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## Deliverable 5.2

Work Package 5 - Health promotion and  
Disease Prevention

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## Executive summary

### Introduction to JA CHRODIS PLUS

CHRODIS PLUS main purpose is the collaboration of EU countries on implementing pilot projects and generating practical lessons in the field of chronic diseases. The very core of the Action includes 21 pilot implementations and 17 policy dialogues. The pilot projects focus on the 3 following areas:

1. health promotion & primary prevention (WP5)
2. an Integrated Multimorbidity Care Model, fostering the quality of care for people with chronic diseases (WP6)
3. ICT-based patient empowerment and employment & chronic diseases (WP7)

The present report refers to the pilots of the first area.

### Aim and scope of the report

This report outlines the pre-implementation phase activities within work package 5 - Health Promotion and Disease Prevention (HPDP). The aim of the work package is to examine the possibility of implementing a recognised good practice in a different context with the aid of the implementation strategy, designed especially for CHRODIS Plus. All partners have agreed on the common framework for systematic assessments of their chosen good practice in relation to their context, including an analysis of the feasibility of the transfer. The partners implementing practices have conceived an action plan using the adapted Squire 2.0 to assess and adapt the intervention to their local context.

### Pre-implementation

The pre-implementation phase for each of the LIWG involved conducting a SCOPE and SWAT analysis in preparation for the pilot action plan (see annex). The SCOPE and SWOT methodologies were introduced during a meeting in Treviso where implementing partners were given guidance on how to conduct the two analyses. This report outlines the implemented practices, the implementing partners, and the key factors that have been identified to support the successful adoption on the practice.

### Implementation activity

#### *Active School Flag (Ireland)*

- a. ASL-TO3 (Italy), via the Piedmont Regional Health Promotion Documentation Centre (DORS) will transfer and implement the Irish JA-CHRODIS Good Practice “Active School Flag” (ASF) in at least two schools in the Piedmont SHE Network. This Network involves 100 schools in the region and aims to promote a whole school approach, to improve the health and well-being of all pupils as well as teaching and non-teaching staff. ASL-TO3 and DORS plan to propose the ASF to all schools in the network. This will include primary and secondary schools. In addition, they plan to implement the ASF in at least one school in a rural area and one in a urban area. This will be based upon voluntary

recruitment. The aim is to compare and incorporate some of the Irish self-evaluation instruments in a locally specific context.

- b. The Institute of Hygiene (HI, Lithuania) works with a network of Public Health Bureaus who are the main institutions promoting and initiating the implementation of public health interventions at the municipal level in Lithuania. Two of the Bureaus (Klaipeda District and Klaipeda City) will appoint coordinators within pilot municipalities that will help to select schools, which will commit to enhancing the level of physical activity of their children through the development of a physically educated school community. In Klaipeda City the schools Gilijos Primary School (598 pupils) and Sendvario Progymnasium (680 pupils) will implement the Active School Flag. In Klaipeda District Kindergarten “Naminukas” of Gargzdai city Siupariai city School, and Plikiai School are also implementing ASF.

#### *Elements from J.O.G.G (Netherlands)*

- c. The Directorate of Health (DOHI, Iceland) will implement (elements of) Dutch JA-CHRODIS Good Practice JOGG within the “Health Promoting Community Programme” (HPC). HPC is an umbrella for a comprehensive health promotion approach in municipalities. The main aim is to support communities and schools in creating supportive environments that promote a healthy lifestyle for all. The HPC currently covers 12 municipalities and 73% of Iceland’s population. DOHI wishes to use selected elements from JOGG to improve the quality of HPC work, including further developing the framework for HPC and schools, improving the programme materials and communication strategy, providing better training for coordinators, supporting further involvement of primary healthcare in HPC work, improving the evaluation plan and creating an online tool to collect practical solutions to support the HPC and the schools in their endeavours.

#### *ToyBox (Greece)*

- d. The Directorate of Health and Disease Prevention Malta will implement the “ToyBox”-intervention in the first year of church and independent kindergartens, i.e. for preschool children aged 3-4 year. This will lead to 1,000 children benefitting from the programme. Educators will receive the toolkit covering topics related to a healthy lifestyle. This includes healthy eating and snacking, water consumption, healthy food for healthy teeth, self-expression, and physical exercise. The Directorate will also implement the “ToyBox” evaluation component and carry out an evaluation on behavioural changes in the children by the end of CHRODIS PLUS.

#### *Lombardy Workplace Health Promotion (Italy)*

- e. The Andalusian Regional Ministry of Equality, Health and Social Policies (CSJA, Spain) will implement elements of the Lombardy Workplace Health Promotion (WHP) Network into its own programme called ‘Promoción de la Salud en los Lugares de Trabajo’ (PSLT). Andalucía will implement the WHP in two companies. Implementation company 1 is EMASAGRA. It is a joint public-private venture based in the city of Granada (Andalusia, Spain) that provides service to the city of Granada as well as to 14 municipalities in the metropolitan area of Granada. It manages all processes related to the water cycle: catchment, drinking water treatment, transport and distribution for human consumption with full health guarantees in the city of Granada and 14 municipalities in the metropolitan area of Granada. Number of workers: 200. Implementation company 2 is CSIF Granada. It is the Public Official's Independent Trade Union, being consolidated as the third trade union at the

state level. It is integrated in the European Confederation of Independent Trade Unions. We will be implementing at the Granada Headquarters. Number of workers: 40

#### *Multimodal Training Intervention (Iceland)*

- f. HI (Lithuania) will implement the Multimodal Training Intervention in two municipalities (Klaipeda District and Klaipeda City) through its network of Public Health Bureaus, which are the main institutions promoting and initiating the implementation of public health interventions. They are currently implementing a cardiovascular disease prevention programme in cooperation with family doctors who refer people at risk to a training programme. The bureaus organise the training programmes, facilitate lectures on nutrition and physical activity, and provide individual consultations to enhance lifestyle changes. The main components of the intervention that are being considered for the implementation include the development of a training programme, which would be more suitable for older individuals to improve their physical fitness.
- g. ISCIII (Spain), collaborating with the Aragon Institute of Research in Health Sciences, will implement the Multimodal Training Intervention in Aragon. The Multimodal Training Intervention will be carried out at existing sporting facilities and community or social activity centres for over 65-year-olds in the municipality of Utebo. The target population of the intervention are residents, 65 years of age or older, with adequate conditions (not institutionalized independent for the basic activities of daily life and of both sexes) to begin a promotion program of physical exercise and healthy lifestyle.
- h. DOHI (Iceland) will implement the Multimodal Training Intervention in four municipalities, thereby ensuring a good mixture of villages, towns, and cities. The programme is promoted in geriatric centres, local papers and is open to everyone aged 65 and older. After each implementation phase (six months), the approach will be reviewed and adapted. The training phase includes daily endurance training (30 minutes) at least once a week with a trainer, and strength training sessions at least twice a week with a trainer. Training programmes are individualised, but participants will train together as a group and receive monthly lectures about nutrition, training, ageing and physiological changes.

## Conclusions - A Framework for the implementation of disease prevention and health promotion practices

The pre-implementation phase work conducted by each implementing partner has identified a series of key principles that are important to consider in the transfer of good practices. The pre-implementation reports detail a wealth of information that is specific to each project and contain a number of universal elements that help to inform the implementation of other projects. These early conclusions also lay the groundwork for analysing the results from the implementation phase and help to inform the next phase of the joint action.

The conclusions from the pre-implementation phases are predominantly associated with **leadership** in different forms. Across each of the implementation projects the **identification and participation of key stakeholders** has been identified as key. This is because in each of the implementation sites a clear signal that the project has support of key decision makers has proved invaluable to overcoming potential barriers and opposition to the implementation. In addition, **political buy-in** is important for projects that involve public services, institutions, or settings. This is because the role of influencers are key to changing the dynamic around health promotion and disease prevention programmes. This helps to shift the conversation from individual

responsibilities to a recognition of the system level changes that are necessary to deliver to real change to improve health for all. The ability to coordinate **inter-sectoral coordination** is another key element for the transfer of good practices. Clear and decisive leadership helps to bridge sectors and provide a clear timetable of activities and responsibilities.

In schools it has been found that health promotion programmes (ToyBox, Active School Flag) need to be made **components of the curriculum** with pre-defined learning outcomes measured on a regular basis by teachers. This will help to encourage teachers to take up the project and parents to support their children's activities. This is associated with the need to clearly communicate the implementation projects aims, goals, and steps including **obtaining full consent**. This was felt to be important not only to signpost activities, but to encourage parents to take leadership in changing health practices at home. Across all of the implementation projects **motivation of the employees/workers/teachers** has been recognised as important when transferring a good practice. This is because a sense of shared ownership is need by all participants.

The initial recommendations from the implementation phase focus on two elements. First, **communication** was stressed by all participants, in all projects. The specific aims and actions of the projects must be easily explained to all participants and people involved in the project. This helps to spread the aims of the project as well as keeping all parties up to date with the rationale of why the practice is being implemented. Second, the continued support of the **good practice owner** is extremely important for successful adoption of any practice. The good practice owner can provide feedback and advice as well as helping the new adopter visualise the core elements of the good practice. They also provide an additional sounding board for issues or challenges that arise in the transfer. A budget to include the good practice owner will be key to any future transfer of good practices.

## Introduction

The work in work package 5 task 2 will see partners implement a range of recognised good practices from JA CHRODIS. The aim of the work package is to examine the possibility of implementing a recognised good practice in a different context with the aid of the implementation strategy, designed especially for CHRODIS Plus. The good practices that are being implemented are:

- i. ASL-TO3 (Italy), via the Piedmont Regional Health Promotion Documentation Centre (DORS) will transfer and implement the Irish JA-CHRODIS Good Practice “Active School Flag” (ASF) in at least two schools in the Piedmont SHE Network. This Network involves 100 schools in the region and aims to promote a whole school approach, to improve the health and well-being of all pupils as well as teaching and non-teaching staff. ASL-TO3 and DORS plan to propose the ASF to all schools in the network. This will include primary and secondary schools. In addition, they plan to implement the ASF in at least one school in a rural area and one in an urban area. This will be based upon voluntary recruitment. The aim is to compare and incorporate some of the Irish self-evaluation instruments in a locally specific context.
- j. The Institute of Hygiene (HI, Lithuania) works with a network of Public Health Bureaus who are the main institutions promoting and initiating the implementation of public health interventions at the municipal level in Lithuania. Two of the Bureaus (Klaipeda District, Klaipeda City) will appoint coordinators within pilot municipalities that will help to select schools, which will commit to enhancing the level of physical activity of their children through the development of a physically educated school community.
- k. The Directorate of Health (DOHI, Iceland) will implement (elements of) Dutch JA-CHRODIS Good Practice JOGG within the “Health Promoting Community Programme” (HPC). HPC is an umbrella for a comprehensive health promotion approach in municipalities. The main aim is to support communities and schools in creating supportive environments that promote a healthy lifestyle for all. The HPC currently covers 12 municipalities and 73% of Iceland’s population. DOHI wishes to use selected elements from JOGG to improve the quality of HPC work, including further developing the framework for HPC and schools, improving the programme materials and communication strategy, providing better training for coordinators, supporting further involvement of primary healthcare in HPC work, improving the evaluation plan and creating an online tool to collect practical solutions to support the HPC and the schools in their endeavours.
- l. The Directorate of Health and Disease Prevention Malta will implement the “ToyBox”-intervention in the first year of all church and independent kindergartens, i.e. for preschool children aged 3-4 year. This will lead to 1,000 children benefitting from the programme. Educators will receive the toolkit covering topics related to a healthy lifestyle. This includes healthy eating and snacking, water consumption, healthy food for healthy teeth, self-expression, and physical exercise. The Directorate will also implement the “ToyBox” evaluation component and carry out an evaluation on behavioural changes in the children by the end of CHRODIS PLUS.
- m. The Andalusian Regional Ministry of Equality, Health and Social Policies (CSJA, Spain) will implement elements of the Lombardy Workplace Health Promotion (WHP) Network into its own programme called ‘Promoción de la Salud en los Lugares de Trabajo’ (PSLT). The main aim is to re-invigorate the PSLT programme. Since 2012, the Andalusian PSLT Programme has involved nearly 200 workplaces (private and public), with more than 4,500 employees directly involved. The main elements identified in the Lombardy WHP Network to be piloted in the implementation within PSLT are: the

WHP Network's accreditation system, the UNI-ISO 26000 concept of sustainability, the online data collection system and relevant ideas for recruitment and long-term adherence to the programme.

- n. HI (Lithuania) will implement the Multimodal Training Intervention in two municipalities (Klaipeda District, Klaipeda City) through its network of Public Health Bureaus, which are the main institutions promoting and initiating the implementation of public health interventions. They are currently implementing a cardiovascular disease prevention programme in cooperation with family doctors who refer people at risk to a training programme. The bureaus organise the training programmes, facilitate lectures on nutrition and physical activity, and provide individual consultations to enhance lifestyle changes. The main components of the intervention that are being considered for the implementation include the development of a training programme, which would be more suitable for older individuals to improve their physical fitness.
  
