barriers for adults and senior citizens (cancer survivors or those who never have had cancer disease) to practice physical activity sessions within PUGS and found ways to increase their participation in such activities. It is worth mentioning that the report on NEEDs analysis has been partly built on focus groups organised in two of the three pilot territories, Bologna (Italy) and Kilkenny (Ireland). Interviews were conducted in Munich (Germany), the project's third pilot territories, for the purposes of the Citizen Engagement Strategy.

The objectives of the Strategy are to provide a clear vision on:

- Guiding principles for the project CES;
- Stages and methods for citizens engagement to project implementation activities within Pilot territories;
- Levels and indicators of citizens' engagement the project CES is seeking for each Pilot territory;
- Evaluation Methodology for the project CES results.

1.4. First considerations and guidelines for drafting

This part contains the indications of the modalities of elaboration of the CES aimed at adult and senior citizens - namely the guiding principles for the project CES, the methodology and tools for a participatory definition of the CES, and a summary table of the process of construction of the CES.



1.4.1 Guiding principles for the project CES

Citizen Engagement Strategy is a way to build and sustain relationships between public services and the community, helping them both to understand and take action on the needs or issues that communities experience. Each pilot territory adopted a co-participatory approach and various levels of engagement to effective decision making and to develop the Strategy, based on several general guiding principles that were agreed for the proper functioning of the project CES.

Among them are:

- Foster a safe & trusting environment to enable citizens to provide input;
- Ensure citizens' early involvement;
- Share decision-making and governance control with citizens;
- Invest in citizens who feel they lack the skills and confidence to engage;
- Create quick and tangible wins and ensure citizens' input is actually used.

1.4.2 Methods and tools for a participatory definition of the CES

For a participatory definition of the CES it is proposed to set up “working groups” with “different composition” with the task of analytically defining the strategy itself and/or overseeing its implementation⁸. The composition of the working groups must take into account the local governance models and, therefore, the characteristics of the various actors involved in providing services/interventions for the target group. Reference is made to:

- Public institutional entities (municipality, health sectors/services, other institutions...) - local non-profit and/or for-profit entities;
- Formal or informal organisations operating in the local community;
- Citizens sensitive to the theme; and
- Citizens belonging to the “target group”.

The different working groups are defined below, including the purposes, composition, products and timing. The following groups are proposed:

⁸ EU-funded project InAble Cities, 2022, Citizen Engagement Strategy

- Steering Committee
- Extended working group
- Groups of potential target citizens

It should be emphasised that the public administration must oversee and supervise the entire process aimed at defining the CES. It is also important that the health professionals (mainly physiotherapists) and other professionals involved in the implementation of motor activities for the target group are an integral part in the implementation of the CES and share the setting. They also should coming into contact with the bridge-figures – people who know inhabitants, the potential target audience as users of other services/initiatives already existing at territorial level - to make themselves known, conveying technical content regarding the motor activity that they will propose, thus generating a chain of knowledge and trust that is essential to reach the target group effectively.

Steering Committee

- Task: validation of tools, identification of participants in the various working groups, monitoring of outcomes, ex-post verification of out-comes and overall evaluation of the CES.
- Composition: referents of the European project (and/or of the institution or partnership that promotes the project), referents of local authorities (municipalities/services) that have ownership of actions aimed at the target group and experts in the application of participatory methods aimed at the direct involvement of citizens (public or research institutions, consultants).
- Timing: constitutes itself at the start of the whole process and meetings are held all along the action until the end of the implementation.
- Deliverables: periodic meetings and project management toolkits (minutes, Gantt Chart, monitoring reports...).

Extended Working Group

- **Task**: to build the Strategy of engagement of the target group (WHO, WHERE, WHEN, HOW).
- **Composition**: bridge-figures, officials and staff of public organisations that offer services for the target group and members of non-public non-profit organisations (differently named according to the regulations of the partner countries) and for-profit organisations.
- **Timing**: it is formed at the start of the process, after the steering committee has identified the components. Meetings are concentrated mainly at the beginning of the process.
- **Deliverables**: the CES itself and other documents which contain:
 - WHO: i.e., a map of the actors (institutional and non-institutional) potentially and actually in contact with the project's target group.
 - HOW, WHERE, WHEN:
 - A systematisation of the ways of involving the target group through the organisations operating in the area;
 - Of the places to intercept them and of those places in the neighbourhood that could be regenerated and experienced by the target to increase psycho-physical well-being; and
 - Of the timing of involvement.

Group of potential target citizens

- **Tasks**: to bring out the needs referred to the target group itself in the initial phase of the process, to contribute to the definition of the CES and to evaluate the results of the action.
- **Composition**: citizens target group.
- **Timing**: at the beginning of the project, before the definition of the CES, during and after the execution of the project action.
- **Deliverables**: Tool kit, focus group, semi-structured questionnaire.



Figure 1. Working Group Structure

2. PHASE I: Research

2.1. Desk Study on recent scientific evidence of PA for cancer prevention for adults and senior citizens used for CPPA

In the EU, 3.5 million people are diagnosed with cancer and there are approximately 1.3 million deaths from cancer each year (Eurostat, 2018). The World Health Organisation recognises cancer as a leading cause of death globally, with an estimated 10 million deaths from cancer in 2020, or nearly one in six deaths (WHO, 2022).

Prevention of cancer is one of the most significant public health challenges of the 21st century (IARC,2011). Regular physical activity and maintaining a healthy body weight, after tobacco control, is the second most important means of cancer prevention. Physical activity is recognised by WHO as a possible measure for cancer prevention, which has been acknowledged scientifically on a global scale. “Be physically active” is one of the Cancer Prevention Recommendations developed by the World Cancer Research Fund. Moreover, practising physical exercise within open environments increases the positive benefits associated with PA (World Cancer Report, 2020).

The Desk Study on recent scientific evidence of PA for cancer prevention for adults and senior citizens used for CPPA designed by the UcanACT consortium aims at discovering key characteristics of the Cancer Prevention Physical Activity (CPPA). The key features identified will be taken into consideration for building the Practical Intervention Methodology (PIM) which provides conceptual and methodological bases for implementation of Pilot CPPA actions within the three pilot territories of the project. The Desk Study makes reference to:

- Cancer types that have scientifically approved classifications of reduced risk by practicing PA;
- Specificity of PA exercises for primary, secondary and tertiary prevention: dose and type of exercise;
- Safety and possible risk factors during the practice of CPPA.

Physical activity, across the full age spectrum, provides a variety of benefits. Some benefits happen immediately; a single episode of moderate-to-vigorous physical activity can improve sleep, reduce symptoms of anxiety, reduce blood pressure, and improve insulin sensitivity on the day the activity is performed. When physical activity is performed regularly, benefits and improvements become larger (PAGAC, 2018).

There is strong evidence to indicate that physical inactivity increases the risk of many adverse health conditions, including coronary heart disease, type 2 diabetes, and breast and colon cancer. This presents a major public health issue as much of the world's population is inactive (Lee et al, 2012). In a study from Lee et al (2012) it was estimated that physical inactivity causes:

- 6% (3.2 -7.8%) of the burden of disease from coronary heart disease;
- 7% (3.9 – 13.8%) of the burden of disease of colon cancer;
- 9% (5.1 – 12.5) of premature mortality.

In older adults, higher amounts of sedentary behaviour are associated with poor health outcomes, while physical activity confers benefits for the following health outcomes (WHO, 2020):

- Improved all-cause mortality;
- Cardiovascular disease mortality;
- Incident hypertension;
- Incident site-specific cancers;
- Incident type-2 diabetes;
- Mental health (reduced symptoms of anxiety and depression);
- Cognitive health.

Physical activity helps prevent declines in bone health, functional ability and helps prevent falls and falls-related injuries (WHO, 2020).

There are recent (2020) guidelines by WHO for PA in various target populations. For our desk study we underlined PA for older adults differentiating them from PA for older adults with chronic conditions

WHO guidelines on physical activity and sedentary behaviour – older adults (2020)

Recommendations	Benefits	Evidence*
<p>Older adults should do at least:</p> <ul style="list-style-type: none"> - 150-300 minutes of moderate-intensity aerobic physical activity; or - 75-150 minutes of vigorous intensity aerobic physical activity; or - An equivalent combination of moderate and vigorous-intensity activity throughout the week 	Substantial health benefits	Strong recommendation, moderate certainty evidence
<p>Older adults should also do:</p> <ul style="list-style-type: none"> - Muscle strengthening activities at moderate or greater intensity that involves all major muscle groups on 2 or more days a week 	Provide additional health benefits	Strong recommendation, moderate certainty evidence
<p>Older adults should do:</p> <ul style="list-style-type: none"> - Varied multicomponent physical activity, that emphasises functional balance and strength training on 3 or more days a week 	Enhance functional capacity Prevent falls	Strong recommendation, moderate certainty evidence
<p>Older adults may:</p> <ul style="list-style-type: none"> - Increase moderate intensity aerobic physical activity to more than 300 minutes; or - Do more than 150 minutes of vigorous-intensity aerobic physical activity; or an - Equivalent combination of moderate and vigorous intensity activity throughout the week 	For additional health benefits	Conditional recommendation, moderate certainty evidence

<p>Older adults should:</p> <ul style="list-style-type: none"> - Limit the amount of time spent sedentary; and - Replace sedentary-behaviour with physical activity of any intensity 	Health benefits	Strong recommendation, moderate certainty evidence
<p>Older adults should:</p> <ul style="list-style-type: none"> - Aim to do more than the recommended levels of moderate to vigorous intensity physical activity 	Reduce detrimental effects of high levels of sedentary behaviour	Strong recommendation, moderate certainty evidence

* Strong - Balance of benefits to harm assessed as substantial for the target population for the recommendation.