- o. ISCIH (Spain), collaborating with the Aragon Institute of Research in Health Sciences, will implement the Multimodal Training Intervention in Aragon. The Multimodal Training Intervention will be carried out at existing sporting facilities and community or social activity centres for over 65-year-olds in the municipality of Utebo. The target population of the intervention are residents, 65 years of age or older, with adequate conditions (not institutionalized and independent for the basic activities of daily life and of both sexes) to begin a promotion program of physical exercise and healthy lifestyle.
  
- p. DOHI (Iceland) will implement the Multimodal Training Intervention in four municipalities, thereby ensuring a good mixture of villages, towns, and cities. The programme is promoted in geriatric centres, local papers and is open to everyone aged 65 and older. After each implementation phase (six months), the approach will be reviewed and adapted. The training phase includes daily endurance training (30 minutes) at least once a week with a trainer, and strength training sessions at least twice a week with a trainer. Training programmes are individualised, but participants will train together as a group and receive monthly lectures about nutrition, training, ageing and physiological changes. Costs arising from this intervention are covered by local authorities and other funding. A comprehensive evaluation plan is in place.



## Section 1 – Active School Flag

The Active School Flag (ASF) is an initiative which aims to enhance levels of physical activity for children through developing a physically active and physically educated school community. The ASF is a nationwide initiative focussed on supporting the whole school approach to enhancing physical activity. The ASF mirrors other 'active school' models operating throughout Europe and internationally, for example the CDC Comprehensive School Physical Activity Program in the US. The target group is children between the ages of 5 and 18 years. It is open to all primary, post-primary, special needs education schools and Youth-Reach centres. Schools are recruited to the programme by invitation and once engaged with the programme they are supported on a programme of action planning and self-evaluation based on a 'whole school' approach. Schools are firstly required to review their current provision across the areas of physical education, physical activity and partnerships and commit to a number of improvements. The review areas including elements of planning and PE curriculum, professional development, schools PE resources, activity during break times, discretionary/cross-curricular and extra-curricular activity, inclusive physical activity and active travel.

### *Klaipeda District, Lithuania*

#### Overview

Active School Flag will be implemented in Klaipeda District: Kindergarten "Naminukas" of Gargzdai city; School of Siupariai city; and School of Plikiai. Research from 2017 done in Klaipeda District Municipality show that physical activity time has declined for school children (Klaipeda District Municipality Public Health Bureau survey). Most of the children walk more than one hour per day outdoors. Larger number of boys compared to girls walk outdoor for more than one hour. Statistics show that during non-school hours 30% of children do sports or exercise. From 2014 the number of kids that do sports or exercise daily has declined. Physical activity of average student in Lithuania is seeing critical lows. Compared to other EU nations levels of students physical activity in Lithuania are one of the lowest. One out of five kids aged 11 to 15 engages in everyday physical activity for more than one hour daily. Physical activity which is important for healthy development of kids is often replaced with passive time spent sitting in front of digital displays. Declining numbers show that the importance of physical activity for children is often not highlighted.

#### Implementation Elements

There will be implemented the following elements of physical activity according to the Active School Flag intervention in Ireland:

- Intervention using ASF questionnaires.
- Increasing physical education in the regular school curriculum.
- Promoting inclusive and fun physical activity:
- Wake up - shake up; Active breaks; Active travel; Run around Europe; Active school week; Active playground.
- Promoting inclusivity in the whole community (teachers, students, parents). Including local sport clubs and organizations.
- Highlighting physical activity importance during Active school week.
- Providing support for participating schools, teaching and advising physical activity methods practiced by ASF.

### Improvement areas

1. Instruments. Use and fully complete ASF self-evaluation documents, parents and students questionnaire.
2. Physical Education (PE). Revision and addition PE curriculum (athletics, dance, gymnastics, games, outdoor and adventures activities, aquatics). Promote minimum 60 min. per week PE in the regular school curriculum.
3. Physical Activity (PA). To get at least 60 minutes of moderate intensity physical activity every day. Promote inclusive and fun PA:
  - wake up/ shake up
  - active breaks during the lessons (use GO NOODLE program)
  - active travel
  - run around Europe (geography lesson)
  - active playground
4. Partnership. Promote whole school inclusion, use ASF pupils and parents questionnaire, to develop ALL school participation in local events.
5. Active Scholl Week (ASW). To initiative fun and inclusive physical activity opportunity for ALL member of the school community. 3 participating schools will organize ASW (May of 2019).
6. Organization. Support and advice the involved schools. Following the ASF implementation strategy 3 involved schools have create ASF committee, including Team leader, teachers and parents. ASF need regular basis, a template pf ASF committee meetings.
7. Organizer: the main organizer to plan, prepare chair and run the group is Klaipeda District Municipality Public Health Bureau (PHB) municipal budget institution responsible for public health) – head of institution. From institution running the secretariat. Writing reports and also implementation-direct work with target group is responsible from institution - public health specialist.

### Assessment areas

The 3 participating schools will be assessed and evaluated using the ASF self-evaluation documents. Data on changes in physical activity and physical education during intervention will be analysed using ASF questionnaires. The data will be collected by means of standardized and translated ASF questionnaires. ASF parent questionnaire will be fully completed in 3 participating schools. The questionnaire completed by parents will have questions about daily children lifestyle.

The purpose of the self-evaluation documents is to generate whole school reflection and discussion in relation to physical education, physical activity and partnerships. This is an important first step in working towards the active flag. The three self-evaluation documents consist of a series of questions requiring yes/no. It is essential that there is whole staff discussion around the questions so that your school can agree on your areas of strength and areas requiring further development at the start of the school process. The value of this self-evaluation is that discussion takes place on PE and physical activity related issues. The number of yes/no answers has no bearing upon your school's application for ASF.

ASF provides schools with a definite set of targets (success criteria) to work towards for each of the following four areas:

1. Physical Education
2. Physical Activity
3. Partnerships
4. Active School Week

This ensures that the ASF process is transparent and fair to all. Schools must be able to tick 'yes' to ALL of the ASF success criteria in order to be able to achieve the Active School Flag. While the majority of the success criteria are tick the box format a small number in each section (marked \*) will require written explanation. Guidance in relation to some of these criteria is given. Attendance at the ASF workshops is strongly recommended for all schools to ensure that your school fully understands the requirements of the ASF process.

### *Klaipeda City, Lithuania*

#### **Overview**

Active School Flag will be implemented two schools in Klaipeda City Municipality: Gilijos Primary School and Sendvario Progymnasium. This covers 1-8th grade schoolchildren. Klaipeda city is facing a growing problem with the physical inactivity of children. According to the Children Lifestyle Survey in 2016 in Klaipeda, only 12.1% of children meet the requirement of 60 minutes daily physical activity. Thus, re-using the Irish initiative of Active School Flag, could be a way to energise the school day in chosen schools and learn new methods to improve physical activity.

#### **Implementation Elements**

There will be implemented the following elements of physical activity according to the Active School Flag intervention in Ireland:

- Run around Europe (the class chooses a European capital and a distance to it, runs in the stadium, laps are converted into kilometres until the distance the chosen capital is reached)
- European Week of Sport (schools can contribute by organising their own sport events)
- Active school week (schools organise it as part of their school calendar)
- Walk to school week
- Active breaks (Go Noodle – videos with energetic music and actors showing moves which children have to repeat;
- Drop Everything and Dance – children stand up and dance; 30 Second Active Breaks – simple activities lasting for short time that are selected by children)

#### **Improvement areas**

1. Translation and use of the ASF self-evaluation instruments. Change package: Translation of the ASF self-evaluation instruments; two schools complete the ASF self-evaluation instruments.

2. Physical education (PE) programmes. Change package: Revision of PE programmes in selected schools; Minimum of 90 minutes per week dedicated to PE with wide content of activities.
3. Promotion of 60 min of daily physical activity (PA) by adopting new elements from ASF initiative. Change package: Introduction of new elements/ activities in selected schools (Run around Europe, European Week of Sport, Active school week, Walk to school week, Active breaks).
4. Children, their parents and teachers involvement in PE planning. Change package: Inform children, parents, teachers, school administration about the intervention, provide training about the motivation, team building; Inform parents, teachers about children's progress; Receive references from children about the new PA activities by using a suggestion box.
5. Methodology how to monitor and evaluate the intervention's impact on children physical activity. Change package: Preparation of a questionnaire to evaluate children's physical activity.

### Assessment areas

The process of implementation will be evaluated using quantitative criteria: Number of involved classes, pupils, teachers/Expected number of classes, pupils, teachers to be involved; Number of meetings with school administration, teachers, children, parents; Number of physically active schoolchildren/Total number of schoolchildren. Instrument – children questionnaire. The outcomes of the intervention will be measured using ASF self-evaluation questionnaire, questionnaires for pupils and parents. Self-evaluation is expected to reveal the whole school situation and attitudes towards the PA. The areas that are self-evaluated are: PE, resources, PA, partnerships. It is important to know the schools' success criteria and its potential in re-using the ASF initiative. Pupils and parents questionnaires are relevant in revealing their perception and opinion. These instruments are expected to be translated in Lithuanian and validated.

### *Piedmont Region, Italy*

#### Overview

Dors (Italy) will transfer and implement the ASF in at least 2 schools of the existing Piedmont SHE Network. This Network involves a hundred schools in the Piedmont Region and aims to promote a "whole school approach", a structured and systematic plan for the health and well-being of all pupils and of teaching and non-teaching staff. Dors has proposed the activities to all schools of the network, involving primary and secondary schools, and implement the ASF in at least 2 schools, ideally one in a rural area, one in a city, based on voluntary recruitment.

### Improvement areas

Based on results of the situation analysis and feasibility study DORS has begun work to:

- compare the Irish self-evaluation instruments with the tools already in use in the schools of the SHE Network
- make a context analysis of the two implementers school using Irish self-evaluation instruments (baseline)
- introduce some ASF activities in the routine of implementers schools
- modify organization/culture of the two implementers schools regarding PA

## Implementation Elements

There will be implemented the following elements of physical activity according to the Active School Flag intervention in Ireland:

### INSTRUMENTS

- To Translate the ASF self-assessment instruments
- To Assess at T0 the situation of the 2 implementer schools using ASF self-evaluations instruments
- To evaluate at T1 the situation of the 2 implementers schools

### PE PROGRAMS

- To Develop Inclusive and revised PE programmes with a variety of movement activities

### PHYSICAL ACTIVITY

- To introduce new Fun activities in the school daily routine aimed to enhance movement opportunity
- to encourage less active children to ENJOY physical activity

### PARTNERSHIP

- To Encourage Pupil VOICE and LEADERSHIP
- To encourage parents participation to proposed activities
- To network with local sports clubs
- To participate in local sports events

### ACTIVE SCHOOL WEEK

- To Organize an Active school week with FUN and INCLUSIVE physical activity opportunities
- To create the opportunity to try out NEW activities
- To Reinforce the 60 MINUTES of Physical Activity per Day message

### ORGANISATIONAL/CULTURE

- To Develop a Health Promotion school policy focused in particular on physical activity and active living
- To Publish information and content on PA on the school website

## Assessment areas

The key performance indicators that will be used to evaluate the implementation cover all six areas. They are a mixture of quantitative and qualitative process and outcomes measures. The instruments will be evaluated

by recording 3 translated and adapted self-assessment instruments, 2 Pre implementation Assessment Reports, one for each school (T0 evaluation: February 2018), 2 Post implementation evaluation Reports (T1 evaluation: May-June 2019, at the end of the school year), and Findings from the self-evaluation process undertaken by the school will led to reshaping of priorities at school level. Physical activity will be measured by revised PE programmes (number and variety of the proposed activities) and activities logbook records of the two implementer schools. As well as description of new proposed activities, number of involved classes/ tot school classes number, number of involved children/tot school pupils number, number of involved teachers /the total number of school teachers, and activities Logbook records of the two implementer schools. The partnership will be measured by the number of activities chosen by pupils/ tot number of proposed activities, number of parents participating with their children to Local sport events/number of participating, school member, and number of local sport events with school participation/ number local sport event per year. The active school week will be measured by the activities Logbook records of the two implementer schools. Finally, the organisational/cultural change will be measured by School policy document on Physical activity, Content and features of school policy document, School website content, and findings from the self-evaluation process undertaken by the school will led to reshaping of priorities at school level.

## Section 2 - Young People at a Healthy Weight 'JOGG'

JOGG is a movement which encourages all people in a city, town or neighbourhood to make healthy food and exercise an easy and attractive lifestyle option for young people (0-19 years). It focusses on children and adolescents themselves, along with their parents and direct environment. JOGG advocates a local approach in which not just the parents and health professionals, but also shopkeepers, companies, schools and local authorities join hands to ensure that young people remain at a healthy weight. Activities at the local level: Each city has its own JOGG-coordinator who plans various activities in relation to the 5 JOGG pillars. These activities differ between the municipalities implementing the JOGG approach. It ranges from drinking water activities at kindergarten to creating playgrounds. The JOGG approach consists of five pillars: political commitment, co-operation between the public and private sectors, social marketing, scientific support and evaluation, and linking prevention with health care. The JOGG model is being used as a model of reference for implementation and evaluation of the local JOGG approach by the JOGG central coordination office and the JOGG communities. It is thought that the five pillars will enable intersectoral collaboration, community capacity building and increase the activities on nutrition and physical activity (output).

### *Selected elements of JOGG implemented to improve the quality of the Health promoting community programme in Iceland (DOHI)*

#### Overview

The Health Promoting Community (HPC) programme is run by Directorate of Health, Iceland (DOHI) with cooperation and collaboration with municipalities, schools and other key stakeholders at national and local level. The programme has been in a developmental process over the last few years and certain structure has been established. Numerous programmes, publications etc. have already contributed to the development of the HPC, for example the Ottawa Charter for Health promotion, the Health in All Policies approach, WHO Healthy Cities and Health Promoting Schools and other similar health promotion work in Iceland, the other Nordic Countries, Europe and other parts of the world. HPC is an umbrella for comprehensive health promotion work in municipalities in Iceland, including Pre-, Compulsory- and Upper secondary schools. In October 2018 a total 23 municipalities in Iceland are HPC, including over 83% of Iceland's population. All municipalities and schools can apply to be part of the Health promoting programs and receive support by DOHI.

#### Implementation Elements

The overall framework of the HPC programme can be improved. Also, local HPC coordinators have different background and may lack capacity and resources to do the work in systematic way.

- There is a need for further production of supporting material for systematic health promotion work in participating HPC.
- There is a need in the municipalities for more expert support, and strengthening and empowering the HPC coordinators in their work.
- There is a need to support the HPC coordinators in organizing their work, monitor progress and report about the work.

- There is a need for further involvement of Universities and other research agencies, for example with regard to data collection and evaluation.

A recent survey performed by the Icelandic Association of Local Authorities among HPC coordinators confirms the needs that has to be addressed to improve the quality of the HPC programme. The available knowledge and in-depth information about the structure and support provided by the JOGG programme is a valuable resource to address the needs to further develop and improve the HPC programme.

### Improvement Areas

The target group of the implementation are the coordinators and steering groups in participating HPC. The implementation involves three improvement areas:

Improvement area I: Supporting material for HPC coordinators incl. municipality roadmap/ guidelines and communication strategy and material.

- Supporting material for HPC coordinators incl. municipality roadmap/ guidelines and communication strategy and material
- Finalize the production of the HPC implementation guidelines, consulting with key stakeholders and learning from the JOGG municipality roadmap.
- Produce communication strategy for HPC learning from JOGG.
- Produce individualized HPC logo for all HPCs and guidelines for its use.

Improvement area II: Expert support and coaching for local coordinators.

- Survey, evaluation of expert support and material provided by DOHI.
- Develop webinars and/or videos how to use the HPC implementation guidelines.
- Explore the possibility to train experienced HPC coordinators to provide peer support.
- Provide training sessions and/or meetings for HPC coordinators.

Improvement area III: Evaluation, reporting and Scientific Advisory Board.

- Continue developing the on-line working area according to the needs of HPC and HP Schools.
- Translate good example of JOGG municipality fact sheet and explore it's feasibility for the HPC work.
- Learning from JOGGs experience, explore the feasibility to establish Scientific Advisory Board with universities and other research agencies.

### Assessment areas

The evaluation of the intervention is based on both quantitative and qualitative methods. Key performance indicators are: publication and dissemination of the HPC implementation guidelines, publication and dissemination of the HPC communication strategy, deliver the individualized HPC logo and the guidelines for it's appropriate use, conduct a survey before publication of the HPC guidelines and after its dissemination, publish and disseminate webinars/videos, feasibility report regarding peer-training, number of events, participation and satisfaction, open and disseminate the on-line working area for HPC, use of and satisfaction with the on-line working area, translation of factsheet and feasibility has been evaluated, and if feasible, establish Scientific Advisory Board for HPC.



## Section 3 - ToyBox Intervention

The ToyBox-intervention is a multicomponent, kindergarten-based, family-involved intervention, focusing on the promotion of water consumption, healthy snacking, physical activity and the reduction/ breaking up of sedentary time in preschool children and their families. The development of the ToyBox-intervention is based on the outcomes of the ToyBox study (systematic literature reviews, pooled analyses and focus groups research), that identified young children's key behaviours and their determinants related to early childhood obesity. The development of the intervention material was based on the intervention mapping protocol and the PRECEDE-PROCEED model. The primary aim is to prevent overweight/obesity in early childhood. This is achieved via the promotion of the four energy balance related behaviours which were found to be associated with early childhood obesity in the preliminary phases of the ToyBox study, i.e. water consumption, healthy snacking, physical activity and the reduction/ breaking up of sedentary time in preschool children and their families.

### *ToyBox in church and independent schools across Malta and Gozo, Ministry for Health, Malta*

#### Overview

Obesity is a critical public health issue globally as overall prevalence continues to rise. Malta, a small Mediterranean island with a population of less than half a million people, leads the overweight and obesity rankings in Europe. A recent study that measured the body mass index (BMI) of almost all school-aged children up to 16 years of age concluded that approximately 41% are overweight or obese according to WHO criteria, with a greater proportion being obese (26%) than overweight (15%). It is known that overweight and obesity in childhood tracks into adulthood, and indeed Maltese adults are also among the most overweight within the WHO European region. According to a recent nationally representative study using measured data, 36% of adults are overweight and another 34% are obese. With obesity having been estimated to cost the Maltese economy around €36 million in 2016, urgent action is needed to address underlying obesity-related behaviours from an early age.

#### Implementation Elements and Improvement Areas

The target population for this intervention are children aged 3-4 years who attend participating Kindergarten One (KG1) classes in church and independent schools across Malta and Gozo. Children in state schools will not be targeted, since these already have an intervention programme targeting lifestyle behaviours in place. All KG 1 classes in church and independent schools are eligible for participation in the Toybox Programme. Students attending the KG 1 class(es) in an eligible school will be enrolled in the programme, subject to the head of school's agreement and parental consent.

Children spend a large proportion of their time at school, hence schools are key micro-environments that influence EBRBs. If the school environment is obesogenic, then interventions aimed purely at influencing children's individual behaviour without taking measures to improve their surrounding environment are likely to be ineffectual. The programme focuses on four levels to improve EBRBs:

1. Setting environmental changes in the classroom, to allow more active movement, increased water consumption and healthy snacking (Level 1)

2. Children implementing the actual behaviour (water consumption, healthy snacking, physical activity and interruption of sedentary time) in class (Level 2)
3. Teachers implementing fun classroom activities (e.g. stories with the use of puppets, experiments, games etc) with the active participation of the whole class (Level 3)
4. Actively involving parents to apply environmental changes and implement these lifestyle behaviours together with their children at home (Level 4).

Educators will receive the toolkit covering topics related to a healthy lifestyle, including healthy eating and snacking, water consumption, healthy food for healthy teeth, self-expression and physical exercise. The main objective of the research is to promote healthy lifestyles in 3-4-year-old children who attend kindergarten one (KG1) through targeting four EBRBs. The programme is expected to increase physical activity levels, reduce sedentary behaviour, increase water consumption, and improve dietary behaviour. The secondary objectives of the research are to assess and evaluate the implementation of the ToyBox programme in Malta and assess the feasibility of its implementation on a national scale.

### Assessment areas

A quantitative approach to study evaluation will be undertaken, supplemented by informal (solicited) qualitative feedback obtained from heads of schools, teachers and parents throughout the year. Heads of schools will be contacted on a regular basis to proactively identify and resolve any issues and obtain ongoing feedback which, if pertinent, can be disseminated to other heads of schools. Anthropometric data will be collected from children whose parents have consented, and two sets of questionnaires administered to caregivers/parents (i.e. a Food Frequency Questionnaire assessing dietary patterns of the child's intake over the previous 12 months, and a questionnaire aimed at exploring health behaviour, food environment and opportunities for physical activity environment in the home, and socioeconomic background).

The process, impact, outcome and cost-effectiveness of the ToyBox-intervention will be assessed via questionnaires given to both the teachers and the parents. Children's anthropometric characteristics (height, weight and waist circumference) and physical activity levels will be taken at baseline (November 2018) and at the end of the scholastic year (June 2019). If possible, measurements will also be taken 12 months after the end of the intervention (June 2020) in order to assess medium-term outcomes of the study.

## Section 4 - Multimodal Training Intervention: an Approach to Successful Ageing

Multimodal training interventions (6-MTI) are of special interest for older individuals, because of their high rate of disability, functional dependence and use of healthcare resources. The project is a 6-month multimodal training intervention (6-MTI), nutrition and health counselling on different variables, such as on functional fitness (FF), body composition (BC) and cardio metabolic risk factors (CMRF). The participants were healthy older individuals - 71–90 years old. The intervention consisted of daily endurance training (ET) and twice-a-week resistance training (RT). This is supported by three lectures on nutrition and four on health-related topics. The ET consists of daily walking over the intervention phase. The duration of the training session increases progressively through the 6-month training period.

### *Multimodal training intervention for 65+ in Klaipeda District, Lithuania*

#### Overview

In Klaipeda District municipality lives 8500 people older than 65 years (15.2% of the population). According to the results of the study on the lifestyle of the adult population in Klaipeda District Municipality conducted by the Klaipeda District Municipal Public Health Bureau, from 2007 to 2018, 60 year and older persons who have been engaged in energetic physical activity for at least 30 minutes and 4-6 times a week to accelerate the respiration and pulse, increased to 60.3 from 5.6% ( $p < 0.05$ ). Daily for at least 30 minutes is engaged in energetic physical activity - in 2007 16.7 % and 22.4% in 2018. Just 31.3 % of population 60 year and older assess their health good and 47% (35% in 2007) rate their quality of life as well or very well.

The aim of the health promotion project is to examine the effects of a four 6-month multimodal training intervention (6-MTI) and nutrition and health counselling on different variables, such as functional performance, strength, endurance, body composition and metabolic risk factors. Furthermore, the aim is to investigate the effects on the different sexes and to see whether they were different between older males and females. Finally, the aim is to evaluate whether the applied 6-MTI design and methodology can form a sustainable strategy for developing and maintaining the health of older age groups according to international recommendations. The aim is also to evaluate the results every 6 months and how capable the participants will be working at their own health promotion with less and less help in each step.

#### Implementation Elements

Contextual elements considered important at the outset of introducing the intervention:

1. Creating environment for intervention
2. Translation and use of the health surveys instruments, implementation instruments for individual oriented training
3. Measuring and selecting participants for intervention, evaluating changes every 6 months
4. Implementation of target expert training up to 3 times per week for max 175 participants (2 groups in rural area)

5. Lectures about healthy aging and nutrition and social support
6. Improving cooperation and indoor facilities for ensuring intervention sustainability and dissemination of results

### Improvement area

Instruments - Measurements check list, Daily physical activity survey, Endurance performance test and Quality of life tests, agreement and contract form for participant translation.

- 1 meeting with Third Age University community. 10 meetings with NGO Community Heads and Health Ambassadors network members.
- Preparation of presentation for Community Health Board for negotiation for budget.
- Selecting primary Health Care for blood tests
- Place and time selection for participants (stakeholders from sport and culture or education sector). Involvement of additional staff for measurements and data analysis.
- Doing 2<sup>nd</sup> measurement, 3<sup>rd</sup> measurement, 4<sup>th</sup> measurement, 5<sup>th</sup> measurement of participants.
- First 6 months physical activity program:
- Endurance: 1 daily walking day and twice-a-week resistance training. Homework sheets.
- 7<sup>th</sup> – 12<sup>th</sup> month increasing sustainability participants and teaching and training with health instructor 2x a week. Homework sheets.
- 13<sup>th</sup> to 18<sup>th</sup> month increasing sustainability participants and teaching and training with health instructor 1 x a week. Homework sheets.
- 19<sup>th</sup> to 24<sup>th</sup> month individual training (sustainable) and follow up of health instructor. Homework sheets.
- Organize 6 lectures every 6 month 2 on nutrition and 4 on healthy aging, endurance and motivation to train and goal setting.
- Initiation of support from social or health sector
- Prepare written negotiation letter for Municipality about intervention
- Dissemination of success stories and population-based results of the intervention
- Preparation of reports and articles for publishing in local news medias
- Evaluation (process and results) of intervention.

### Assessment areas

The implementation will use quantitative measures to assess progress and final impact. The measurements will be performed at five time-points, at baseline and then additionally four at the end of each 6-month period. The primary measurements are: daily activity assessed with a standardized questionnaire and body mass index (BMI) will be calculated as body mass (kg) divided by height squared (m<sup>2</sup>) and blood pressure and heart rate rest will be measured. Physical performance will be measured with the SPPB-test and mobility and balance will be measured by the 8-foot up-and-go test as in the SPPB-test. Hand grip strength test will be measured as Chair stand test (in 30 sec), Arm curl test (in 30 sec), Chair sit-and-reach test and Back scratch test. Endurance performance will be measured using the 6-minute walk test (6MW) and quality of life will be measured with standardized questionnaire; EQ-5D and GDS-Scale. Whole-body composition will be measured using InBody software. Blood analysis will be done at the local hospital using standard protocols

if funding for such research is available. A questionnaire about drug use and health of the participants will also be proposed.

### ***Multimodal training intervention for 65+ in Klaipeda City, Lithuania***

#### **Overview**

Elderly people don't do enough daily physical activity. Low physical activity level of old age group population and low self-evaluated quality of life of target group. Will be piloted multimodal training program in Klaipeda city. To find out if the multi-component model of activities can be used to formulate a long-term strategy to maintain the health of older people in line with international recommendations.