* *Conditional* - Balance of benefits to harm assessed as small or important likely variability in benefits in the target population

The Desk Study on recent scientific evidence of PA for cancer prevention for adults and senior citizens used for CPPA confirmed benefits for adults and older adults living with the following chronic conditions:

<p>All-cause mortality (McKinney et al, 2016)</p> <ul style="list-style-type: none"> - Studies consistently demonstrate an inverse relationship between physical activity and rates for all-cause mortality
<p>Cancer incidence and survival (WHO, 2020)</p> <ul style="list-style-type: none"> - Physical activity improves all-cause mortality, cancer-specific mortality, and risk of cancer recurrence or second primary cancer - Physical activity promotes beneficial short- and long-term changes in metabolic, hormonal and inflammatory pathways - Higher levels of physical activity after cancer diagnosis are reported to be protective for all-cause mortality following breast cancer, colorectal cancer, female reproductive cancer, glioma, kidney cancer, lung cancer, prostate cancer and stomach cancer - Greater amounts of physical activity after cancer diagnosis are associated with lower risk of cause-specific mortality in breast cancer, colorectal cancer and prostate cancer survivors
<p>Primary prevention and management of hypertension (WHO, 2020)</p> <ul style="list-style-type: none"> - Physical activity improves physical function, cardiovascular disease progression and cardiovascular disease mortality - Physical activity improves physical function - Physical activity can improve health-related quality of life
<p>Type-2 Diabetes (WHO, 2020)</p>

- Physical activity reduces rates of mortality and indicators of disease progression
- Physical activity is associated with improved secondary indicators of risk progression (HnA1c, blood pressure, BMI and lipids)

HIV (WHO, 2020)

- Physical activity improves cardiorespiratory fitness
- Physical activity intervention can improve markers of cardiometabolic risk (lipids)
- Physical activity is positively associated with health-related quality of life and a reduction in symptoms of depression and anxiety
- Physical activity is associated with mean increase in lean body mass and decrease in percent body fat
- Physical activity does not adversely influence markers of HIV disease progression (CD4 count, or viral load)

Dementia (Livingston et al, 2020)

- Sustained exercise in midlife, and possibly later life, protects from dementia, possibly through decreasing obesity, diabetes, and cardiovascular risk
- Midlife systolic blood pressure control should aim for 130 mm Hg or lower to delay or prevent dementia

Osteoporosis (Benedetti et al, 2018)

- Physical activity stimulates bone osteogenesis in osteoporotic patients
- Walking alone does not appear to improve bone mass, however it is able to limit its progressive loss
- Progressive resistance training for the lower limbs appears to be most effective on BMD for the neck of the femur (post-menopausal women)
- Multicomponent training appears to be the most effective intervention for BMD at the spine (post-menopausal women)
- Weight bearing exercise with vibrating platforms may have an impact on BMD (post-menopausal women)

Frailty (Angulo J et al, 2020)

- Frailty follows the combination of several impaired physiological mechanisms affecting multiple organs and systems
- Physical activity reduces age-related oxidation damage and inflammation and improved mitochondrial function
- Physical activity is considered a beneficial strategy to counteract physical impairment from frailty in the elderly.

2.2. Desk Study on good practices in organizing PA sessions for cancer prevention for adults and senior citizens within urban environments

In recent years there has been increasing attention in a variety of research fields in relation to the benefits that PUGS provide for the health and wellbeing of citizens. Research on larger green areas has shown that PUGS are beneficial to people's health, physically, socially, and mentally. "Urban green spaces" (UGS) are considered as urban spaces covered by vegetation of any kind. This includes smaller green space features (such as street trees and roadside vegetation), green spaces not available for public access or recreational use (such as green roofs and facades, or green space on private grounds), and larger green spaces that provide various social and recreational functions (such as parks, playgrounds, or greenways) (World Health Organization Regional Office for Europe. Urban Green Space Interventions and Health; WHO Regional Office for Europe: Copenhagen, Denmark, 2017).

There are areas with lack of PUGS since the urbanisation causes a decrease in per capita space and thereby a loss of per capita UGS (James et al., 2009). Reducing the use of natural environments is often associated with a number of lifestyle diseases such as obesity, diabetes II, osteoporosis and stress-related illnesses such as depression, heart diseases and mental fatigue (Ulrich, 2006; Mitchell and Popham, 2008).

The aim of this desk study on good practices in organising PA sessions for cancer prevention for adults and senior citizens within urban environments was to:

1. identify efficient ways to engage the target population to CPPA (motivators and barriers);

2. provide indicators for safe conditions for CPPA in PUGS;
3. identify the best ways to use PUGS for CPPA.

Looking for motivators, both internal but especially external, we stressed the importance on social engagement and environment like, for instance, the use of PUGS.

Social contact is to be considered as a mechanism behind the relationship between green space and health (Maas et al., 2009). Based on these findings, UGS is thought to contribute to health, as defined by the World Health Organisation as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO, 2017). The WHO, therefore, encourages local administrators to increase the provision of UGS.

Several studies report significant differences in the use of PUGS for different population segments. In a review (Hunter, Ruth F et al., 2014), age, gender, education level and health status were found to be significantly associated with differences in use of PUGS. Furthermore, the same study also found that size and distance from the home are associated with differences in use of PUGS; with larger areas closer to home being used more frequently. We found as main positive effects the following effects:

1. Providing visitors with a sense of escape from noise and pollution in the city and can thus act as a protective factor for populations against environmental risks such as air or noise pollution or the urban heat island effect;
2. Strengthening of the immune system and a drop in blood pressure;
3. Combating symptoms of anxiety, having a positive effect on mental health and reducing stress;
4. Reduce risks for chronic diseases by favouring physical activity.

In cancer also there is evidence of the benefits of PA in PUGS. The links between green spaces and cancer are multiple, but compared with other chronic diseases

we still have fewer publications. A recent meta-analysis (Porcherie, Marion et al., 2021) on green spaces and health mentions only four studies on the links between urban spaces and cancer. Another scoping study on the health effects of urban forms on the Canadian population, for example, mentions only one national study involving a link between green spaces and cancer among the 55 studies included (McCormack, Gavin R et al. 2019).

The role of public green spaces and physical activity among people in remission from cancer, based on the model of therapeutic gardens that are being provided in healthcare establishments, should also become a topic of scientific investigation.

The effects of green spaces depend on a lot of factors, such as:

1. Number of UGSs available;
2. Distance to the nearest UGSs;
3. Frequency of park visits;
4. The view of a park from home.

For instance, some studies show that nearest distance to UGS is positively correlated to PA (Giles-Corti et al., 2005, Cohen et al., 2007, Toftager et al., 2011) and frequency of UGS use (Mowen et al., 2007, Björk et al., 200). Positive associations between largeness of UGS and increased levels of PA are also reported (Giles-Corti et al., 2005, Paquet et al., 2013). On the other hand, there are also studies which evidence no significant association between green space and PA. Due to the inconsistent findings further research is needed to understand the relationship between green space and PA.

As for the features and quality of the green spaces, studies revealed positive associations between levels of PA and certain features of UGS (i.e., paved trails, sport fields, water features, playgrounds, lights, walking path, shade, and drinking fountains) (Cohen et al., 2006, Kaczynski et al., 2008, Schipperijn et al., 2013). Studies also show that aesthetics, sometimes called as attractiveness, (Sugiyama et al., 2010) maintenance, and cleanliness (McCormack et al., 2010)

are positively associated with levels of PA, quality of UGS needs therefore to be considered (McCormack et al., 2010).

In conclusion, there is increasing evidence that supports the association between PUGS and impact on health and well-being. However, more evidence is necessary for cancer patients and cancer survivors.

2.3. Needs Analysis: barriers & issues for practicing CPPA within PUGS

The barriers and facilitators/motivators to practice physical activity in PUGS for adults and senior citizens were explored through interviews and a quantitative survey in two European communities; an urban community in Italy (Bologna) and in Ireland (Kilkenny). The two data sources were integrated to establish a matrix of barriers and facilitators.

The survey was distributed by Kilkenny municipality' and AIFI' staff to participants by email in November 2022 (Kilkenny) and by paper in March 2023 (Bologna). The qualitative part of this explorative study was conducted through focus group interviews with the aim to:

- a) identify facilitators and barriers (individual, social, environmental) to practice physical activity, especially in PUGS;
- b) understand how to increase their participation in such activities;
- c) identify factors which facilitates/supports and prohibit/prevent participants using an App for PA.

The interviews and focus groups were designed for the target groups by the University of Seville (US) researchers and translated to an English and Italian version by a native researcher. Recruitment strategies were tailored to the local circumstances and included invitations by the two institutions in networks of adult and senior citizens with and without cancer.

In January 2023, four focus groups were performed in Kilkenny with a total number of participants of 34 (15 with cancer and 19 without). In March of the same year, one focus group was implemented in Bologna (6 participants: 3 with cancer and 3 without).

The focus group interviews were led by a trained moderator from US (Kilkenny) and by a native-speaking (Bologna) moderator. A native collaborator took notes about the information that citizens provided in both cases. There was no pre-existing relationship between the moderator and the participants.

In total 65 citizens (6 Bologna and 59 in Kilkenny) completed the survey and 40 of them (6 in Bologna and 34 in Kilkenny) participated in the focus groups.

	Total	Kilkenny	Bologna
Participants (n)	65	59	6
Male (n)	8	7	1
Female (n)	57	52	5
Age (mean)	69	63,5	74
Min-max	(51-91)		
Treatment for diseases (n)	37	35	2
Cancer (n)	25	22	3

Table 1. Participant´s characteristics in Bologna and Kilkenny.

Multiple barriers and facilitators were identified to practice PA in PUGS for both communities like laziness, fatigue and a lack of specific exercise programmes to follow were identified. Facilitators existed, amongst others, of social contacts, professional supervision, and good accessibility of facilities.

In the pilot area, other barriers such as physical impairments or insects were informed. The weather and a lack of infrastructures, speed of traffic and insufficient personal safety were also mentioned as barriers.

The focus groups identified multiple barriers and facilitators for physical activity that are presented in a matrix (Table 1) of general and community specific barriers and facilitators. The matrix will be used in designing physical activity

enhancing programs for adults and senior European citizens with and without cancer.

	Barriers	Facilitators/Motivators
Kilkenny (Ireland)	<ul style="list-style-type: none"> - Low energy levels - Cancer treatments side effects - particularly fatigue and pain - Lack of awareness about the proper exercise to do - Busy schedule - Work and tiredness - Childcare - Perception of others: seen by friends and others as being less able to perform activities & can feel restrained - Lack of Self-Confidence to participate in group exercise - Physiological Fitness: fear of not being able to keep up in group exercise or mainstream classes for the general public. Vigorous exercise may not be possible due to symptoms and physiological changes in the body due to cancer & treatment - Lack of knowledge of age specific programmes for older people - The weather - Time of year: dark evenings in the autumn and winter - Not enough seating and shelter in the green spaces - Speed of traffic - Nervousness about covid - Lack of infrastructures in rural areas & lack of toilet facilities - Safety: secluded green spaces, isolated areas, dogs off-leads, anti-social activity, roads, speed of cars 	<ul style="list-style-type: none"> - Awareness of PA benefits (physical and mental) - Having a routine - Social relationships, belong to a group - Free bus to older people to get access to PUGS - Covered areas in the outdoors - Some off-road cycling infrastructure - Good Design and Infrastructure of PUGS open spaces that are well maintained encourages usage and exercise - Parking facilities - An allocated instructor in green areas - A park for dogs - Exercise equipment in the green spaces and easy to understand instructions

<p>Bologna (Italy)</p>	<ul style="list-style-type: none"> - Laziness - Fatigue - Practice exercise alone - Not to know how develop exercises - Sick, treatments, afraid, to feel pity from other (cancer patients) - Mental limits: "I can't do it" - Physical impairments - Insects 	<ul style="list-style-type: none"> - Socialization/group exercise - Places where to sit - Morning time - Exercise in pools - Outside activities - Music when exercising - Oriental exercises: yoga, tai-chi, qigong - Free activities - Free parking near PUGS - Accessibility to PUGS - Engagement with the other participants and professionals - Professional supervision, more safe - To state clear goals (tests, repetitions, etc)
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Table 2. Matrix of barriers and facilitators to PA in PUGS

The results from both the focus group and the survey demonstrated different health/social and environmental barriers and facilitators for physical activities in PUGS. The most important health/social barriers for exercise in green spaces were pain, fatigue, health status and nausea. Contrary, the most important health/social facilitators were the knowledge of the benefits of PA (71.2%), the knowledge of what exercises to do and how and the organisation of directed activities, and the possibility of attending with others.