The aim of the health promotion project is to examine the effects of a four 6-month multimodal training intervention (6-MTI) and nutrition and health counselling on different variables, such as functional performance, strength, endurance, body composition and metabolic risk factors. Furthermore, the aim is to investigate the effects on the different sexes and to see whether they were different between older males and females. Finally, the aim is to evaluate whether the applied 6-MTI design and methodology can form a sustainable strategy for developing and maintaining the health of older age groups according to international recommendations. The aim is also to evaluate the results every 6 months and how capable the participants will be working at their own health promotion with less and less help in each step.

#### **Implementation elements**

Contextual elements considered important at the outset of introducing the intervention:

1. Creating environment for intervention
2. Translation and use of the health surveys instruments, implementation instruments for individual oriented training
3. Measuring and selecting participants for intervention, evaluating changes every 6 months
4. Implementation of target expert training up to 3 times per week for max 175 participants in Klaipeda city
5. Lectures about healthy aging and nutrition and social support
6. Improving cooperation and indoor facilities for ensuring intervention sustainability and dissemination of results

#### **Improvement area**

Instruments - Measurements check list, Daily physical activity survey, Endurance performance test and Quality of life tests, agreement and contract form for participant translation.

- 1 meeting with Third Age University community. 10 meetings with NGO Community Heads and Health Ambassadors network members.
- Preparation of presentation for Community Health Board for negotiation for budget.

- Selecting primary Health Care for blood tests
- Place and time selection for participants (stakeholders from sport and culture or education sector). Involvement of additional staff for measurements and data analysis.
- Doing 2<sup>nd</sup> measurement, 3<sup>rd</sup> measurement, 4<sup>th</sup> measurement, 5<sup>th</sup> measurement of participants.
- First 6 months physical activity program:
- Endurance: 1 daily walking day and twice-a-week resistance training. Homework sheets.
- 7th – 12th month increasing sustainability participants and teaching and training with health instructor 2x a week. Homework sheets.
- 13th to 18th month increasing sustainability participants and teaching and training with health instructor 1 x a week. Homework sheets.
- 19th to 24th month individual training (sustainable) and follow up of health instructor. Homework sheets.
- Organize 6 lectures every 6 month 2 on nutrition and 4 on healthy aging, endurance and motivation to train and goal setting.
- Initiation of support from social or health sector
- Prepare written negotiation letter for Municipality about intervention
- Dissemination of success stories and population-based results of the intervention
- Preparation of reports and articles for publishing in local news medias
- Evaluation (process and results) of intervention.

### Assessment areas

The measurements will be performed at five time-points, at baseline and then additionally four at the end of each 6-month period. The primary measurements are: daily activity assessed with a standardized questionnaire and body mass index (BMI) will be calculated as body mass (kg) divided by height squared (m<sup>2</sup>) and blood pressure and heart rate rest will be measured. Physical performance will be measured with the SPPB-test and mobility and balance will be measured by the 8-foot up-and-go test as in the SPPB-test. Hand grip strength test will be measured as Chair stand test (in 30 sec), Arm curl test (in 30 sec), Chair sit-and-reach test and Back scratch test. Endurance performance will be measured using the 6-minute walk test (6MW) and quality of life will be measured with standardized questionnaire; EQ-5D and GDS-Scale.

Process indicators of intervention – participants started the program, following program after 1 month, 3 month, 6 month, 12, 18 and 24 months. Their participants average in trainings.

### Outcomes:

1. Daily activity change of participants
2. Strength change
3. Blood pressure changes
4. Body Mass index changes, Metabolic Syndrome changes.
5. 6 min walking test changes
6. Quality of life

## *Multimodal Training Intervention 65+ in Municipalities in Iceland*

### Overview

Icelanders, aged 65 and older, need a 15–20 minutes more physical activity to reach the international recommended exercise time, with regard to a doctoral examination and the results from the pre-implementation or the baseline measurements. Also, very few of them, or about 10%, do regular strength training. To reach the international recommended exercise time, which is twice a week at minimum, there is a need to increase participation in strength training significantly. The BMI coefficient of about 30% of the participants in a preliminary study (pre-implementation part/baseline) have a BMI value of 31 or higher. The participant's mobility is generally good, but those with impaired mobility and sense of balance need more attention.

The aim of this study is to examine the effects of a 6-month multimodal training intervention (6-MTI), and nutrition and health counselling on different variables, such as on functional fitness (FF), body composition (BC) and cardio metabolic risk factors (CMRF). The aim is also to evaluate at 6- and 12-month follow-ups the effects and sustainability of a 6-MTI. Furthermore, the aim is to investigate if the effects are different according to gender. Another goal is to examine the 6- MTI effect and long-term effects on participants, who are divided into three different age groups. Finally, the aim is to evaluate whether the applied 6-MTI design and methodology can form a sustainable strategy for developing and maintaining the health of older age groups with regard to international PA recommendations.

### Implementation elements

The specific aims of the project are:

1. To promote the health of older age groups so they:
  - can in the future perform the actions of daily living,
  - can live longer in an independent residence,
  - prevent or delay entry into a residential and nursing homes
  - have the opportunity to work longer in the labour market
2. To improve the quality of life in older age.
3. To reduce government and municipalities expenditures.
4. To develop sustainable exercise strategies for people in older age.

### Improvement areas

Twofold Physical Exercise Intervention

- Endurance: Daily walking

On average ~30 minutes per day

- Resistance training: Twice-a-week

Training/Physical exercise Intervention are supported by six lectures/education across every 6-month intervention phase (i.e. nutrition, medicine (drug) and training, healthy aging, endurance, strength, how to train and goal settings) Social factors as having a schedule for the week where you go training with the same group of people for a longer period of time and getting to know them, coming to lectures once a month where you meet with a larger group of peers, in the same program as you, taking part in cooking classes in small groups, festival and dancing once in a year etc.

### Assessment areas

The primary measurements are:

- Blood pressure and blood analysis
- Body mass index and Whole-body composition using a InBody scale
- Daily physical activity
- Physical performance
  - Endurance performance
    - 6 MW-test
  - Strength test (Rikli & Jones)
- SPPB-test and 8-foot up-and-go test
- Maximal muscle strength test (grip-test)
- Quality of life Questionnaire
- Blood-measurements
  - Metabolic Syndrome
    - Waistline or abdominal fat
    - Blood pressure
    - High amount of blood Glucose
    - High amount of Triglycerides (serum triglycerides)
    - Low levels of HDL-cholesterol

- Geriatric Depression Scale (Short Form)

Geriatric Depression Scale (Short Form)

Self-Rated Version

<http://dementiapathways.ie/filecache/0c8/57e/37-gds.pdf>

<https://consultgeri.org/try-.../general-assessment/issue-4.pdf>



- Global Physical Activity Questionnaire (GPAQ)  
Analysis Guide EQ-5D-5L User Guide  
Basic information on how to use the EQ-5D-5L instrument

The measurements will be performed at five time-points, at baseline and then additionally four at the end of each 6-month period. The primary measurements are: daily activity assessed with a standardized questionnaire and body mass index (BMI) will be calculated as body mass (kg) divided by height squared (m<sup>2</sup>) and blood pressure and heart rate rest will be measured. Physical performance will be measured with the SPPB-test and mobility and balance will be measured by the 8-foot up-and-go test as in the SPPB-test. Hand grip strength test will be measured as Chair stand test (in 30 sec), Arm curl test (in 30 sec), Chair sit-and-reach test and Back scratch test. Endurance performance will be measured using the 6-minute walk test (6MW) and quality of life will be measured with standardized questionnaire; EQ-5D and GDS-Scale.

## *Multimodal Training Intervention 65+ in Utebo, Aragon, Spain*

### Overview

Older people Utebo environment need actions that encourage physical exercise as one of the main elements to promote their health and prevent chronic diseases. According to data from the National Health Survey of Spain (ENSE) 2017, 28.9% of men and 38.8% of women between 65 and 74 years of age declare themselves sedentary in their free time. In addition, in the age group of 75 to 84 years, these figures amount to 38.6% of men and 58.7% of women. However, these figures show an improvement with respect to the data from the ENSE of 2012, in which in the age group of 65 to 74 years, 36% of men and 47.5% of men reported to be sedentary, figures that amount to 49.5% of men and 60.8% of women in the case of the age group of 75 to 84 years. A gradient is observed by social class and level of economic income, the percentage of sedentary people being higher the lower the social indicator. Aragón, a region where the local implementation of this activity is circumscribed, is at a medium level in terms of the rest of the state with individual measurements of total energy expenditure in the towns of Cinco Villas and Zaragoza, where its relationship with the degree of disability. Utebo has a population of 18,593 inhabitants according to the 2017 census. 12.7% of the municipality's health cards belong to people aged 65 or over.

### Implementation elements

The general objective is to verify the adaptability of the Icelandic practice in Utebo, as well as the reproducibility of its results.

Specific objectives:

- To raise awareness and modify the life habits of the elderly population of Utebo, in order to delay the loss of function linked to age and prevent frailty.
- Implement a program of physical exercise and health education in nutrition and healthy lifestyles.
- Empower the target population to improve self-management of their health.
- Coordinate different institutions related to health to promote the prescription of community assets in health.

### Improvement areas

Twofold Physical Exercise Intervention

- Endurance: Daily walking

On average ~30 minutes per day

- Resistance training: Twice-a-week

Training/Physical exercise Intervention are supported by six lectures/education across every 6-month intervention phase (i.e. nutrition, medicine (drug) and training, healthy aging, endurance, strength, how to train and goal settings) Social factors as having a schedule for the week where you go training with the same group of people for a longer period of time and getting to know them, coming to lectures once a month where you meet with a larger group of peers, in the same program as you, taking part in cooking classes in small groups, festival and dancing once in a year etc. In addition, a follow-up is planned to assess the adherence to the program with the repetition of the measurements every 6 months for a year and a half. The process of adaptation to the environment and its results will be measured by process indicators related to the activities listed above.

## Assessment areas

### 1. Measures of the intervention

- Structural / corporal measures
  - Systolic and diastolic blood pressure
  - Resting heart rate
  - Height
  - Weight
  - Body Mass Index
  - Perimeter waist
  - Hip circumference
  - Waist-hip index
  - Muscle mass
  - Body fat mass
  - Fat-free dough
  - Percentage of body fat
  - Blood tests: total cholesterol, HDL, LDL, triglycerides, glucose and glycosylated haemoglobin in the case of diabetics.
- Motor Functional Measures
  - Chair sit and reach
  - Back Scratch
  - Chair stand
  - Arm Curl
  - 8-foot up and go test
  - SPPB test (balance, 4m gait speed, chair stand)
  - Hand Strength
  - 6 minute walk test
- Functional measures of health states:
  - Geriatric Depression Scale (GDS)
  - Generic Health Status Measurements (EQ-5D-5L)

## 2. Process indicators:

- Collaboration between institutions to share established resources (YES / NO)
- Multidisciplinary team for the development of activities created (YES / NO)
- Catalogue of community assets related to health created (YES / NO)
- Number of sessions in order to share information and complementary skills carried out.
- Number and type of dissemination actions carried out
- Number of people captured
- Program carried out (YES / NO)
- % of users who finish the program
- % of people remain active 12 months after the end of the program
- Improvement in the measured evaluation parameters (YES / NO)
- Integration of the catalogue of community assets in the computer application of health history in Primary Care.
- User derivation tool for the community asset integrated in the computer application of health history in Primary Care.
- Number of follow-up meetings held

The measurements will be performed at five time-points, at baseline and then additionally four at the end of each 6-month period. The primary measurements are: daily activity assessed with a standardized questionnaire and body mass index (BMI) will be calculated as body mass (kg) divided by height squared (m<sup>2</sup>) and blood pressure and heart rate rest will be measured. Physical performance will be measured with the SPPB-test and mobility and balance will be measured by the 8-foot up-and-go test as in the SPPB-test. Hand grip strength test will be measured as Chair stand test (in 30 sec), Arm curl test (in 30 sec), Chair sit-and-reach test and Back scratch test. Endurance performance will be measured using the 6-minute walk test (6MW) and quality of life will be measured with standardized questionnaire; EQ-5D and GDS-Scale.

## Section 5 - Workplace Health Promotion: Lombardy WHP Network

The Lombardy Workplace Health Promotion plan helps companies to implement good practice activities. The areas of good practice are: nutrition, tobacco, physical activity, road safety, alcohol and substances, and well-being. The results were surprising in terms of network and adhesion. The WHP Network is made up of companies (“Workplaces”) which recognize the value of corporate social responsibility and undertake to be an “environment conducive to health” systematizing, with the scientific support of Health Local Unit where necessary, evidence-based actions of different nature: informational (smoking cessation, healthy eating, etc.), organizational (canteens, snack vending machines, agreements with gyms, stairs health programmes, walking / biking from home to work, smoke-free environment, baby pit-stop, etc.) and collaboration with others in the local community (Associations, etc.). The Workplace Health Promotion is the result of the joint efforts of employers, employees and society. The company directly chooses the strategies and applies them. The Local Health Unit supports by moving towards evidence based interventions.