The most important environmental factors perceived as barriers were distance and noise to green spaces, the maintenance of PUGS and personal safety. Among the facilitators the accessibility to PUGS, the infrastructures and citizen security were the most relevant for the participants.

2.3.1. Target groups' Needs Analysis conducted in Munich

The barriers and facilitators to practice physical activity in PUGS for adults and senior citizens were explored in another urban community in Germany (Munich). However, due to internal difficulties encountered in the first months of the project, the focus group for the third pilot territory could not be organised under the same circumstances.

To ensure homogeneity between the focus groups conducted in Bologna and Kilkenny, and the focus group conducted in Munich, a similar process was used to identify facilitators and barriers (individual, social, environmental), to practice physical activity (especially in PUGS) and to understand how to increase Munich's residents' participation in such activities. This process also aimed to detect those elements which support and prevent them from using the App for CPPA. To have the same reference points for the participants, the questions were drawn from the same set which was also used in the other two pilot territories. The complete focus group interview is presented in Annex 1. The questions were all translated into German and merged into a survey, also available in English for possible non-German speaking residents. The primary target was to gather the data through phone interviews, as these allow usually for more informational input and additional insights via follow-up questions or other feedback that might emerge from a more organic conversation.

As a result of not having the focus groups in Munich it was decided by the Europe Region of World Physiotherapy, OAC and Kilkenny that in addition to phone interviews a written survey would also be distributed to ensure sufficient feedback and data to analyse. Both the written survey and the phone interviews were conducted within the month of June (2023) by the project manager from OAC. Seven phone interviews were conducted, recorded & immediately deleted after the revision of the recordings for privacy reasons. The recordings were necessary as the interviewer (the project manager) was alone during the interviews. In addition to the interviews, there were 4 written responses received. Two of the

seven participants interviewed over the phone and 2 of the 4 written survey participants had a previous cancer diagnosis.

	Munich
Participants (n)	11
Male (n)	3
Female (n)	8
Age (mean)	61,63
Min-max	51-75
Treatment for diseases (n)	2
Cancer (n)	4

Table 3. Participant's characteristics in Munich.

Multiple barriers and facilitators were identified to practice PA in PUGS for Munich, that are presented in the same matrix (Table 3) of general and community specific barriers and facilitators also used by Kilkenny and Bologna.

Due to the delay of the Citizen Engagement process in Munich, it was difficult to implement specific & tailored recruitment strategies. The recruitment of participants took place through the existing OAC network, therefore participants mostly came from a familiar environment and mostly have an already active lifestyle (which might explain why laziness was not mentioned in Munich, even though otherwise there were many similar barriers and also facilitators at all three pilot territories). Examples of the most commonly reported barriers included; low-energy levels or feeling unwell (fatigue, side effects, tiredness, pain, anxiety). The participants reported the side-effects could be countered by tailored training programs conducted by professionals, who could prescribe variations or regressions of exercises. Additional barriers included; access to training environment and protection from weather (heat or rain). Therefore, location choice is particularly relevant. Access to public-transport, parking spots & potential alternative covered areas should also be considered.

	Barriers	Facilitators/Motivators
Munich	<ul style="list-style-type: none"> - Fatigue / daily Form - Joint pain (pain in general) - Tiredness / in need of recovery - Training alone or w/o instructor - Caretaking of (ill) partner, children, grandkids, etc. - Possible cold/bad weather (also extreme heat) - Lack of knowledge about appropriate exercise programs - Access concern (barrier-free & reachable via public transport, parking spaces?) - Afraid of scheduling things or fear of being unreliable (patient with depression) / social anxiety - Time - Cost aspect - Allergies (esp. during spring) - Don't want to carry too much (equipment) 	<ul style="list-style-type: none"> - Professional Instructors for adequate training and guidance - Adjustable programs (different intensities, etc) - Learning aspect / new things - Good Access - Bad weather alternatives – covered areas (Rain/too much sun) - Socializing / community feeling - Motivational but not “pushy” atmosphere - Highlighting positive health aspects of physical outdoor activities - Uncostly alternative to the gym or other private training can offer - Provided equipment/things needed (water, mats, training equipment, etc.)

Table 4. Matrix of barriers and facilitators to PA in PUGS

3. PHASE II: Target group & stakeholders

In order to embrace the objectives of the UcanACT project, one of the priorities was to correctly consider which target group and stakeholders should be included in the Citizen Engagement Strategy. In this part, we identified and defined the target group and different stakeholders of the project, and presented how their involvement will be used for the benefit of the UcanACT project.

3.1. Definition and mapping of target group

As previously mentioned, the UcanACT project aims to engage adults and senior citizens to practice physical activity as a tool for cancer prevention within public urban green spaces. Given that cancer is the main cause of death both for men and women between the ages of 55 and 74 years (Eurostat data, 2017) and that the project is dealing with cancer-preventive measures, its activities should be aimed at people younger than 55 years old to meet the project's objectives and increase impact reducing the physical inactivity levels and inform EU citizens about positive benefits of PA of cancer prevention.

In this regard, the primary target group of the present project is adults and senior citizens over the age of 50 who never have suffered from cancer diseases (primary prevention), who were diagnosed with cancer (secondary prevention) or who are cancer survivors (tertiary prevention). They are the subjects to whom the UcanACT project is dedicated, the group of people that this project is hoping to reach out to and empower to take active and positive attitudes towards their health. As a target group, they are involved in the decision-making process, in

policy implementation, influence policy implementation and are the policy end-users.

Within the project, they will develop their health literacy on PA as a tool for cancer prevention, and have an opportunity to practice CPPA exercises and experience its positive benefits by participating in the project Pilot CPPA actions or using UcanACT App.

Target group	Role	Level of interest in the elaboration of the strategy	Level of interest in the implementation of activities
Adults and senior citizens	<p>Contributing to the development and improvement of the methodology.</p> <p>Getting engaged in physical activity in public urban green spaces.</p>	<p>Contribution: participate in the Report on NEEDs analysis for identifying existing barriers to practice PA sessions within PUGS and for identifying needs faced by adults and senior citizens on a way of their participation in CPPA practice.</p> <p>Take part in making decisions to actively be part of the cancer-preventive physical activity actions through the CES.</p> <p>Participation in focus groups to undertake the NEEDs analysis</p>	<p>Participation: participate in Pilot CPPA actions to prevent cancer diseases.</p> <p>Contribution in using the UcanACT App.</p>

Table 5. Summary table of the target group

3.2. Definition and mapping of stakeholders

The UcanACT project has identified other actors who perform actions towards the target group, who have an interest in the topic targeted by the project because they could be either benefited from, or affected by the issue the project is tackling. They are the stakeholders.

First of all, the present project is an opportunity to raise awareness about physical activity as a possible measure for cancer prevention, to encourage a broad understanding of health benefits, of practicing physical activity within open environments among physiotherapists - and more broadly among health professionals. These stakeholders are professionals who are about to or have successfully completed a professional entry level programme that enables them to identify and maximise quality of life, functional movement potential and provide cancer-preventive physiotherapy practice.

However, in spite of the growing number of scientific researches proving that PA is a tool for cancer prevention and rehabilitation, there is a lack of practical guidelines for physiotherapists and other health professionals to provide cancer-preventive PA sessions (World cancer Report, WHO, 2020). Moreover, existing recommendations on how to provide appropriate physical activity for cancer prevention are mainly done for clinical conditions (hospitals, rehabilitation centres) in spite of the fact that there are numerous scientific evidences showing that practicing PA within open nature environments increases positive effects of cancer prevention⁹, provides opportunities for social inclusion of cancer survivors and positively influences on mental health and healthy lifestyle behaviours¹⁰.

Given that context, the UcanACT project has decided to involve physiotherapists and health professionals in a series of activities that engage adults and senior citizens to practice physical activity as a tool for cancer prevention and empower them to take charge of their own health rather than being passive recipients of services. In order to guide these stakeholders, the project will encourage new and specific skills among them, based on the Practical Intervention Methodology to deliver cancer preventive PA exercises for the primary target group. Through a better understanding, physiotherapists and health professionals will be able to

⁹ Thompson Coon, J., Boddy, K., Stein, K., Whear, R., Barton, J., & Depledge, M. H. (2011). Does participating in physical activity in outdoor natural environments have a greater effect on physical and mental wellbeing than physical activity indoors? A systematic review. *Environmental science & technology*, 45(5), 1761-1772. [6] Zijlema et al., 2017

¹⁰ Siqueira, K. M., Barbosa, M. A., & Boemer, M. R. (2007). Experiencing the situation of being with cancer: some revelations. *Revista latino-americana de enfermagem*, 15(4), 605-611.

deliver face to face physical activity sessions to participants, motivating them to perform the exercises by themselves, reminding them of tips on how to perform the exercises properly to prevent any risks, and answering questions that may have arisen with the exercises. In addition, they will introduce the target group to the UcanACT App that is aimed to support adults and senior citizens willing to practice CPPA exercises within PUGS.

In addition to that, the UcanACT project involves a wide spectrum of entities in order to reach project objectives. The following stakeholders have been identified in the strategy development of the project:

- Families / Friends / Caregivers: adults and senior citizens with diagnosed cancer diseases are normally very reliant on family members, caregivers as well as friends. For that reason, it is important to consider measures to inform and engage those and make them empowering to the person, promoting their independence and self-assurance and supporting them in getting engaged in PA. The project will bring them the UcanACT App for practicing CPPA with their loved ones, to empower them to take active attitudes towards their health;
- Scientific community working in the field of cancer-prevention through PA
Scientific researchers: the scientific community will have an opportunity to learn how recent evidence on cancer prevention can be applied into the physiotherapy practice. The project result can inspire researchers to open new lines of investigation in cooperation with physiotherapists;
- Local Government & Local/Regional administrations: it falls to local and regional governments to recognize their critical role in creating healthy urban environments and opportunities for physical activity, while providing community information and referral services, as well as support services to adults and senior citizens willing to engage them in physical activity;

- Community managers: community managers from local organisations are the ones who endorse this role. They are a key element in the development of the project by engaging and maintaining the interest of the participants, by maintaining active partnership with the relevant communities and representative organisations identified in each of the pilot territories, disseminating information, tools, and by monitoring the progress of the program's activities once the Pilot CPPA actions began (continuity of participation, adequacy of spaces, etc.). Their role consists of initiate the Citizens Engagement process.
- Policymakers at local, regional and EU level: they can influence policies related to promoting physical activity for vulnerable groups such as adults and senior citizens in urban contexts. Policymakers, at all levels, are interested in maintaining active partnerships with the relevant sectors, which can provide them with empirical evidence that can rightly inform their work;
- Citizens and the general public: as one of the project activities is the development and rolling out of the Citizen Engagement Strategy – that will allow citizens to practice PA in PUGS – it is important to take citizens and the general public into consideration in the implementation of the UcanACT project;
- Society and Health Systems: the study about cost-effectiveness of PA on cancer prevention will offer a vision of the impact that physical activity will have, not only on individuals, but also on the population, society and health systems.