### *Lombardy Workplace health promotion in two companies in Andalusia, Spain*

#### Overview

Workplaces are strategic places to carry out health promoting actions so as to avoid/delay the onset of chronic diseases. There is a need to recruit and maintain companies involved in a regional programme to promote health at the workplace. The Lombardy WHP Network aims at promoting healthy lifestyle through different actions and information targeting healthy eating, smoking cessation, increased physical activity, alcohol reduction and safe walking/biking to work. It is a public-private network building on partnerships and collaboration with all workplace main stakeholders: associations of enterprises, trade unions and the regional health system. The Andalusian Regional Ministry of Equality, Health and Social Policies is implementing elements of the Lombardy WHP. The region of Andalusia has a similar programme called ‘Promoción de la Salud en los Lugares de Trabajo (PSLT), which however is currently facing a slowdown. Since 2012, the Andalusian PSLT Programme has involved nearly 200 workplaces (private and public), while more than 4500 employees are directly taking part in it.

As part of Chrodis Plus Andalucía will implement the LWP in two companies. Implementation company 1 is EMASAGRA. It is a joint public-private venture based in the city of Granada (Andalusia, Spain) that provides service to the city of Granada as well as to 14 municipalities in the metropolitan area of Granada. It manages all processes related to the water cycle: catchment, drinking water treatment, transport and distribution for human consumption with full health guarantees in the city of Granada and 14 municipalities in the metropolitan area of Granada (population served: 384.874 inhabitants; area of supply: 275km<sup>2</sup>) Number of workers: 200. Implementation company 2 is CSIF Granada. It is the Public Official's Independent Trade Union, being consolidated as the third trade union at the state level. It is integrated in the European Confederation of Independent Trade Unions. We will be implementing at the Granada Headquarters. Number of workers: 40

#### Implementation elements

The main elements identified in the Lombardy WHP Programme to be piloted in the implementation within PSLT are: the WHP’s accreditation system; the UNI-ISO 26000 concept of sustainability; the online data

collection system and relevant ideas for recruitment and long-term adherence to the programme. Transferring these elements could re-boost the Andalusian PSLT programme.

### Improvement areas

In implementation company 1 EMASAGRA the improved areas will be:

*Physical activity area* - Good practice 2.3: Promoting opportunities to do physical exercise: Setting up a gym (health and exercise hall) accessible to all workers

*Work-life balance, welfare and social responsibility area* - Good practice 5.4: Work organization measures, Time saving facilities.

In implementation company 2 CSIF the improved areas will be:

Good practice 1.3: Make fruit and/or fresh seasonal vegetables available at least 3 days a week

Good practice 1.5: Informative-communicative activities in order to support one or more practices

Good practice 3.2: Promoting general measures to incentivise smoking cessation.

### Assessment areas

The LWP implementation evaluation will be conducted using a quantitative survey. The Andalusian implementers will use the *pre and post implementation anonymous assessment questionnaire* (Translated from the original Lombardy tool). The survey will track M1 (pre) and M12 (post) responses and document any possible shift occurring after implementing all activities.

## Annex – Pilot Action Plans

### A. Implementation of ASF intervention in schools of Klaipeda City - Pilot Action Plan template

Introduction	Why did you start?
1. Problem Description	Children Lifestyle Survey conducted by Klaipeda City Public Health Bureau (2016) reveals that Klaipeda city is facing children physical inactivity problem. Enjoyable, playful, inclusive initiatives are needed to energise school day. Re-using the Irish initiative of Active School Flag (ASF), could be a way to energise the school day in chosen schools and learn new methods to improve physical activity.
2. Available knowledge	According to the Children Lifestyle Survey conducted in 2016 in all municipalities in Lithuania, In Klaipeda only 12,1 % of children (5,7 and 9 <sup>th</sup> grades) meet the requirement of 60 minutes daily physical activity while the average of Lithuania is even lower – 9,7 %.
3. Rationale	The ASF is using a whole-school approach, and this good practice is considered as one of the seven best investments for physical activity. The two selected schools in Klaipeda belong to Network of Health Promoting Schools and already are concentrating on physical activity promotion. Thus, the intervention is expected to be successful.
4. Specific aims	To encourages children to become more physical active in an enjoyable way. Objectives: to adopt new PE elements from ASF initiative; to cooperate with public health specialists working at the schools in promoting physical activity.
Methods	What did you do?
5. Context	Physical active children is a priority at a national level. In the national level there are plans to launch a new physical education initiative Active School, support for initiatives is expected. Klaipeda schools would be first to implement Ireland's good practice and improve quality of physical education programmes by adopting new elements/ activities. Moreover, both schools already are drawing attention to improve children physical activity.
6. Intervention(s)	Target population - 1-8th grade schoolchildren from two schools in Klaipeda City Municipality: Gilijos Primary School and Sendvario Progymnasium.  Gilijos Primary School (598 pupils: 1 grade – 166; 2 grade – 146; 3 grade – 150; 4 grade – 136 pupils). Since 2017 this school belongs to Network of Health Promoting Schools. Physical active children is one of the main goal. Many physical activity elements are done in this school: Active Week, events of Not-Traditional Education Day, active breaks in the yard or sports hall, The Month of Health which takes place in February –

	<p>morning exercise before classes every day. The school has a stadium and full sports equipment, table tennis in the corridors. Classroom teachers are responsible for physical education.</p> <p>Sendvario Progymnasium (680 pupils: 1 grade – 77; 2 grade – 104; 3 grade – 99; 4 grade – 98; 5 grade – 110; 6 grade – 89; 7 grade – 48; 8 grade – 55 pupils). Since 2014 this school belongs to Network of Health Promoting Schools. Physical active children is one of the main goal. Many physical activity elements are done in this school: morning exercise during a whole month, active breaks, exercise with toys for young children, dancing. The school has a stadium and full sports equipment, machine trainers, table football and other sports machines in the corridors. Some classroom teachers of 1-4 grades are responsible for physical education, but also there are physical education teachers. All children from 5-8 grades have physical education teachers.</p> <p>There will be implemented the following elements of physical activity according to the Active School Flag intervention in Ireland:</p> <ul style="list-style-type: none"> <li>- Run around Europe (the class chooses a European capital and a distance to it, runs in the stadium, laps are converted into kilometres until the distance the chosen capital is reached)</li> <li>- European Week of Sport (schools can contribute by organising their own sport events)</li> <li>- Active school week (schools organise it as part of their school calendar)</li> <li>- Walk to school week</li> <li>- Active breaks (Go Noodle – videos with energetic music and actors showing moves which children have to repeat; Drop Everything and Dance – children stand up and dance; 30 Second Active Breaks – simple activities lasting for short time that are selected by children)</li> </ul> <p>Improvement areas:</p> <ol style="list-style-type: none"> <li>1. Translation and use of the ASF self-evaluation instruments. Change package: Translation of the ASF self-evaluation instruments; Two schools complete the ASF self-evaluation instruments.</li> <li>2. Physical education (PE) programmes. Change package: Revision of PE programmes in selected schools; Minimum of 90 minutes per week dedicated to PE with wide content of activities.</li> <li>3. Promotion of 60 min of daily physical activity (PA) by adopting new elements from ASF initiative. Change package: Introduction of new elements/ activities in selected schools (Run around Europe, European</li> </ol>
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	<p>Week of Sport, Active school week, Walk to school week, Active breaks).</p> <p>4. Children, their parents and teachers involvement in PE planning. Change package: Inform children, parents, teachers, school administration about the intervention, provide training about the motivation, team building; Inform parents, teachers about children’s progress; Receive references from children about the new PA activities by using a suggestion box.</p> <p>5. Methodology how to monitor and evaluate the intervention’s impact on children physical activity. Change package: Preparation of a questionnaire to evaluate children’s physical activity.</p> <p>The team involved in the work:</p> <ol style="list-style-type: none"> <li>1. Director of Klaipeda City Public Health Bureau, coordination of implementation process;</li> <li>2. Head of public health monitoring and projects department in Klaipeda City Public Health Bureau;</li> <li>3. Principal of Gilijos Primary School, representative of school;</li> <li>4. Principal of Sendvario Progymnasium, representative of school;</li> <li>5. Public health specialist in Gilijos Primary School, implementer of ASF;</li> <li>6. Public health specialist in Sendvario Progymnasium, implementer of ASF;</li> <li>7. Representative of Education Unit in Klaipeda City Municipality;</li> <li>8. Representative of Health Unit in Klaipeda City Municipality.</li> </ol>
<p>7. Study of the Intervention(s)</p>	<p>The process of implementation will be evaluated using quantitative criteria: Number of involved classes, pupils, teachers/Expected number of classes, pupils, teachers to be involved; Number of meetings with school administration, teachers, children, parents; Number of physically active schoolchildren/Total number of schoolchildren. Instrument – children questionnaire.</p>
<p>8. Measures</p>	<p>The outcomes of the intervention will be measured using ASF self-evaluation questionnaire, and pupils and parents questionnaires. Self-evaluation is expected to reveal the whole school situation and attitudes towards the PA. The areas that are self-evaluated are: PE, resources, PA, partnerships. It is important to know the schools’ success criteria and its potential in re-using the ASF initiative. Pupils and parents questionnaires are relevant in revealing their perception and</p>

	<p>opinion. These instruments are expected to be translated in Lithuanian and validated.</p>
<p>9. Chronogram</p>	<ol style="list-style-type: none"> <li>1. October – November 2018. Organise meetings with the local implementation group: administrations of schools, teachers and public health specialists.</li> <li>2. November – December 2018. Translation and validation of ASF self-evaluation, pupils and parents questionnaires.</li> <li>3. January 2019 – January 2019. Schools perform their self-evaluation.</li> <li>4. January 2019 – June 2019. Schools prepare PA plans including new physical activities and implement them.</li> <li>5. June 2019 – July 2019. Interim evaluation of intervention’s impact to children physical activity. Pupils and parents fill in questionnaires.</li> <li>5. September 2019 – February 2020. Improve PA plans and continue implementing ASF elements.</li> <li>6. February – August 2020. Pupils and parents fill in questionnaires (a study is conducted). Study and evaluation of intervention’s impact to children physical activity. Preparation of final deliverable.</li> </ol>

**B. Implementation of ASF intervention in schools of Klaipeda District - Pilot Action Plan**

<p>Problem Description</p>	<p>Recent studies have shown that children are one of the most dynamic parts of the population. Rapid technological processes and high requirements for intellectual education lead to the controversial lifestyle of today’s children: intensive mental activity and less active leisure time. The United Nations Convention on the Rights of the Child has outlined the need to ensure sustainable physical, mental, and social development of a child. Daily physical activity of children is an important factor in achieving this goal. Furthermore, the WHO as well as European Union and other international organizations pay considerable attention to the promotion of physical activity and its monitoring. One of the global targets in the WHO Physical Activity Strategy (2015) is a 10% relative reduction in the prevalence of insufficient physical activity.</p> <p>Research from 2017 done in Klaipeda District Municipality show that physical activity time has declined for school children (Klaipeda District Municipality Public Health Bureau survey). Most of the children walk more than one hour per day outdoors. Larger number of boys compared to girls walk outdoor for more than one hour.</p> <p>Statistics show that during non-school hours 30% of children do sports or exercise. From 2014 the number of kids that do sports or exercise daily has declined.</p> <p>Physical activity of average student in Lithuania is seeing critical lows. Compared to other EU nations levels of students physical activity in Lithuania are one of the lowest. One out of five kids aged 11 to 15 engages in everyday physical activity for more than one hour daily.</p> <p>Physical activity which is important for healthy development of kids is often replaced with passive time spent sitting in front of digital displays.</p>
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	Declining numbers show that the importance of physical activity for children is often not highlighted.
Available knowledge	<p>In Lithuania since 1994, the Health Behaviour in School-Aged Children – HBSC survey has been carried out every 4–5 years and adolescent physical activity has been monitored for almost two decades. The results of the HBSC survey showed that 20.7% of 11–15-year-old teenagers were sufficiently physically active in 2014. However, the situation on physical activity among primary schoolchildren still is unclear since studies in this field are limited. Moreover, monitoring the changes in children’s physical activity is difficult due to different assessment methods in the country. Therefore, in order to determine the level of physical activity among 7–8-year-old children and its changes during the 5-year period, the data of the study on growth surveillance of Lithuanian children performed in 2008, 2010 and 2013 were analysed in this work.</p> <p>It is well known that family and school environments play a key role in the development of a child during the first two decades of his/her life. Physical education lessons are obligatory to all schoolchildren; however, other elements of the school environment are important as well. The infrastructure of educational institutions such as sports halls, stadiums, fitness equipment, running tracks, playgrounds, schools, and community involvement in the promotion of physical activity in after-school activities is also important to children’s physical activity. Several studies have demonstrated that physical education lessons account for 8–11% of children’s overall physical activity, but active game during breaks, access to school facilities and outdoor inventory, and preparation to sports events can additionally increase the time of daily physical activity up to 40%. There is a scarcity of scientific research comprehensively analysing various school environmental factors and associations with schoolchildren’s physical activity in Lithuania. Therefore, it is unclear what conditions are created by national educational institutions in order to promote children’s physical activity. In order to clarify this situation, one of the objectives of this study was to assess associations between physical activity of 7–8-year-old children and school environment variables.</p>
Rationale	<p>The study “Physical Activity of 7 – 8 years old Lithuanian children and associations with individual, family and schools environment factors” was conducted during participation in the WHO-coordinated project “European Childhood Obesity Surveillance Initiative (COSI).” A cross-sectional study was carried out in 2013. Data on changes in physical activity during the 5-year period were analysed using records from all three stages of the study (2008, 2010, and 2013). A multilevel sampling method was employed for composing a national representative sample. The sample size in each of all 10 counties of the country was calculated based on the data from the Department of Statistics of Lithuania about the number of targeted children. Schools were randomly selected from the list compiled by the Ministry of Education and Science. The representing data were collected by means of standardized questionnaires. Complete data were available for 3802 parents and their children. The response rate varied from 72.5% in 2008 to 75.3% in 2013.</p> <p>Research done during 2008 - 2017 in Klaipeda District Municipality for School-Aged children. HBSC survey has been carried out every 3 years. Survey has 35 closed questions and a measuring sheet to collect weight, height and blood pressure data. Data was collected from surveys that were filled out to no less than 50%.</p>
Specific aims	<p><i>CHRODIS+ Active School Flag</i> intervention promotes physical education, physical activity includes play, games, sports, physical exercise in the context of family, school and all community. Main purpose is to apply Active School Flag best practices in Klaipeda District Municipality schools participating in the project.</p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>● To apply ASF best practices in Klaipeda District Municipality schools.</li> <li>● To translate ASF information booklet and self-evaluation documents, pupils and parents questionnaire.</li> <li>● To promote more Physical Education (PE) in the regular school curriculum.</li> </ul>