Stakeholders	Role	Level of interest in the elaboration of the strategy	Level of interest in the implementation of activities
Physiotherapists and other health professionals	<p>Inform adults and senior citizens about positive benefits of PA of cancer prevention.</p> <p>Provide adults and senior citizens cancer-preventive physical activity exercises within PUGS while considering their significant difference in health condition.</p>	<p>Participate in training sessions for the pilot territories and in the implementation of the Pilot CPPA actions.</p> <p>Contribute to the elaboration of the Strategy by giving practical recommendations and participating in a quantitative analysis of the impact of the implemented intervention.</p>	<p>Participate in the implementation of the Pilot CPPA actions (delivering face to face physical activity sessions to participants, using the App in the training sessions and helping participants learn its use...).</p> <p>Contribute to the implementation of activities by participating in the evaluation of the intervention.</p> <p>Regarding information: interact with families, caregivers, and other community-based service providers.</p>
Families, friends and caregivers	<p>Empower adults and senior citizens to take active attitudes towards their health.</p> <p>Support adults and senior citizens in getting engaged in physical activity.</p>	<p>Identify existing barriers to participation in PA practice within PUGS and the needs of the target group through a questionnaire.</p>	<p>Contribution in using the UcanACT App.</p> <p>Contribution in getting adults and senior citizens active in participation Pilot CPPA sessions.</p>
Scientific community working in the field of cancer-prevention through PA Scientific researchers	<p>Provide scientific publications, research on cancer prevention through PA exercises.</p>	<p>Involve in the design of the Citizen Engagement Strategy and Practical Intervention Methodology through their research demonstrating positive benefits of PA for cancer-prevention.</p>	<p>Learn how recent evidence on cancer prevention can be applied into the physiotherapy practice.</p>
Local Government & Local/Regional administrations	<p>Creating environments and opportunities for physical activity, while providing community information and referral services.</p>	<p>Community managers participate in training to support the implementation of the Pilot CPPA actions in the pilot territories.</p>	<p>Participate in the implementation of the Pilot CPPA actions, rolling out of the project Citizen Engagement Strategy within the pilot territories.</p>

		Regarding contribution: involved in the design of the Citizen Engagement Strategy.	Contribute to the implementation of activities by organizing socio-cultural events in the context of their functions as social assets in the community.
Policymakers at local, regional and EU level	Influence policies related to promoting physical activity as a tool for cancer prevention within public urban green spaces.	Mandated technicians/managers to participate in the development, definition and implementation of the CES.	Regarding information: will share the recommendations and findings from the evaluation among other cities, community organizations...
Citizens and general public	Help to create comfortable, accessible and inclusive public urban green spaces. Help to identify the potential beneficiaries, to identify the factors favouring target group involvement.	Collaborate in building the CES by bringing their views on identifying beneficiaries, on favourable conditions of participation, and on identifying areas in which putting in place the activities.	Concerning information: contribute to disseminate information about the activities, to identify participants, to create trusting relationships for the target group, to find organizational ways to encourage participation as well.
Society and Health Systems	Influence society and health systems to promote physical activity as a tool for cancer prevention within public urban green spaces.	Analysing the impact of physical activity as prevention in cancer (supposes a promotion of health) on the economy, in saving resources	Share the recommendations and findings from the evaluation among society, other European health systems...

Table 6. Summary table of the stakeholders

The table that is presented above is a preliminary analysis of the main stakeholders who are necessary for the success of the project. These are the bridge-figures whose engagement is key to maintain involvement of the target group during and after the project. This table serves as a starting point for a municipality/organisation willing to create and implement its own CES document. However, an in-depth study of the context should be made case by case in order to tailor the stakeholder matrix to the reality of each territory.

4. PHASE III: Implementation plan

For a proper and efficient implementation of the Strategy, it is important that the target group is involved at various stages. To reach this aim, the UcanACT partners identified the first considerations and guidelines for drafting and methods and tools for a participatory definition of the Citizen Engagement Strategy. To test our methodology for the creation and implementation of the Strategy, we based our work on the context and involvement of the three pilot territories of the UcanACT project: Bologna (Italy), Kilkenny (Ireland) and Munich (Germany).

4.1. Guidelines for drafting

4.1.1. Guiding principles for implementing the CES

To make sure that the target group's needs are well understood, it is worth adopting a "participatory method" in every phase of the process aimed at drafting the Strategy. This means involving the potential beneficiaries of the project action, but also officials and operators of public organisations that provide services for these potential beneficiaries and individuals of private non-profit organisations (differently named according to the regulations of the partner states) and for-profit organisations.

At the basis of this methodological choice is the firm belief that the community is the bearer of sensitivity that must be intercepted, supported and accompanied in paths of participation. This is to connect all those who work, in various capacities, for the welfare and health of the community and the places where it comes to life.

In addition to the guiding principles mentioned above (point 1.4) the creation of a Citizen Engagement Strategy for the three pilot territories of the UcanACT project elaborated and implemented with participatory methods is inspired by the



following guiding principles identified in the Citizen Engagement Strategy drafted by the consortium of the EU-funded project InAble Cities¹¹:

- Care: the social 'capacity' to implement actions aimed at improving the well-being of citizens;
- Proximity: the ability to be “close” to people, to know them, that is, to listen to their needs, to effectively communicate useful information to improve their well-being;
- Trust: between citizens and institutions (formal and non-formal) as a condition underlying the engagement itself;
- Pleasantness: ability to create welcoming and pleasant situations that increase the motivation to participate;
- Accessibility: ability to make proposals accessible (reassuring, accompanied, supported) to the target population.

4.1.2. Methods and tools for the implementation of the CES and kick-off training sessions

As mentioned below, the preparation phase of the UcanACT project has been based on another EU-funded project coordinated by the Europe Region of World Physiotherapy, the InAble Cities project. The evaluation carried out throughout this project showed that involving a series of bridge figures was very effective for the smooth implementation of the CES. Following this method, the UcanACT consortium identified as bridge-figures: local based cancer support centres, sport clubs, public participation networks, non-profit organisations, health professionals (specialists, physiotherapists...), etc.

Since these bridge-figures are already part of the extended group for the construction of the CES, they have been informed of the initiative. In addition, in order for everyone involved in the implementation of the Strategy to be aware of the structure of the CES and also of the concrete ways of implementation, all

¹¹ EU-funded project InAble Cities, 2022, Citizen Engagement Strategy

those who are in contact with the target group will take part in kick-off training sessions aimed at presenting the Strategy. The training will be carried out by the external experts who developed the Citizen Engagement Strategy, with the supervision of the project referents and the Public Administration involved, in order to build skills on communication methodologies and tools for ensuring engagement of adults and senior citizens to practice CPPA within PUGS. These sessions will therefore also help to support the implementation of the Pilot CPPA actions.

4.2. How can we engage the target group and the stakeholders?

To build and sustain relationships between public services, the target group and the stakeholders, helping them to understand and take action on the needs or issues that the target group and the stakeholders experience, the three pilot territories develop the Citizen Engagement Strategy utilising the principles from the IAP2 spectrum of public participation. Those principles aim to deliver an effective Citizen Engagement Strategy by involving the target group and collecting the point of view of the beneficiaries of the action at various points in the process.

Stages of involvement of the target group in project activities¹²:

- Phase 1: Inform the potential beneficiaries of the activities about the project's objectives and involve them in the needs analysis to make them understand what are the actual needs of the target group.
- Phase 2: Consult the potential beneficiaries of the activities in order to obtain their feedback and involve them in the validation of the methodology of intervention.

¹² EU-funded project InAble Cities, 2022, Citizen Engagement Strategy


- **Phase 3:** Involvement in the prearrangement of actions. Here concrete actions shall be developed to engage potential beneficiaries of the activities. Some adults and senior citizens, already involved in the previous phases, will participate in the training sessions of the project.
- **Phase 4:** Execution of the pilot CPPA actions with the support of the physiotherapists and other health professionals involved in the project.
- **Phase 5:** Final evaluation. The target group is involved in the longitudinal evaluation at the end of the action for which they were 'engaged' in order to acquire lessons learnt for the future.

At the same time, during the implementation phase of the CES it will be key to identify specific actions to keep stakeholders engaged. Their commitment is essential to maintain the target group's active involvement in the project as they will encourage them to participate and perform the exercises reflected in the Project Intervention Methodology.

IAP2 Spectrum of Public Participation



IAP2's Spectrum of Public Participation was designed to assist with the selection of the level of participation that defines the public's role in any public participation process. The Spectrum is used internationally, and it is found in public participation plans around the world.

INCREASING IMPACT ON THE DECISION 					
	INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
PUBLIC PARTICIPATION GOAL	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision making in the hands of the public.
PROMISE TO THE PUBLIC	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

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Figure 2. IAP2 Spectrum of Public Participation

4.3. Description of the stages and methods for Citizen engagement implementation

To allow the replication and adaptation of the Citizen Engagement Strategy by other European cities, regardless of their characteristics, the UcanACT consortium selected three urban areas from three different Member States. They are representing very diverse urban contexts in terms of geography, mobility, density and population, which is contributing to create research and insights for a wider European urban, health and physical activity sector. Our methodology for the creation and implementation of a Citizen Engagement Strategy was therefore based on the context and involvement of Bologna (Italy), Kilkenny (Ireland) and Munich (Germany), and on the results of the NEEDs Analysis (D2.3).

4.3.1. Description of the stages and methods for Citizen engagement implementation in Bologna

Bologna is the capital of the Emilia-Romagna region in Northern Italy, of which it is also its largest. It is the seventh most populous city in Italy, with about 400,000 inhabitants and 150 different nationalities. It is also called the Learned City because it is home to the oldest university in the world.

The Municipality of Bologna is committed to invest money and services in favour of its citizens and very often the city is a model for the development of local policies for Citizens and participatory engagement to achieve better outcomes for the people of Bologna. Among many factors that can influence health and wellbeing there is a high attention in organizing events for citizens. In particular the initiative “Park in movement”¹³ which offers to citizen the opportunity to stay

¹³ Cultura Bologna. (2023) “Parchi In Movimento” in Cultura Bologna. Available at: <https://www.culturabologna.it/documents/pim-parchi-in-movimento>

active and exercise in the PUGS of the city. A list of PUGS that will be involved also for the Pilot Rounds are:

- Parco Nicholas Green (Quartiere Borgo Panigale – Reno)
- Parco di Villa Angeletti (Quartiere Navile)
- Giardino del Velodromo (Quartiere Porto-Saragozza)
- Parco San Donnino (Quartiere San Donato-San Vitale)
- Parco dei Cedri-Lungosavena (Quartiere Savena)
- Giardino Lunetta Gamberini (Quartiere Santo Stefano)
- Parco Pier Paolo Pasolini (Quartiere San Donato-San Vitale)

The involvement of PUGS is easier than before because the pandemic era offered to anyone the opportunity to appreciate more Green Spaces as an opportunity for exercise for positive impact on physical health and to reduce the risks of diseases associated with inactivity. People spending time in greenspaces has a positive impact on mental wellbeing and life satisfaction, particularly for urban dwellers (White et al., 2019).

4.3.1.1 Levels and Methods of Engagement

Level 1: Inform and Consult with Services and Citizens

Identify and Secure Commitment from Stakeholders

The AIFI team listed a group of stakeholders to be targeted through the support of the Municipality and the University. The objective of this phase of the CES was to provide the target groups an understanding of the project objectives, and to encourage maximum opportunity for participation:

- Inform stakeholders in advance about the project activities;
- Communicating with clear messaging, language, accessible for people living with disabilities;

Identified Organisations/Stakeholders for Citizen Engagement

- Fondazione ANT Onlus is the largest non-profit organization in Italy for free home medical assistance to cancer patients. Since 1985 ANT has assisted over 149,000 patients, completely free of charge, with multi-disciplinary teams present in 29 provinces in 11 regions. Every year there are over 10,000 patients throughout Italy. Ant Bologna was invited to participate in the UcanACT project from the regional manager of AIFI;
- AIMAC (Italian Association of Cancer Patients, relatives and friends) was founded with the aim of providing information to cancer patients and their families through a multimedia strategy. Aimac is an active voluntary association which includes patients, relatives of patients, university professors, researchers, doctors, psychologists, psychotherapists, entrepreneurs, journalists
- The Network of Specialist Interest (NIS) of Lymphology in Physiotherapy composed of physiotherapists with training and experience in the lymphological field, aims to support and disseminate culture, scientific evidence and good rehabilitation practices in the management of lymphedema, phlebolymphedema and lipedema.

The target groups were contacted by email or telephone and were provided with a brief overview of the project.

Level 2: Inform and Consult - Survey

Together with Kilkenny County Council and the University of Sevilla we managed to prepare an ad hoc survey and we offered the opportunity to engage both electronically (email or link on our website) or in person (by booking an appointment). Participants were also asked if they were willing to be contacted to participate in follow up focus group sessions; and lastly, they were asked to indicate if they would be willing to take part in the exercise programme of the project.

The survey captured preliminary information about health status, medical history, physical activity behaviours, and environmental and wellbeing factors which could influence or prohibit participation in physical activity;

The survey responses were included in the need analysis by the project partners, University of Seville.

Level 3: Consult and Involve - Focus Groups

The focus group session in Bologna was organized in the beautiful green park called SERRE DEI GIARDINI MARGHERITA. The main objective of the focus groups was to obtain feedback from the target groups on the barriers, motivators, app characteristics, PUGS, and strategies for Physical Activity in PUGS.

At the meeting there were two Facilitators from the University of Seville and two members of AIFI Project Team. In advance of the focus groups, meetings were scheduled between Kilkenny County Council, AIFI and the University of Seville to discuss the recruitment process, survey results, numbers of participants attending the focus groups, arrangements of the focus groups and a presentation that would provide clear information on the UcanACT project to all the participants and stakeholders in Kilkenny.

A clear agenda was agreed by all project partners and stakeholders. Participants were invited via email (approach for younger participants) or by individual telephone calls (approach for older participants).

To make the process accessible and inclusive the Focus Group was organized like an “open day” where all people invited could attend whenever they want. During the meeting everyone had the opportunity to be heard and treated equally. There were also opportunities to ask questions at the end of the focus group, both in group & in one-to-one meetings.

Organisation of the Focus Groups

The focus groups were an opportunity to delve deeper into the questions asked in the questionnaire. They were designed to elicit the barriers to:

- Exercise Behaviour/Trends;
- Exercising in the outdoors;
- Accessing green spaces;
- Barriers to exercise/physical activity;
- Motivators to exercise;
- Preference of outdoor environment;
- Considerations in design of PUGS;
- Characteristics of the mobile application.

Level 4: Collaborate and Empower

As stated above, the following themes were discussed in the focus group:

- Exercise Behaviour;
- Exercising in the outdoors;
- Public Urban Green Spaces in Bologna;
- Barriers and Motivators to exercise;
- Characteristics of the App.

These discussions provided data to build a NEEDs Analysis, main element to improve the future strategies of the project. Participants gave us important feedback on:

- Characteristics of the App (i.e., easy to use, socially engaged, more acoustic feedback, multiplatform);
- Selection and Characteristics of the PUGS (safety, illumination, Seating availability, privacy, easy to reach, well maintained);
- Barriers to exercise that need to be addressed for exercise participation (motivation, group building, opportunity to rest);

All the activities to improve the Citizen Engagement Strategy have been analysed and shared amongst the Consortium for future improvement (lessons learned). This is an important step in the process to engage significant numbers of citizens.

4.3.2. Description of the stages and methods for Citizen engagement implementation in Kilkenny

County Kilkenny is a medium-sized inland County located in south Leinster, Ireland, covering just under 2,100 square kilometres. County Kilkenny has a population of 103,685 citizens; (CSO, 2022¹⁴). Kilkenny County Council is committed to working with the people of Kilkenny to develop sustainable, connected, healthy and economically thriving and proud communities. These objectives also involve the development of local policies which are constructed with the focus on Citizens and participatory engagement to achieve effective decision-making and better outcomes for the people of Kilkenny. Kilkenny County Council is a member of the Healthy Ireland Cities and Counties National.

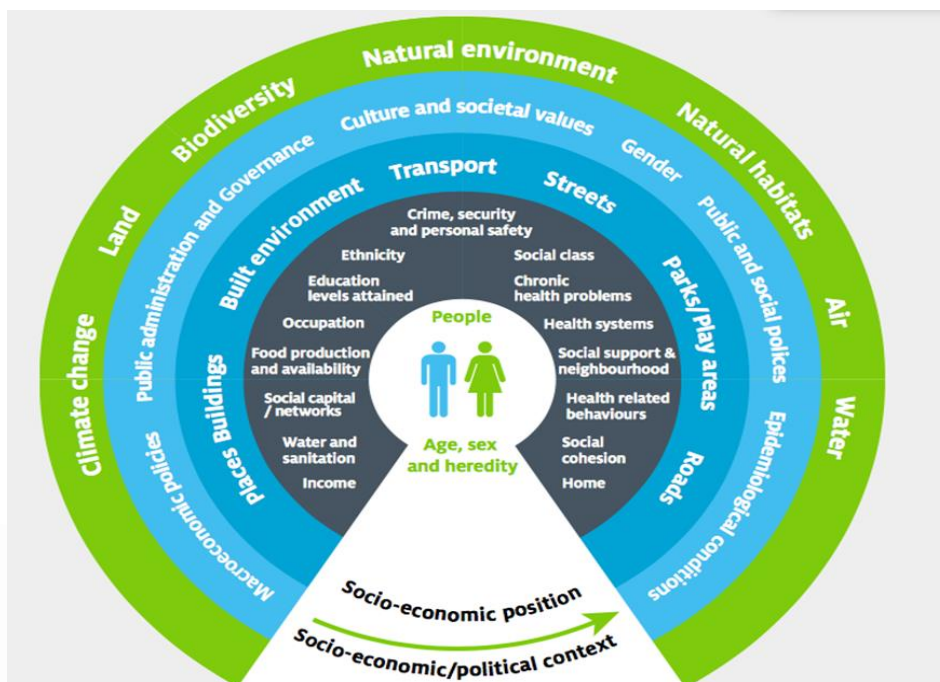


Figure 3. Social Determinants of Health adapted from Dahlgren and Whitehead (1991)¹⁵

¹⁴ CSO. Census 2022. Kilkenny. Central Statistics Office, 2022.

¹⁵ Dahlgren and Whitehead (1991). Model of the Social Determinants of Health. Institute for Futures Studies, Stockholm, Sweden

Network. Healthy Ireland (2013-2025) is the National Government of Ireland's framework to improve health and wellbeing¹⁶. As a key implementer of this policy framework, Kilkenny County Council adopts an approach that explores many factors that can influence health and wellbeing, things like where we live, our environment, our genetics, our income and education level and our relationships with friends and family. All these things affect our lives and are known as 'determinants of health'. Most of the factors that shape our health and wellbeing are outside the direct influence of health and social care services. The Healthy Ireland approach creates a support structure to address these wider influences at local level.

The local Healthy Ireland Community Plan is implemented by the Health and Wellbeing Sub-Committee of the Kilkenny Local Community Development Committee. This committee includes representatives from statutory, non-statutory, community and voluntary sectors. Kilkenny County Council works in collaboration with local agencies/stakeholders to co-design and implement key policy & action priority areas including; Physical Activity, Mental Health, Tobacco Free, Healthy Weight, Sexual Health, Prevention of Alcohol Related Harm and Spaces and Places for Health and Wellbeing. With the implementation of the key priority areas, there is strong commitment locally for the upstream of health promoting activities in our communities to maintain healthy behaviours, prevent disease and reduce health inequalities.

In addition to the Healthy Ireland programme, the Kilkenny Recreation & Sports Partnership (KRSP) Coordinates and leads out on the development of sport and physical activity in Kilkenny. KRSP works collaboratively to empower people and communities to participate in lifelong active recreation, sport and physical activity. The KRSP Strategic Plan 2022-2025 identifies strategic goals and interventions which aim to increase opportunities for people to get sustainably active, address

¹⁶ Healthy Ireland- A Framework for Improved Health and Wellbeing 2013-2025. Department of Health

barriers and build local capacity to support key target groups including older citizens. Together, the Healthy Ireland programme and the Kilkenny Recreational Sports Partnership collaborate to increase physical activity participation in Kilkenny. Another key policy that supports senior citizens is the Kilkenny Age Friendly County Programme. This programme provides an excellent opportunity to enhance the quality of life for older people in Kilkenny and is a member of the World Health Organisation Network of Age Friendly Communities. Kilkenny Age friendly and the Older Persons Council help create a society where people can live full, active valued and healthy lives.

Furthermore, Kilkenny County Council (Parks Department) is responsible for the Green Infrastructure in Kilkenny. The design and maintenance of green spaces are essential factors to encourage people to safely exercise, and to interact with family members and neighbours, all of which can be beneficial for the health and wellbeing of citizens. Green Spaces offer opportunities for exercise, which can have a positive impact on physical health and reduce the risks of diseases associated with inactivity.