	<ul style="list-style-type: none"> <li>● To get at least 60 minutes of moderate intensity Physical Activity (PA) every day. Promote inclusive and fun PA:</li> </ul> <ol style="list-style-type: none"> <li>1. increase PA opportunity during school time</li> <li>2. involve less active children to enjoy PE</li> </ol> <ul style="list-style-type: none"> <li>● To include ALL community in ASF project intervention. Encourage students to voice and leadership. Invite parents take active role in ASF process. To develop collaboration with local organizations and events.</li> <li>● To initiative fun and inclusive physical activity opportunity for ALL member of the school community. To organize Active School Week in 3 participating schools.</li> <li>● Promote ASF program in the school Health policy, include PE, PE and ASW and partnership.</li> <li>● To publish information and activities reports in the school website.</li> </ul>
Context	<ul style="list-style-type: none"> <li>● Creating environment for intervention</li> <li>● Cooperation with local and national governing institutions</li> <li>● Make use of translated ASF surveys</li> <li>● Acquire, translate and provide ASF methodologies to school teachers</li> <li>● Ensuring that participants take active role in program intervention</li> <li>● Use received experience during other national (“Healthy school”) and international programs</li> <li>● Invite active students organisations “Health ambassadors” and active students to take part in intervention process</li> <li>● To assign Public Health Bureau employee to participating schools</li> <li>● Participate in active dialogue with local organizations, sport clubs and volunteer organizations</li> <li>● Secure funding</li> <li>● Ensure LIWG team flow</li> </ul>
Intervention(s)	<p>CHRODIS+ Active School Flag will be executed in Klaipeda District.</p> <ul style="list-style-type: none"> <li>● Kindergarten “Naminukas” of Gargzdai city</li> <li>● School of Siupariai city</li> <li>● School of Plikiai</li> </ul> <p><i>Intervention Area I – Instruments.</i> Use and fully complete ASF self-evaluation documents, parents and students questionnaire.</p> <p><i>Intervention Area II – Physical Education (PE).</i> Revision and addition PE curriculum (athletics, dance, gymnastics, games, outdoor and adventures activities, aquatics). Promote minimum 60 min. per week PE in the regular school curriculum.</p> <p><i>Intervention Area III – Physical Activity (PA).</i> To get at least 60 minutes of moderate intensity physical activity every day. Promote inclusive and fun PA:</p> <ul style="list-style-type: none"> <li>- <i>wake up/ shake up</i></li> <li>- <i>active breaks during the lessons (use GO NOODLE program)</i></li> <li>- <i>active travel</i></li> <li>- <i>run around Europe (geography lesson)</i></li> <li>- <i>active playground</i></li> </ul> <p><i>Intervention Area IV – Partnership.</i> Promote whole school inclusion, use ASF pupils and parents questionnaire, to develop ALL school participation in local events.</p> <p><i>Intervention Area V – Active Scholl Week (ASW).</i> To initiative fun and inclusive physical activity opportunity for ALL member of the school community. 3 participating schools will organize ASW (May of 2019).</p>

	<p><i>Intervention Area VI – Organization.</i> Support and advice the involved schools. Following the ASF implementation strategy 3 involved schools have create ASF committee, including Team leader, teachers and parents. ASF need regular basis, a template pf ASF committee meetings. Organizer: the main organizer to plan, prepare chair and run the group is Klaipeda District Municipality Public Health Bureau (PHB) municipal budget institution responsible for public health) – head of institution. From institution running the secretariat. Writing reports and also implementation-direct work with target group is responsible from institution - public health specialist. Also, PHB provides strategic vision for decision makers, also as decision maker to eliminate bottlenecks during the implementation process. Main program coordinator is Ema Navickiene, Klaipeda District Municipality Public Health Bureau Public Health specialist.</p>
<p>Study of the Intervention(s)</p>	<p>To asses at T0 the situation of 3 participating schools using ASF self-evaluation documents and discussion about achieve results.</p> <p>To evaluate at T1 the situation of the 3 participating schools using ASF self-evaluation documents.</p> <p>Data on changes in physical activity and physical education during intervention will be analysed using ASF questionnaires. The data will be collected by means of standardized and translated ASF questionnaires.</p> <p>ASF parent questionnaire will be fully completed in 3 participating schools. The questionnaire completed by parents will have questions about daily children lifestyle.</p>
<p>Measures</p>	<p>The purpose of the self-evaluation documents is to generate whole school reflection and discussion in relation to physical education, physical activity and partnerships. This is an important first step in working towards the active flag. The three self-evaluation documents consist of a series of questions requiring yes/no. It is essential that there is whole staff discussion around the questions so that your school can agree on your areas of strength and areas requiring further development at the start of the school process. The value of this self-evaluation is that discussion takes place on PE and physical activity related issues. The number of yes/no answers has no bearing upon your school’s application for ASF.</p> <p><i>ASF provides schools with a definite set of targets (success criteria) to work towards for each of the following four areas:</i></p> <ol style="list-style-type: none"> <li><i>1. Physical Education</i></li> <li><i>2. Physical Activity</i></li> <li><i>3. Partnerships</i></li> <li><i>4. Active School Week</i></li> </ol> <p>This ensures that the ASF process is transparent and fair to all. Schools must be able to tick ‘yes’ to ALL of the ASF success criteria in order to be able to achieve the Active School Flag. While the majority of the success criteria are tick the box format a small number in each section (marked *) will require written explanation. Guidance in relation to some of these criteria is give. Attendance at the ASF workshops is strongly recommended for all schools to ensure that your school fully understands the requirements of the ASF process.</p>
<p>Chronogram</p>	<ol style="list-style-type: none"> <li><i>1. Start – October 2018, End – November 2018.</i> Prepare intervention Instruments. <i>To translate ASF self-evaluation document, ASF parents and student questionnaires.</i></li> <li><i>2. Start – November 2018, End – December 2018.</i> <i>3 meetings with participating schools.</i> ASF – The Benefits and the Challenges, Self-Evaluations, Success Criteria, Whole School Engagement.</li> <li><i>3. Start – December 2018, End – February 2019.</i> Pre-implementation Assessment Reports, one for each school.</li> <li><i>4. Start – December 2018, End – February 2019.</i> School policy documents and plans on physical education and activities, ASF committee meeting template records.</li> </ol>

	<ol style="list-style-type: none"> <li>5. <i>Start – March 2019, End – April 2019.</i> Include parents to ASF process and provide with ASF parents questionnaire reports. Ensure collected data from parents' questionnaires from each school.</li> <li>6. <i>Start – March 2019, End – April 2019.</i> To encourage students voice and leadership. ASF children questionnaire documentation of 3 participating schools</li> <li>7. <i>Start – April 2019, End – May 2019,</i> 3 participating schools will organize Active School Week (ASW), activities registered in the logbook records and videos/photos taken.</li> <li>8. <i>Start – May 2019, End – June 2019.</i> Post implementation evaluation reports from each school.</li> <li>9. <i>Start – November 2019, End – April 2019.</i> Organize 3 cooperation meetings with project partners, local and event organizations. A representative from the Local Sports Partnerships will be invited to attend.</li> <li>10. <i>Every month –</i> support meetings with schools and ASF schools teams.</li> </ol>
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**ANNEX 3. Pilot Action Plan template**

Below the Pilot Action Plan template which is an extract of the adapted version of the SQUIRE 2.0.

<p><b>Introduction</b></p>	<p><b>To transfer and to pilots the Active School Flag program in Italy</b></p> <p>CHRODIS-PLUS aims to promote the implementation of policies and practices with demonstrated success, in closely monitored implementation experiences that can be validated before scaling them up. We will collaborate to implement pilots and generate practical lessons that could contribute to the uptake and use of CHRODIS-PLUS results. The Practice to be implemented (Active School Flag program) has been chosen among the interventions collected and shared in JA-CHRODIS WPS.</p> <p>The main triggers to consider for transferability and implementation are the follow:</p> <ul style="list-style-type: none"> <li>• Since 2011/2012 Italy have "Comprehensive school": pre-primary, primary education and lower secondary education (1000 or more students in each school); the Italian school dimension is larger than Irish school;</li> <li>• Italian schools are very different from each others due to autonomy (different programmes, schedules, priorities) so the schools organize many activities in the field of physical education and movement but in an autonomous and non coordinated manner.</li> <li>• Furthermore the teacher of Physical Education is not required by law in primary school and often teachers don't feel confident to independently (without external support) propose physical activities to the pupils.</li> <li>• There is also a lack of communication strategies addressed to teachers and parents on the importance of Movement and Physical Games for child development and growth.</li> </ul>
<p><b>1. Problem Description</b></p>	<p>The 2016 OKkio alla Salute survey (national surveillance system on the eating and Physical activity habits of primary school children, which is part of the broader national "System of behavioral risk investigations in age 6-17 years" and is linked to the European program "Gaining health" and to the National Prevention Plan), involving in Piedmont over 5,000 children belonging to 279 primary classes of primary school confirms a slow and gradual decrease in the levels of overweight / obesity. In line with national data: 1.3% of Piedmont children are in conditions of severe obesity, 4.7% are obese, 18.4% are overweight (24% of Piedmontese children aged 8-9 therefore have excess weight).</p> <p>In Italy, Piedmont is located at a medium-low level, with values of overweight and obesity lower than national ones.</p> <p>The improvement of some behavioral determinants that influence the obesity and overweight condition is confirmed, such as the consumption of fruit and vegetables, the consumption of healthy snacks and the increase in physical activity. The incorrect perception of parents of the weight and physical activity of their children is confirmed. According to OKkio alla salute data, 15% of children were not active the day before the survey. The number of children who perform physical activity (at least an hour a day for 5-7 days) is increased. The number of children who spend on TV or video games more than 2 hours a day has decreased significantly, in contrast with the national data.</p> <p>Although these data are encouraging, it is estimated that less than 1 child out of 7 has a level of physical activity recommended for his age; sedentary activities are still widespread among children, such as spending a lot of time watching television and playing videogames.</p>

**D. Selected elements of JOGG implemented to improve the quality of the Health promoting community programme in Iceland (DOHI) - Pilot Action Plan**

<p><b>Introduction</b></p>	<p>In JA-CHRODIS (2014-2017), the Dutch programme JOGG was accepted as an example of Good Practice. Representatives from DOHI took part in the WP5 site visit about JOGG in Amsterdam in 2016 and got more in-depth information about the programme. Participating countries in the upcoming JA-CHRODIS+ were encouraged to find a suitable Good Practice to implement in their country and based on the knowledge DOHI already had about JOGG it was likely to be feasible option to contribute to the further development of the HPC programme. JOGG has a solid structure (six main pillars), similar to the one being developed for the Health Promoting Community (HPC) programme, but the overarching aims of these two programmes is not the same. JOGGs main aim is “Children at a healthy weight” but the HPC programme main aim is to support promotion of “Healthy behaviour and lifestyle, health and well-being for all”. Since JOGG took off in 2010 the programme has benefited from among other things abundant funding and skilled staff. It is well documented, has proven to be effective and has wealth of information available about its work. Selected elements of JOGG will be adapted and implemented within the HPC programme to improve the programs quality. The HPC programme will not become a JOGG programme but will refer to JOGG as one of the contributors to the HPC programme development.</p> <p>The HPC programme is run by DOHI with cooperation and collaboration with municipalities, schools and other key stakeholders at national and local level. The programme has been in a developmental process over the last few years and certain structure has been established. Numerous programmes, publications etc. have already contributed to the development of the HPC, for example the Ottawa Charter for Health promotion, the Health in All Policies approach, WHO Healthy Cities and Health Promoting Schools and other similar health promotion work in Iceland, the other Nordic Countries, Europe and other parts of the world. HPC is an umbrella for comprehensive health promotion work in municipalities in Iceland, including Pre-, Compulsory- and Upper secondary schools. In October 2018 a total 23 municipalities in Iceland are HPC, including over 83% of Iceland’s population. All municipalities and schools can apply to be part of the Health promoting programs and receive support by DOHI.</p> <p><a href="#">JOGG- description of the programme</a></p>
<p><b>1. Problem Description</b></p>	<p>The overall framework of the Health promoting community (HPC) programme can be improved. Also, local HPC coordinators have different background and may lack capacity and resources to do the work in systematic way.</p> <ul style="list-style-type: none"> <li>• There is a need for further production of supporting material for systematic health promotion work in participating HPC.</li> <li>• There is a need in the municipalities for more expert support, and strengthening and empowering the HPC coordinators in their work.</li> </ul>