Making regular visits to greenspaces has been shown to improve mental wellbeing, physical health and overall life satisfaction. Moreover, research has shown that spending more time in greenspaces has a positive impact on mental wellbeing and life satisfaction, particularly for urban dwellers (White et al., 2019¹⁷). This was evident during the pandemic when we observed a rapid increase in walking and cycling which required the local government to rapidly adapt, manage and provide measures to protect people's safety, ensure adequate space to prevent infections and keep citizens physically active (WHO, 2022¹⁸). Ireland's National Outdoor Recreation Strategy 2023-2027 revealed the highest record of recreational walking (71%) in the outdoors and an increase in

¹⁷ White MP, Alcock I, Grellier J, Wheeler BW, Hartig T, Warber SL, Bone A, Depledge MH, Fleming LE. (2019) Spending at least 120 minutes a week in nature is associated with good health and wellbeing. A Scientific Report. PubMed; 13;9

¹⁸ WHO (2022). Urban Design for Health: Inspiration for the use of urban design to promote physical activity and healthy diets in the WHO European Region. WHO/EURO:2022-5961-45726-65769

time people spend in the outdoors post-pandemic (55%)¹⁹. The value placed on urban design and green spaces is evident including how these spaces can influence healthy behaviours and positive health outcomes in urban areas.

4.3.2.1. Levels and Methods of Engagement

Level 1: Inform and Consult with Services and Citizens

Identify and Secure Commitment from Stakeholders

To initiate the citizen engagement process for the project, the individuals, communities and representative organisations that need to be involved were identified. The organisations and community representatives were targeted through the existing Local Age Friendly & Healthy Ireland Networks and local cancer support/social support services in Kilkenny.

As part of this process, there was a particular focus on prioritising communities who are most at risk of experiencing health inequalities and not leaving relevant individuals left out or excluded from the project. Deprived areas are traditionally associated with poorer health outcomes. A Health Inequalities report, published by the National Cancer Registry Ireland (2023) from dates captured between 2014-2018, revealed that people living in the most deprived areas have almost a 30% higher risk of dying from cancer within five years of a diagnosis than those in more affluent areas in Ireland. This report also highlighted that people living in the most deprived areas had a higher risk of late-stage presentation of cancer diagnosis with a range of potential factors that may have contributed to such disparities e.g., general health, exposure to risk factors, access to services & socio-economic factors²⁰.

¹⁹ National Outdoor Recreation Strategy 2023-2027: Embracing Ireland's Outdoors (2023). Government of Ireland: Department of Rural and Community Development.

²⁰ Atcheson, R., & Lavery, C., (2023). Health Inequalities: Annual Report. Public Health Information & Research Branch, Information Analysis Directorate. Department of Health

The objective of this phase of the CES was to provide the target groups with information about the UcanACT project including; the purpose of the engagement process and have a shared understanding of the project objectives, opportunities, barriers and strategies for physical activity in PUGS. This phase also communicated information to the Stakeholders and Target Groups of how they can get involved in the focus groups and the UcanACT project. The following steps were taken to encourage maximum opportunity for participation:

- Inform stakeholders and target groups well in advance about the different ways people can take part in the projects;
- Use different methods of communication;
- Ensure everyone involved is equally informed and the information is accessible to all participants and stakeholders e.g., simple and clear messaging, language, accessible for people living with disabilities;
- Be clear on the objectives and why people should participate in the project and how it will benefit them and the wider community. It is also imperative to be clear on the expectations of the project outcomes for the pilot area.

Identified Organisations/Stakeholders for Citizen Engagement

- New Park Close Family Resource Centre – the centre works closely with the Community to strengthen participation, equality and positive outcomes for all families and individuals by working from the guiding principles of Community Development. As part of a suite of services they provide programmes and activities for older adults through their ‘Nifty Fifty’s’ and ‘Buds and Buddies’ Women’s groups. Participants from these groups aligned to the project criteria and were invited to participate in the UcanACT project;
- Cois Nore Cancer Support Centre – is a locally based cancer support centre offering a range of supports to individuals and their families that have been affected by a cancer diagnosis. Clients of Cois Nore were invited to participate in the UcanACT project from the Manager of the centre;

- Nore Dragon Paddlers – a locally based dragon boat paddlers club for Breast Cancer Survivors. Members of the Nore Dragon Paddlers Club invited club members to participate in the UcanACT project;
- Kilkenny Recreation and Sports Partnership - members of a National Network who work with sporting bodies, community and voluntary groups, and statutory agencies, who provide a leadership role in the coordination, development, and delivery of sports and physical activity opportunities in Kilkenny;
- Kilkenny County Council (including Parks, Community & Healthy Ireland) – the Local Authority for the City and County of Kilkenny. Local Authorities promote the interests of local communities across the full spectrum from: social, economic, environmental, recreational, cultural, and community development;
- Health and Wellbeing, South East Community Healthcare, Health Promotion & Improvement, Health Service Executive – enables and advocates to build and leverage capacity within the Health Service and with external stakeholders to ensure that the best use is made of all available resources to improve the health and wellbeing of the population. The Health Service also adopts behaviour change strategies that aim to influence population health and wellbeing. The Health Promotion and Improvement department helped recruit participants through primary care and the Health Service in Kilkenny;
- Public Participation Network – the body that allows Local Authorities to connect with community groups around the county.

Once the stakeholders were committed to engaging with the UcanACT project, the target groups were contacted by email or telephone and were provided with a brief overview of the project. Individual one to one meetings were arranged with the Community groups to further inform organisation leaders and establish the level of engagement desired from each group.

Level 2: Inform and Consult - Survey

Surveys are used to collect qualitative information (opinion-based information) or quantitative (number-based information). Surveys are useful at the start of the engagement process to help to identify issues and priorities. The UcanACT Survey questions were structured & standardised and collected information from a large number of respondents. This was administered both electronically and through direct engagement. The survey obtained permission to use the information gathered for the purpose of the project. Participants were also asked if they were willing to be contacted to participate in follow up focus group sessions; and lastly, they were asked to indicate if they would be willing to take part in the exercise programme of the project.

The survey captured preliminary information about health status, medical history, physical activity behaviours, and environmental and wellbeing factors which could influence or prohibit participation in physical activity;

- General Data;
- Medical Information;
- Health Status;
- Limitations;
- Physical Activity Levels;
- Knowledge of health benefits of physical activity;
- Motivators to Exercise;
- Barriers to Exercise;
- Environmental Factors;

Electronic

The survey was published on the Kilkenny County Council Website in November 2022 and was live until January 2023 covering a 5-week period. Organisation leaders were also equipped with the information required to engage at the level of the individual within their respective organisations and asked to encourage participation. Organisations with a far-reaching audience were asked to share the

questionnaire through social media and publish on their own websites. An interview was given on the local radio transmitting station. These methods of the engagement process allowed for scope for individuals not part of organisations or community groups to participate in the engagement process and other stages of the UcanACT project.

Direct Engagement

The Women's groups in Newpark Family Resource Centre were engaged with directly. Printed copies of the questionnaire were administered to the group with the support of the County Council Staff. These were targeted in-person as we wanted to have direct face to face engagement prior to the focus groups and to enhance the likelihood of participation. The team in Kilkenny were also conscious about digital literacy in the older population and the sensitivity of the data that was captured in the online survey.

In total, ninety-two participants completed the questionnaires and some responses were excluded as they were outside of the eligible criteria for the project. There were 59 survey responses included for analysis by the project partners, University of Seville.

Level 3: Consult and Involve - Focus Groups

While a variety of approaches to engagement were used, in-person focus groups are the most effective way to build relationships and achieve active engagement and participation. They allow for the in-depth exploration of issues, identifying problems and engaging participants in suggesting solutions.

The participants who consented at questionnaire stage to participate in further stages of the project, were invited to attend the focus groups. There were 34 participants in attendance at the focus groups. The main objective of the focus groups was to obtain feedback from the target groups on the barriers, motivators, app characteristics, PUGS, and strategies for Physical Activity in PUGS. As the project progresses, the participants need to feel like they are part of the decision-

making and milestones achieved and ensure their concerns and opinions are understood & valued. This information also provides the project partners with an opportunity to analyse the feedback from the focus groups and address and overcome concerns, barriers to participation, and adopt strategies to support the citizens participating in the project and help achieve the UcanACT objectives.

As this was a participatory process the following was considered while preparing for the focus groups:

- Facilitator Briefing well in advance of the focus groups; two Facilitators from the University of Seville facilitated the focus groups in Kilkenny. In advance of the focus groups, meetings were scheduled between Kilkenny County Council and the University of Seville to discuss the recruitment process, survey results, numbers of participants attending the focus groups, arrangements of the focus groups and a presentation that would provide clear information on the UcanACT project to all the participants and stakeholders in Kilkenny;
- A clear agenda was agreed by all project partners and stakeholders involved. A plan to organise feedback and record inputs from participants was agreed at a UcanACT steering group meeting. It was agreed that the project workers in Kilkenny County Council would be present to seek consent from the participants and take some notes. This approach also avoided language barriers and interpretation of the comments and feedback provided;
- To encourage participation the organisers ensured the target groups were invited and accommodated as much as possible. Participants were invited via email (approach for younger participants) or by individual telephone calls (approach for older participants). A comfortable, safe, accessible and an accredited Age-Friendly venue for the focus groups was provided. For convenience, this venue was also close to public transport and parking;
- Flexibility: to make the process accessible and inclusive, 4 Focus groups were arranged at different times of the day to suit participants' availability

to attend. Each Focus Group was scheduled for an hour to suit the demographic and to allow sufficient time for discussion. Individual interviews were also offered online to accommodate people who were working or could not attend in-person;

- To ensure an inclusive process at the focus group the Facilitators ensured everyone had the opportunity to be heard and treated equally. There were also opportunities to ask questions at the end of the focus group;
- Social engagement opportunities at the Focus Group; group discussion during the focus group, provide refreshments and lunch afterwards. Sharing a chat over tea or coffee and food can be a great way to engage older people and create a relaxed environment;
- Feedback on Focus Groups Outcomes/Discussions: One of the deliverables of the UcanACT project was to produce a report on the results of the consultations in each pilot territory. The report from the focus groups informed the Development of the App with the project partners.

Organisation of the Focus Groups

There were four focus groups organised in Kilkenny; three groups included citizens living with or previously had cancer and one group without cancer or never had cancer. The project partners, University of Seville, Facilitated all four of the Focus groups in Kilkenny.

During the focus groups introductions were made and an overview of the project was given. The focus groups were an opportunity to delve deeper into the questions asked in the questionnaire. They were designed to elicit the barriers to:

- Exercise Behaviour/Trends;
- Exercising in the outdoors;
- Accessing green spaces;
- Barriers to exercise/physical activity;
- Motivators to exercise;
- Preference of outdoor environment;

- Considerations in design of PUGS for the Local Authority;
- Characteristics of the mobile application.

Level 4: Collaborate and Empower

As stated above, the following themes were discussed in the focus group:

- Exercise Behaviour;
- Exercising in the outdoors;
- Public Urban Green Spaces in Kilkenny;
- Barriers and Motivators to exercise;
- Characteristics of the App.

These discussions provided an opportunity for the participants to be part of the decision-making process, identifying issues that need to be addressed and offering solutions to overcome barriers. It is essential that the target groups are empowered to influence decisions and the outcomes of the project for the wider population. A number of decisions need to be made to achieve the project objectives, some of which needs to include effective decisions by the Participants, for example:

- Characteristics of the App;
- Selection and Characteristics of the PUGS;
- Barriers to exercise that need to be addressed for exercise participation;
- Encourage/promote suggested motivators to exercise.

One of the main objectives of this project is to pilot an exercise App specific for cancer patients and cancer prevention. With the aim to develop an App that is accessible and meets the needs of the target groups, the participants in the focus groups will have a huge influence on the key characteristics of the App. Together the UcanACT Project Partners are tasked to collaborate, reflect on the feedback from the focus groups and develop an App that is reflective of expert knowledge and the citizen's needs according to the resources available.

Reported App Characteristics from Kilkenny:

- Easy to use and navigate;
- App to be included on Age Friendly/Acorn devices – devices for older people easy to use;
- Contain barcodes with UcanACT signage;
- Emphasis on social connection;
- Contain a local mapping of available activities in green spaces;
- Important to track the progress of activity;
- Promote healthy advices for cancer prevention as sunscreen or physical activity benefits;
- Be able to create groups for exercise and to connect with other people;
- Be able to support with individualised exercise programme (for everybody's needs and abilities);
- Include goal setting to motivate sustained exercise adherence;
- Motivate participants to go out and exercise;
- Include family activities;
- Include a list of local supports and activity that is happening in the area, especially post – treatment;
- A YouTube video explaining the App;
- A manual leaflet for participants who cannot use the app or would find it difficult to use the App.

Another key discussion in the focus group included the characteristics of the Public Urban Green Spaces in Kilkenny. The participants recommended the PUGS based in Kilkenny City which would be suitable for the UcanACT CPPA. As part of this project three PUGS will be identified and utilised for the CPPA roll-out. Kilkenny County Council took into consideration suitable PUGS recommended by the participants to use for the roll-out of the exercise sessions. Kilkenny County Council Stakeholders assessed the green spaces using key themes from the focus groups in Kilkenny.

Once the most suitable PUGS were identified, a meeting with the Local Authority outdoor spaces and parks department was arranged to discuss the project and PUGS for consideration. The identified spaces were examined in more detail for suitability with this particular participant group in mind, simple measures to enhance the experience were looked at for example the addition of increasing available seating. The outdoor spaces and parks department agreed to examine options available to them to support the project. A check list of ideal themes was developed for the PUGS utilising the Feedback from the Focus Groups:

- Availability of public transport;
- Traffic and Parking;
- Moving Around;
- Streets and Spaces;
- Natural/Green Space;
- Recreation;
- Facilities;
- Social Interaction;
- Identity and Belonging;
- Feeling Safe;
- Care and Maintenance of PUGS;
- Public lighting;
- Areas for rest e.g., seating;
- Privacy.

In Summary, the principles outlined in the Citizen Engagement Strategy are essential to achieve effective decision-making, advice and recommendations in achieving the core UcanACT project objectives. Effective engagement processes lead to better health outcomes and empowered citizens. The Participants involved in the project will have future input to the key objectives during the evaluation phase of the CPPA roll-out. This process will provide scope for further review and amendments to meet the needs of the citizens in each pilot territory.

4.3.3. Description of the stages and methods for Citizen engagement implementation in Munich

4.3.3.1. Levels and Methods of Engagement

With a population of 1,558,395 inhabitants (as of 31st July 2020), Munich is one of the metropolitan areas in Germany being the third biggest council after Berlin & Hamburg and the most populated city in the federal district of Bavaria. With 4.868 inhabitants per square kilometre, it is also the city with the most dense population in Germany and with residents having roots in more than 180 nations it's also one of the most diverse. With Munich's urge to be a model city especially in the regards of mobility and also being the 24th greenest city globally (measured by green areas per square metre per person; Travelbird Green Cities Index 2018) and also managed to secure the 10th spot in the top 15 cities based on parks ranking. Trying to keep itself to a high standard of living the city of Munich is dedicated to invest in the health of its citizens through a variety of offers, like giving the public access to its infrastructure like "Night ball" in school gyms, especially in lower income areas, funding of equipment for less fortunate members of society and a variety of supervised programs in the general area of movement, physical activity or exercises.

Focusing on the outdoor programs offered by the city of Munich seems most relevant for the UcanACT project. For example, "MUCKis for free" (Which is the wordplay between the slang word "Muckis" for muscles and the abbreviation of Munich "MUC" – so can be translated into "Muscles for free") is one of the many outdoor training programs citizens of Munich can participate in. They have a program called "Fit im Park" which in English means "fit in the park", where there is a huge variety of different types of physical activity like "Yoga", "Zumba", "Qi Gong", "Pilates", "breath-focused fitness", "children's disco" and more conventional training and fitness programs as well with "FitBack" "Fitness Classic" and many more, so for every kind of different interests and for all different age groups. It aims to tackle socio-economic barriers that might prevent access to instructed training sessions guided by professionals while combining it with all the

positive aspects of physical activity in public urban green spaces and still being completely free of charge.

In the following chart all the locations where this is offered are displayed, with additionally providing the extensive list of the most important and notable PUGS in Munich.

Locations of "Fit im Park"	Extensive PUGS list for Munich
- Luitpoldpark	- Alter Botanischer Garten
- Riemer Park	- Amphionpark
- Ostpark	- Grünanlage „Im Gefilde“
- Westpark	- Bavariapark
- Aubinger Ostpark	- Die Flaucheranlagen
- Hermann-von-Siemens-Sportpark	- Heckenstallerpark
- Rosengarten	- Luitpoldpark
- Lerchenauer See	- Öffentliche Grünflächen Prinz-Eugen-
- Prinz-Eugen-Park	Park
- INSEL – Freizeitgelände am	- Parkbänder / Grünzüge (English
Oberföhringer Wehr	Garden, Isar River Strip etc.)
- Olympiapark	- Petuelpark
- Marienplatz	- Olympiapark
	- Ostpark
	- Riemer Park
	- Sendlinger Wald / Südpark
	- Taxispark
	- Weißenseepark und Katzenbuckel
	- Westpark
	- Würmgrünzug
	- Area around Großhesseloher Brücke

Table 7. List of the most important and notable PUGS in Munich.

Grosshesseloher Brücke is of particular importance as OAC previously used this area for successful public health interventions and offers.

The existing network of patients, trainers and hospitals and oncological doctors that OAC built up over the years through various other projects, will be of great benefit for the actual citizen engagement in Munich, through having a pool of potential participants who already showed an affinity to training in the past and can be made use of for this project in the future.

Level 1: Inform and Consult with Services and Citizens

Identify and Secure Commitment from Stakeholders

A list of all the stakeholders that OAC engaged with or targeted regarding the UcanACT project is outlined below. The OAC targeted stakeholders that might provide expertise, networks or other collaboration and help with the dissemination of the project and reaching of target populations. As there were already a few organisations OAC collaborated with in the past regarding similar projects, the focus was on parties that would have the expertise, knowledge and experience to help achieve the objectives of the UcanACT project. A few key elements of this included; the local connections with physiotherapists, communication platforms/strategies and effective engagement with the target groups and general population. The OAC contacted the stakeholders with the intent of informing them about the project's objectives and activities and to establish a future basis of working together.

Identified Organisations/Stakeholders for Citizen Engagement

- Bayerische Krebsgesellschaft, Munich: The Bavarian Cancer association (BCA) has been in existence since 1925. The BCA has supported cancer patients and their families for nearly 100 years. The association and OAC

already launched multiple events for cancer patients successfully, like providing training and educational material for patients;

- Comprehensive Cancer Center, Munich: The CCC counts to one of the top oncological institutions in Germany and connects expertise from the Technical University in Munich, the Ludwigs-Maximilians University and the Tumor Center Munich (TzM). The CCC is one of the leading names in this field and provides an immense amount of services to both patients and professionals, together with extensive research. Dr. Rachel Würstlein CCC is also represented in OAC's advisory board, (see below for a glimpse of the cooperation -translated from German):

"With a wide range of offerings on-site, not only in the Munich region, in fantastic groups, and the new OACatHome program for home use. The OACatHome movement offerings during and after cancer therapy are divided into four levels of difficulty: easy, easy-medium, medium, and hard. In addition to the sports activities, there are also videos on psychoeducation, as well as a section called Info, Talk & Facts, where specialists in medicine, sports science, psychology, nutrition, and physiotherapy share their expertise. All videos are available for free use and free download, allowing for outdoor training independent of data networks and Wi-Fi. Soon also available in English, Greek, Italian, and other languages."²¹

- Tumor Center, Munich: The Tumor Center Munich works together with the CCC and the Bavarian Association for Cancer and also works together with the LMU Breast Center. OAC partnered up with both the TzM and the LMU Breast Center in the past, also providing content and training

²¹ CCC München - Comprehensive Cancer Center. "Bewegung gegen Krebs" in CCC München - Comprehensive Cancer Center. Available at: <https://www.ccc-muenchen.de/patienten/beratungsangebote/bewegung/701eee88d60d3b37>

programs. With the TZM especially in the wake of the pandemic, where many people had to adapt to outdoor programs;

- **ESV München e.V.:** The ESV München is the biggest (8.000 members) sports club in the western part of Munich and being founded 1924 is also one of Munich's oldest ones. There has been a long on-going cooperation between the ESV and OAC regarding training programs and events in general;
- **yesweCan!cer:** yesweCan!cer is a digital self-help group specifically for patients and experts designed to create the means for better communication and thus better handling of the illness. They were contacted by the OAC president in relation to this project.
- **Mamma Mia!:** Mamma Mia! Started in 2006 as a magazine for breast cancer and next to publishing advisers, magazines and publishing for educational purposes in general with the intent of making information accessible and comprehensible for the general public. Mamma Mia! Was also contacted by the OAC president.
- **German Association for Physiotherapy:** The largest association for physiotherapists in Germany and also a founding member of World Physiotherapy and part of its Europe region. Will be of assistance with acquiring professional physiotherapists. While the own intern OAC network is already in the recruitment process of potential physios, depending on demand we will ask for help with the acquisition of professional physiotherapists to guarantee a big enough pool for the successful implementation of the planned programs;
- **Municipality of Munich:** Earlier there were mentioned many of the programs offered by the Municipality of Munich and with its reach, it is probably the most important other stakeholder. Officials were already contacted and informed about the project by the OAC president. Even though there is nothing concrete agreed yet between the two parties, it seems like there will be a lot of potential once the project advances to the

implementation stage, as the city showed itself very open to the proposals, but final details remain to be set.