	<ul style="list-style-type: none"> <li>• There is a need to support the HPC coordinators in organizing their work, monitor progress and report about the work.</li> <li>• There is a need for further involvement of Universities and other research agencies, for example with regard to data collection and evaluation.</li> </ul>
<p><b>2. Available knowledge</b></p>	<p>A recent survey performed by the Icelandic Association of Local Authorities among HPC coordinators confirms the needs that has to be addressed to improve the quality of the HPC program, stated in the problem description.</p> <p>The available knowledge and in-depth information about the structure and support provided by the JOGG programme is a valuable resource to address the needs to further develop and improve the HPC program.</p>
<p><b>3. Rationale</b></p>	<p>According to the WHO: “Healthy Cities are arguably the best-known and largest of the settings approaches. The programme is a long-term international development initiative that aims to place health high on the agendas of decision makers and to promote comprehensive local strategies for health protection and sustainable development. Basic features include community participation and empowerment, intersectoral partnerships, and participant equity.</p> <p>Evaluations of the Healthy Cities programmes have proven they are successful in increasing understanding of health and environment linkages and in the creation of intersectoral partnerships to ensure a sustainable, widespread programme. The most successful Healthy Cities programmes maintain momentum from:</p> <ul style="list-style-type: none"> <li>• the commitment of local community members;</li> <li>• a clear vision;</li> <li>• the ownership of policies;</li> <li>• a wide array of stakeholders;</li> <li>• a process for institutionalizing the programme.”</li> </ul> <p>(WHO <a href="http://www.who.int/healthy_settings/types/cities/en/">http://www.who.int/healthy_settings/types/cities/en/</a> )</p> <p>The JOGG programme, founded on the experience of the Epode programme, is built on similar elements that have proven to be successful in the WHO Healthy Cities programme.</p>
<p><b>4. Specific aims</b></p>	<p>Improve the quality of the Health promoting community (HPC) program.</p> <ul style="list-style-type: none"> <li>• Increase the availability of supporting material for HPC coordinators and steering groups.</li> <li>• Improve communication for HPC at the national and local level.</li> <li>• Increase the availability of promotional material.</li> <li>• Improve and increase the availability of expert support.</li> <li>• Improve the capacity of coordinators to do their work in confident way.</li> <li>• Improve self-evaluation of the HPC work.</li> <li>• Strengthen the scientific base of the HPC work and increase collaboration with Universities and other research agencies.</li> </ul>

<b>Methods</b>	
<b>5. Context</b>	<p><b>Situation analysis, SWOT</b></p> <p><b>Strengths:</b></p> <ul style="list-style-type: none"> <li>• Broad expert knowledge and good teamwork within DOHI.</li> <li>• Inter-sectoral collaboration and consultation at the national level being strengthened with the establishment of the HPC steering group and the HPC consultation platform.</li> <li>• The HPCs role in the implementation of the SDGs.</li> <li>• Check-lists and the development of on-line working area to coordinate and evaluate the HPC work at the local level is under development, based on the area already in use for HP Schools.</li> <li>• Public health indicators published annually since 2016. On-line publication under development.</li> <li>• Central/national data collection. Population data available for children and youth.</li> </ul> <p><b>Weaknesses:</b></p> <ul style="list-style-type: none"> <li>• Lack of resources (incl. manpower), each DOHI expert responsible for numerous, different tasks.</li> <li>• Delay of providing supporting tools and material.</li> <li>• Currently, limited involvement of universities in the HPC work.</li> <li>• HPC coordinators report need for further support from DOHI (incl. expert support, coaching and material).</li> <li>• Limited data power, particularly from adults health surveys. Currently not possible to produce public health indicators for smaller communities.</li> </ul> <p><b>Opportunities:</b></p> <ul style="list-style-type: none"> <li>• Reported satisfaction with HPC and willingness to continue the work from participating communities. Other municipalities are interested in the work.</li> <li>• HPC Coordinators, interested and willing to succeed in their work.</li> <li>• A lot of good work going on in communities that can be further connected with the HPC work.</li> <li>• Call for further national communication about HPC, including joint promotional material.</li> <li>• Support from the JOGG programme, generosity in providing material and willingness to help.</li> </ul>

	<p><b>Threats:</b></p> <ul style="list-style-type: none"> <li>• HPC coordinators have different experience and professional background and may lack capacity and resources to do the work in systematic way. Many of them responsible for various different task, adding HPC on the top of other things.</li> <li>• Lack of authority to engage stakeholders and make decisions, for example depending on where in the municipal organization chart the coordinator and steering group are situated.</li> <li>• Lack of resources including financing, manpower etc.</li> <li>• Negative news get disproportionate media coverage.</li> </ul>
<p><b>6. Intervention(s)</b></p>	<p><b>Target population:</b> Coordinators and steering groups in participating HPC.</p> <p><b>Improvement area I</b></p> <p>Supporting material for HPC coordinators incl. municipality roadmap/ guidelines and communication strategy and material.</p> <p><b>Change package:</b></p> <ul style="list-style-type: none"> <li>• Supporting material for HPC coordinators incl. municipality roadmap/ guidelines and communication strategy and material</li> <li>• Finalize the production of the HPC implementation guidelines, consulting with key stakeholders and learning from the JOGG municipality roadmap.</li> <li>• Produce communication strategy for HPC learning from JOGG.</li> <li>• Produce individualized HPC logo for all HPCs and guidelines for it’s use.</li> </ul> <p><b>Improvement area II</b></p> <p>Expert support and coaching for local coordinators.</p> <p><b>Change package:</b></p> <ul style="list-style-type: none"> <li>• Survey, evaluation of expert support and material provided by DOHI.</li> <li>• Develop webinars and/or videos how to use the HPC implementation guidelines.</li> <li>• Explore the possibility to train experienced HPC coordinators to provide peer support.</li> <li>• Provide training sessions and/or meetings for HPC coordinators.</li> </ul> <p><b>Improvement area III</b></p> <p>Evaluation, reporting and Scientific Advisory Board.</p> <p><b>Change package:</b></p>

	<ul style="list-style-type: none"> <li>• Continue developing the on-line working area according to the needs of HPC and HP Schools.</li> <li>• Translate good example of JOGG municipality fact sheet and explore it's feasibility for the HPC work.</li> <li>• Learning from JOGGs experience, explore the feasibility to establish Scientific Advisory Board with universities and other research agencies.</li> </ul> <p><b>Implementation group</b></p> <p>The implementation is at national level (DOHI) to improve the quality of health promotion work at the local level. It's intended to benefit all Health promoting communities.</p> <ul style="list-style-type: none"> <li>• Program manager Health promoting community, DOHI</li> <li>• Program manager Health promoting compulsory schools, DOHI</li> <li>• Program manager Health promoting upper secondary schools, DOHI</li> <li>• Program manager Health promoting preschools, DOHI</li> <li>• Coordinator Mosfellsbær Health promoting community</li> <li>• Member of steering group Hafnarfjörður Health promoting community and coordinator in Hvaleyrarskóli Health promoting compulsory school</li> </ul> <p>Also involved in the work is DOHI's Department Determinants of Health as a whole, the HPC steering group and the HPC consultation platform.</p>
<p><b>7. Study of the Intervention(s)</b></p>	<p>The evaluation of the intervention is based on both quantitative and qualitative methods.</p>
<p><b>8. Measures</b></p>	<p><b>Key performance indicators</b></p> <ul style="list-style-type: none"> <li>• Publication and dissemination of the HPC implementation guidelines.</li> <li>• Publication and dissemination of the HPC communication strategy.</li> <li>• Deliver the individualized HPC logo and the guidelines for it's appropriate use.</li> <li>• Conduct a survey before publication of the HPC guidelines and after its dissemination.</li> <li>• Publish and disseminate webinars/videos.</li> <li>• Feasibility report regarding peer-training.</li> <li>• Number of events, participation and satisfaction.</li> <li>• Open and disseminate the on-line working area for HPC.</li> <li>• Use of and satisfaction with the on-line working area.</li> <li>• Translation of factsheet and feasibility has been evaluated.</li> <li>• If feasible, establish Scientific Advisory Board for HPC.</li> </ul>
<p><b>9. Chronogram</b></p>	<p><b>Pre-implementation phase (M1-M13):</b></p> <p>Updated Pilot action plan submitted by the end of October</p>

	<p><b>Implementation phase (M14-M30)</b> Implementation and data collection for Change package, Improvement area I-III.</p> <p><b>Post-implementation (M31-M36)</b> Finalise evaluation and reporting.</p>
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## *E. ToyBox in church and independent schools across Malta and Gozo – Pilot Action Plan*

### Introduction

#### Problem description

##### Problem/challenge

Obesity is a critical public health issue globally as overall prevalence continues to rise. Malta, a small Mediterranean island with a population of less than half a million people, leads the overweight and obesity rankings in Europe <sup>(1)</sup>. A recent study that measured the body mass index (BMI) of almost all school-aged children up to 16 years of age concluded that approximately 41% are overweight or obese according to WHO criteria, with a greater proportion being obese (26%) than overweight (15%) <sup>(2)</sup>. It is known that overweight and obesity in childhood tracks into adulthood <sup>(3)</sup>, and indeed Maltese adults are also among the most overweight within the WHO European region <sup>(1,4)</sup>. According to a recent nationally representative study using measured data, 36% of adults are overweight and another 34% are obese <sup>(5)</sup>. With obesity having been estimated to cost the Maltese economy around €36 million in 2016 <sup>(6)</sup>, urgent action is needed to address underlying obesity-related behaviours from an early age.

##### Target population

The target population for this intervention are children aged 3-4 years who attend participating Kindergarten One (KG1) classes in church and independent schools across Malta and Gozo. Children in state schools will not be targeted, since these already have an intervention programme targeting lifestyle behaviours in place. All KG 1 classes in church and independent schools are eligible for participation in the Toybox Programme. Students attending the KG 1 class(es) in an eligible school will be enrolled in the programme, subject to the head of school's agreement and parental consent.

##### General purpose of the intervention

The **ToyBox - Taste and move adventures** project is an evidence-based, multicomponent, intervention primarily involving the kindergarten setting. The programme targets four energy-balance related behaviours (EBRBs) among 3-4-year-old preschool children and their families that contribute to early childhood obesity i.e. drinking, eating and snacking, physical activity and sedentary behaviour and their determinants, with the aim of promoting water consumption and healthy snacking, increasing physical activity and reducing sedentary behaviour, both within and outside of the school. Teachers will be regarded as key role models throughout the project, and will be asked to facilitate a health-promoting environment during school hours. Parents will also be included in the intervention through newsletters sent with their children, and will be encouraged to create a home environment that facilitates these behaviours.

##### Topic identification: central features/elements

Children spend a large proportion of their time at school, hence schools are key micro-environments that influence EBRBs. If the school environment is obesogenic, then interventions aimed purely at influencing children's individual behaviour without taking measures to improve their surrounding environment are likely to be ineffectual.

The programme focuses on four levels to improve EBRBs:

1. Setting environmental changes in the classroom, to allow more active movement, increased water consumption and healthy snacking (Level 1)

2. Children implementing the actual behaviour (water consumption, healthy snacking, physical activity and interruption of sedentary time) in class (Level 2)
3. Teachers implementing fun classroom activities (e.g. stories with the use of puppets, experiments, games, etc) with the active participation of the whole class (Level 3)
4. Actively involving parents to apply environmental changes and implement these lifestyle behaviours together with their children at home (Level 4).

Educators will receive the toolkit covering topics related to a healthy lifestyle, including healthy eating and snacking, water consumption, healthy food for healthy teeth, self-expression and physical exercise.

### Available Knowledge

Local research into lifestyle behaviours that contribute to excess weight is limited. Generally low levels of physical activity (PA) and a preference for food high in fat, sugar and salt (HFSS food) among children are observed. A nationally representative study on Maltese boys and girls aged 10-11 years which objectively assessed PA levels showed that only 39% of boys and 10% of girls met the recommendation of one hour of daily moderate-to-vigorous PA; most children spent large amounts of time engaged in screen time<sup>(7)</sup>. Malta's participation in all rounds of the Childhood Obesity Surveillance Initiative (COSI) suggests that children as young as six to seven years of age are also physically inactive<sup>(8)</sup>. Furthermore, levels of physical activity continue to decrease as children enter adolescence, with only 9% and 16% of 15 year old girls and boys respectively reporting at least one hour of moderate-to-vigorous PA (MVPA) daily<sup>(9)</sup>. This in turn was a sharp decrease from PA levels of 11 year old children (21% and 28% of 11 year-old girls and boys achieving one hour of daily MVPA respectively)<sup>(9)</sup>. Trend data suggests that the situation among older secondary schoolchildren is deteriorating over time, as the previous (2010) round of the HBSC survey showed that 13% of 15 year old girls and 19% of 15 year old boys achieved the daily MVPA target<sup>(10)</sup>.