Level 2: Inform, Consult & Involve – Survey & Interviews

As previously mentioned in section 2.3.1, due to internal structural changes within OAC it wasn't possible to conduct a focus group similar to the other pilot territories in Bologna and Kilkenny. As part of the Citizen Engagement Strategy in Munich, it was decided that another methodology of engagement would be used via telephone interviews & written surveys. For consistency in the data collected this methodology was largely inspired by the ad hoc survey prepared by; AIFI, Kilkenny County Council & the University of Sevilla prior to the focus groups in Bologna & Kilkenny. The Survey was disseminated with an offering of phone interviews, as the more open format is a more proactive method of engagement to extract more qualitative information i.e., barriers and motivators. Even though it wasn't possible to conduct the same focus group in Munich, there was valuable input from the participants, which can be found outlined in the section mentioned above.

To cite AIFI & Kilkenny: "The survey captured preliminary information about health status, medical history, physical activity behaviours, and environmental and wellbeing factors which could influence or prohibit participation in physical activity;" Additionally there were questions about the use of tools or apps in regards to exercise and overall physical activity, with the goal of determining what might be important to be thought of in later stages of the project, specifically the app development.

Level 3: Collaborate and Empower

As stated above, the following themes were discussed in the focus group:

- Exercise Behaviour;
- Exercising in the outdoors;
- Public Urban Green Spaces in Bologna;

- Barriers and Motivators to exercise;
- Characteristics of the App.

These discussions provided us with valuable input, feedback and built a first base of contact with potential future participants and highlighted the needs of the target group. This included the following aspects with some examples:

Characteristics of the App

- Simple design for high usability;
- Visual material;
- Variety of provided exercise programs; Tracking/making progress visible;
- Some additional educational content;
- Community aspects: chat, maps, pending events, etc;

Selection and characteristics of the PUGS;

- Accessibility (public transport, parking spaces, bike or by foot);
- Crowdedness, safety (e.g., wide open spaces, lighting, not too remote);
- Infrastructure within the PUGS (existing training areas, seating, toilettes, child parks, rivers, etc.) meaning also possible rain cover or shadow areas for not too much sun exposure;

Barriers to exercise that need to be addressed for exercise participation;

- Motivational aspect (Training in groups);
- Ensuring a non-competitive atmosphere and being able to react with regressions if participants experience fatigue or low energy levels;
- Good choice of PUGS (as mentioned in the point before);

Encourage/promote suggested motivators to exercise.

- Community building & social interaction;

- Educational aspect: highlighting importance of outdoor physical activity (for reference AIFI: “People spending time in greenspaces has a positive impact on mental wellbeing and life satisfaction, particularly for urban dwellers (White et al., 2019).” – explaining participants the mechanisms of how it does benefit their health;
- Training with professionals.

To mention the most important points, additionally to the results already presented in 2.3.2. This process was very important for us to determine what is to be focused on for a successful implementation of the project in all the respective pilot territories.

5. PHASE IV: Evaluation Methodology for the project CES results

The co-constructed Citizen Engagement Strategy contains the practical methodology indications aimed at sustaining participation in the target group. Engagement can be influenced by many factors such as motivation, symptom severity, access to healthcare, intervention characteristics and the social context of participants. An integrated review of methods of measuring engagement with mental health and behaviour change interventions, highlighted various dimensions of engagement and tools that are currently used to measure its effectiveness on behaviour change²².

Overall, three main dimensions of engagement were categorised;

- 1) Behavioural: with reference to the UcanACT project, this can be measured in terms of intervention adherence and participants' effort during the rollout of the CPPA and the evaluation period when participants are encouraged to use the UcanACT App. Adherence Indicators may include: number of sessions attended and engagement with the intervention. Effort indicators refers to the active involvement of participants within the intervention e.g. level of behaviour change;
- 2) Cognitive Engagement refers to the degree to which participants agree with the intervention rationale, and perceive the intervention as suitable for reaching their goals;
- 3) Affective Engagement describes participants' subjective experience with the intervention, and encompasses their experience of interest with the intervention content, the attention they pay towards the intervention, and their affective experience while interacting with the intervention.

²² Bijkerk, L.E., Oenema, A., Geschwind, N. et al (2023). Measuring Engagement with Mental Health and Behavior Change Interventions: an Integrative Review of Methods and Instruments. *Int.J. Behav. Med.* 30, 155–166

In measuring the effectiveness of the CES, it is essential to measure the different dimensions of engagement. For example, some participants may initially show low levels of engagement, and only start to engage more when they start to experience the results of the intervention. Moreover, disengagement with an intervention does not necessarily mean disengagement with the behaviour change or therapeutic process, because individuals can come to a point in which they no longer need the support of the intervention

CES Implementation and Evaluation

This section outlines specific methodology that aims to measure and monitor the effectiveness of the CES for encouraging participation in physical activity in PUGS with the target groups in each pilot territory. In order to support the roll-out of the CES, it is essential that each pilot area agree a series of steps that will allow for effective monitoring and evaluation of Citizen Engagement:

Deliverable	Who is involved and collaborations
Guidelines of CES	Steering Group Stakeholders of CES Work Package & Experts in CES
<ul style="list-style-type: none"> - Levels of engagement and participation of target groups in the project objectives - Methodology and tools for CES implementation - Guiding principles 	Expert and UcanACT Stakeholders/Services Involved/ Citizens involved
Procedures and Indicators for the Evaluation of the impact of the implementation and results of the CES	Steering Group Stakeholders of CES Work Package & Experts in CES
Management of CPPA actions	UcanACT Team Local Teams

Table 8. Table of various steps for the CES Implementation and Evaluation

With regards to engagement, it is necessary to monitor the effectiveness of the engagement carried out with the target groups. The monitoring and evaluation methodology of the CES will consist of a series of indicators outlined in the desk study and analysis from the root cause analysis (survey responses & focus groups). These indicators will be measured utilising a survey with participants during key phases of the implementation of the CPPA. The indicators are summarised in table 9 below.

Engagement Indicator & Description	Measurement Recommendations	Suggested Measurement Tool
Engagement throughout UcanACT Project Stages	Quantitative measures of numbers that engaged: <ul style="list-style-type: none"> • At the start of the project • CPPA 1 (baseline and finish) • CPPA 2 (baseline and finish) • Number of Stakeholders involved throughout each stage/work package 	Measurement of Numbers
Adherence/Effort (Behavioural) Session Attendance: Number of CPPA sessions that were attended during the intervention period	Objective measurement through attendance recordings of the participant Also record reasons for non-attendance can be included	1. CPPA attendance records 2. Time in CPPA session

<p>Goals (Cognitive)</p> <p>The participant understands their goals associated with the intervention and how to reach them</p> <p>The participant sees the intervention as a suitable way to reach their personal goals</p>	<p>Self-Report questionnaires that are collected at the start & End of CPPA 1 and in between CPPA 1 & CPPA 2</p>	<p>Single-Item/Borg Scale e.g.</p> <ul style="list-style-type: none"> • I understand the goals of the CPPA sessions/App • This intervention will help me reach my goals
<p>Participants' & Community Managers subjective experience with the intervention in terms of their attention, interest, and enthusiasm and engagement</p> <p>Effectiveness of communication tools as a motivator</p>	<p>Interviews / focus group / open feedback</p> <p>Ratings of Experience/Satisfaction for participants with community managers</p> <p>Experience/Satisfaction for community managers in delivering the CES</p> <p>Quantitative measures to determine level of engagement with communication platforms</p>	<p>Qualitative Methods e.g. open feedback / focus group</p>

Table 9. Evaluation Methods of Measuring Levels of Engagement

Annexes

Annex 1

Topics	Questions
Health/Health problems (only for Cancer participants)	<ul style="list-style-type: none"> ● Would you like to be more physically active? <ul style="list-style-type: none"> ○ Why? ● Do you have any symptoms/medication that make it difficult for you to perform Physical Activity? ● What is the main physical limitation to perform Physical Activity? ● Do you get fatigued when you do any physical activity or physical exertion? At what time?
Physical Activity	<ul style="list-style-type: none"> ● What do you think about Physical Activity? <ul style="list-style-type: none"> ○ Do you like to exercise? ● What type of physical activity do you practice in your daily life? <ul style="list-style-type: none"> ○ How often? ○ Why do you exercise (health, pleasure, etc.)? ● What do you think of the Physical Activity promotion programs? ● Are you familiar with any program that promotes Physical Activity (for example, meetings organized to exercise together)? <ul style="list-style-type: none"> ○ Where have you heard about the [X] program? ○ What do you think of the program [X]? ● When you think about PA, do you like to do it alone or in a group?
Needs to promote physical activity	<ul style="list-style-type: none"> ● What motivates you to be physically active? (facilitators) ● What makes it difficult for you to be physically active? (barriers) <ul style="list-style-type: none"> ○ What do you need to overcome [barrier]? ● What components (e.g., programs, Physical Activity promotion facilities...) will help you to become more active? <ul style="list-style-type: none"> ○ Why would [above] help you to be (more) active?
Family support	<ul style="list-style-type: none"> ● Do you need help with your daily function (for example, walking, going up the stairs)? <ul style="list-style-type: none"> ○ If yes, who helps you? ● How could your spouse/partner/family support you in being more physically active?
City	<ul style="list-style-type: none"> ● What does your [city] do to encourage physical activity in citizens?

	<ul style="list-style-type: none"> ○ do you use it? ○ why (not)? <ul style="list-style-type: none"> ● What do you expect from your [city] in relation to physical activity?
Use of technology	<ul style="list-style-type: none"> ● Do you use any type of technology in your daily life (e.g. phone, tablet, computer, smartwatch)? ● Do you have a smartphone/smartwatch? <ul style="list-style-type: none"> ○ Are you familiar with using a smartphone/smartwatch? ○ Are you familiar with apps on a smartphone/smartwatch? ● Do you use any app or accessory (e.g., step counter, smartwatch) in your daily life for health? <ul style="list-style-type: none"> ○ which is it? ○ How does it help you?
UcanACT App development	<ul style="list-style-type: none"> ● How would you like to be informed about the elements of the UcanACT project (paper, digital)? ● What do you think of an application (phone or web) to stimulate physical activity? <ul style="list-style-type: none"> ○ Would I download it? ○ What do you need to have? ○ What should I have? ○ What could I have? ● Will you consider using this application? <ul style="list-style-type: none"> ○ why (not)?
UcanACT App implementation	<ul style="list-style-type: none"> ● How would you like to be informed about the availability of the application? ● Who should tell you how to use the App?

Table 10. Focus group interview