Limited knowledge of Maltese children's dietary behaviour derives from successive rounds of self-reported Health Behaviour in School Aged Children (HBSC) data, which presents information on a few key dietary indicators including breakfast, fruit and vegetable, and soft drink consumption among secondary school-aged children. Overall, the dietary patterns of secondary school-aged children are a cause for concern. 2014 data showed that fruit consumption is similar to the HBSC average whereas vegetable consumption among Maltese children is lower than the mean for other HBSC countries<sup>(9)</sup>. Soft drink consumption remains high, with Maltese children leading the country rankings in terms of self-reported consumption as of 2014<sup>(9)</sup>: 39% and 34% of 11-year-old boys and girls respectively consume soft drinks daily; similarly, 37% and 39% of 15-year-old boys and girls do so<sup>(9)</sup>. A 2014 study conducted amongst adolescents in secondary schools indicated that packed school lunches tend to consist of bread with ham, cheese and/or butter fillings, and that the food typically bought by schoolchildren (particularly boys) from tuck shops is often high in salt, sugar and fats<sup>(11)</sup>. A large scale survey of food preferences among a sample of 1,088 seven to eight year-old children showed that foods rich in carbohydrates were the preferred foods for almost two thirds of respondents, with pasta and pizza being particularly popular. Red meat and meat products were the preferred foods of almost a third of respondents. Soft drink intake levels were similar to those seen in older children with 50% of respondents reporting daily consumption. Chips were also popular food items<sup>(12)</sup>.

It is clear that unhealthy dietary behaviour and inadequate levels of physical activity combined with prolonged sedentariness of Maltese children seem to be forming at a young age and risk being maintained throughout the life course, thereby contributing to the obesity epidemic in Malta.

## Rationale

The ToyBox intervention was implemented during the academic year 2012–2013 in six European countries: Belgium, Bulgaria, Germany, Greece, Poland and Spain. Standardized protocols, methods, tools and material were used in all countries for the implementation of the intervention, as well as for the process, impact, outcome evaluation and the assessment of its cost-effectiveness. A total sample of 7,056 preschool children and their parents or caregivers, stratified by socioeconomic level, provided data during baseline measurements and participated in the intervention. Development of the intervention was based on the outcomes of the preliminary phase of the ToyBox-study, which conducted systematic and narrative reviews, secondary data analyses, focus group research and societal assessment to guide the development of the intervention material and the tools for the outcome, impact, process and cost effectiveness evaluations. This first phase also identified young children's key behaviours and their determinants related to early childhood obesity, and behavioural models which could be employed to address these behaviours <sup>(13)</sup>.

A combined framework of PRECEDE-PROCEED Model and Intervention Mapping was followed to develop the intervention in a step-wise fashion. The first steps of this framework suggest a thorough assessment of the problem (obesity in early childhood); children's EBRBs; determinants of these behaviours (such as children's preferences; parental and teachers' behaviours, beliefs and attitudes, accessibility or rules); and educational strategies and contextual factors (such as school system, existing health promotion activities, etc.)<sup>(14)</sup>.

The results of the ToyBox-study are expected to provide a better insight on behaviours associated with early childhood obesity and their determinants and identify effective strategies for its prevention. The aim of the current paper is to describe the design of the ToyBox-intervention and present the characteristics of the study sample as assessed at baseline, prior to the implementation of the intervention <sup>(13)</sup>.

## Specific aims

Early childhood is a critical period for addressing obesity prevention since EBRBs, psychological traits and physiological processes are largely formed and adopted at this age. As preschool children are still open for imprinting experiences, this age constitutes an optimal time point to intervene and sustainably influence EBRBs, thus setting the course for a healthy lifestyle. Toybox assists the teachers and parents to create a supportive physical environment at kindergarten & home respectively to promote the 4 targeted behaviours.

**Main objective of the research:** To promote healthy lifestyles in 3-4-year-old children who attend kindergarten one (KG1) through targeting four EBRBs. The programme is expected to increase physical activity levels, reduce sedentary behaviour, increase water consumption, and improve dietary behaviour.

**Secondary objectives of the research (if applicable):** To assess and evaluate the implementation of the ToyBox programme in Malta and assess the feasibility of its implementation on a national scale.

## Methods

### Context

Contextual elements considered important for implementation of Toybox in Malta include:



- General societal lack of awareness of what constitutes healthy eating among the general public, but particularly among grandparents. The latter play a disproportionately important role in child-rearing, yet are not as aware as parents of the need for a healthy lifestyle, or as willing to be positive role models for healthy behaviour. Since newsletters will only be sent to parents, there is the possibility of grandparents not being aware of the project goals. Grandparents and child-carers need to be empowered and on-board for a successful implementation
- Very limited opportunities for children to safely engage in outdoor play or outdoor activities, both within schools and in their neighbourhoods. Classrooms are generally small, with a lack of physical space for active play and additional furniture (e.g. water stations)
- General lack of cooperation and engagement in school activities by parents in a context where there is an over-saturation of activities.
- Resistance among teachers and parents regarding the creation of an 'excessively regulated' school environment, and lack of willingness to act as role models. Implementation of healthy environments may vary depending on the teachers' willingness and enthusiasm
- Concern around cognitive development and corresponding difficulty for children to understand the key concepts being addressed
- Hygiene concerns, particularly related to snacking. Also concerns around allergies and exposure to allergens during the snacking
- Lack of human resources to provide appropriate supervision for children with special needs
- Healthy food is expensive to purchase

On a positive note, there was considerable interest in the project among Kindergarten teachers and heads of school, in part due to increasing awareness of the obesity epidemic in Malta and the recent introduction of healthy policies and legislation aimed at improving the overall school food environment.

## Intervention

Ethical approval was sought and obtained for the study from the Health Ethics Research Committee at the University of Malta. Intervention in participating schools will be carried out after obtaining written permission from each Head of School. A total of 13 Church schools (19 classes, 251 eligible students) and 15 independent schools (43 classes, 740 eligible students) agreed to participate in the study.

Consent forms were distributed by researchers during parents' meetings at the beginning of the scholastic year, and signed on the spot or returned by children once they started school.

The project will be implemented over 24 weeks, with each behaviour (i.e. healthy snacking, increasing physical activity, reduction in sedentary behaviour and promoting water consumption) being targeted sequentially over a 4-week period. The cycle is then repeated, with each behaviour being focused upon for a 2-week period. The classroom environment will be reshaped at the beginning of the scholastic year to encourage active movement during lessons, establish a water-station and an area for a 'Magic Snack Plate', and reduce sitting times. Teachers will be given guidelines and a Teacher's Manual to follow, however they are free to alter the programme as they deem fit. Teachers are also given hand puppet (Kangaroo) to use for storytelling, and manuals with suggestions for activities, games, etc for each EBRB

In order to promote parental involvement and interest in the project, nine newsletters, eight tip-cards and four posters will be delivered to parents throughout the year. Anthropometric measurements of the children (height, weight and waist circumference) will be taken by the researchers (see below). Children's

participation in the classroom activities is not subject to parental consent, as these are class activities led by the teacher.

### **LIWG participants**

The Local Implementation Working Group responsible for development and implementation of the Toybox project in Malta is composed of 8 people:

- Director HPDP – development
- Nutritionist – development, logistics, training, data collection
- Physical Activity Officer – development, logistics, training, data collection
- Practice Nurse – development, training, data collection
- Public Health specialist – development, training, data collection
- Executive Officer- logistics, data collection
- Assistant Principal– logistics, data collection
- Administrative Assistant – logistics, data collection

### **Areas of improvement and change package of the collaborative methodology**

The collaborative methodology approach requires consultation with stakeholders who would ultimately be involved in the project during the development stage (e.g. teachers, heads of schools). Two meetings with heads of participating independent/church schools and Kindergarten 1 teachers, were held prior to the start of the scholastic year to obtain feedback on the proposed/draft pilot action plan, with the intention of amending the plan as necessary.

Some areas of improvement that emerged from these meetings included a need to:

- identify person who would be responsible for liaising with the LIWG in each school (e.g. head or assistant head of school, person responsible for kindergarten, individual teachers etc)
- adhere to planned timelines as much as possible, in order to allow schools to plan around data collection needs and allow the LIWG to use school events as opportunities to address parents and promote the project (e.g. meeting parents during the beginning of term’s meeting between head of school and parents)
- obtain consent. This was stressed by all participants. Initially, the LIWG planned to use ‘negative’ consent, where consent to participate (i.e. take anthropometric measurements) was assumed unless specific items on the consent form were marked. Following concern about this expressed during the meeting, this approach was revised, and a more typical consent form where parents/caregivers were asked to consent to each anthropometric measurement was used.
- include grandparents as potential targets for intervention,
- organize and promote joint activities (e.g. Water Day to encourage water consumption; “Coconut Week” (or other fruit week) where snacks having a focus on coconut (or other fruit) are prepared) across schools and classes
- include Toybox as a central component of the curriculum with pre-defined learning outcomes measured on a regular basis by teachers
- send teachers soft copies of the manuals. These may be distributed to non-participating teachers and other classes who might be interested in following the Toybox guidelines
- inform teachers and heads of school regarding progress achieved at the end of the scholastic year.

- distribute separate consent forms for those KG1 classes which have been included in the sub-sample of classes where pedometers will be distributed.

## Study of the intervention

A quantitative approach to study evaluation will be undertaken, supplemented by informal (solicited) qualitative feedback obtained from heads of schools, teachers and parents throughout the year. Heads of schools will be contacted on a regular basis to proactively identify and resolve any issues and obtain ongoing feedback which, if pertinent, can be disseminated to other heads of schools. Anthropometric data will be collected from children whose parents have consented, and two sets of questionnaires administered to caregivers/parents (i.e. a Food Frequency Questionnaire assessing dietary patterns of the child's intake over the previous 12 months, and a questionnaire aimed at exploring health behaviour, food environment and opportunities for physical activity environment in the home, and socioeconomic background).

## Measures

The process, impact, outcome and cost-effectiveness of the ToyBox-intervention will be assessed via questionnaires given to both the teachers and the parents. Children's anthropometric characteristics (height, weight and waist circumference) and physical activity levels will be taken at baseline (month 0; November 2018) and at the end of the scholastic year (month 8; June 2019). If possible, measurements will also be taken 12 months after the end of the intervention (i.e. June 2020) in order to assess medium-term outcomes of the study.

### Children

Waist circumference, weight and height were selected because they are relatively easy to assess and minimally invasive. A standard protocol will be adopted for measurement of these data using standardized electric weighing scales and portable stadiometers, and training in their use provided to team members to minimise systematic bias. Children attending a sub-set of KG1 classes will also be loaned pedometers to wear for one week, in order to assess the number of steps taken per day as a proxy for physical activity levels. In addition, a dental assessment and examination will also be carried out for all children.

In May/June 2019, anthropometric measurements will be repeated and daily steps counted again using pedometers. Changes in age adjusted BMI z-scores and daily steps will be calculated and statistical testing carried out to determine significance of any change. The impact of Toybox on the primary quantifiable outcome, namely BMI status adjusted for age and daily number of steps taken, will be assessed.

### Parents

Parents and caregivers will be asked to complete a questionnaire which explores sociodemographic background and health behaviours in the home. The questionnaire will be administered in November 2018 to collect baseline information, and again in June 2019 during the last phase of the project to attempt to determine whether there were any changes arising from the project.

## Teachers

Feedback from teachers involved in the study will be requested throughout the scholastic year on a bi-monthly basis through a short questionnaire. Feedback on issues encountered, suggestions, and updates on progress will be solicited.

## Chronogram

Implementation of the Toybox project will commence in August 2018 with training of Kindergarten 1 teachers, and last until July 2019 when the second round of questionnaires administered to parents will be collected.

A Gantt chart outlining expected timeline for key aspects of the research is provided.

## References

1. World Health Organization Regional Office for Europe (2018) *European health report 2018: More than numbers - evidence for all (2018)*. World Health Organization.
2. Grech V, Aquilina S, Camilleri E, et al. (2016) The Malta Childhood National Body Mass Index Study – A Population Study. *J. Pediatr. Gastroenterol. Nutr.*, 1.
3. Lake JK, Power C & Cole TJ (1997) Child to adult body mass index in the 1958 British birth cohort: associations with parental obesity. *Arch. Dis. Child.* **77**, 376–81.
4. Verschuuren M, Fietje N, Greenwell F, et al. (2015) *The European Health Report 2015: Targets and beyond – reaching new frontiers in evidence*. Copenhagen: UN City: .
5. Cuschieri S, Vassallo J, Calleja N, et al. (2016) Prevalence of obesity in Malta. *Obes. Sci. Pract.*
6. PricewaterhouseCoopers Malta (2017) *Weighing the Costs of Obesity in Malta*. .
7. Decelis A, Jago R & Fox KR (2014) Physical activity, screen time and obesity status in a nationally representative sample of Maltese youth with international comparisons. *BMC Public Health* **14**, 2014/06/30, 664.
8. Wijnhoven TMA, van Raaij JMA, Sjöberg A, et al. (2014) WHO European Childhood Obesity Surveillance Initiative: School nutrition environment and body mass index in primary schools. *Int. J. Environ. Res. Public Health* **11**, 11261–85. Multidisciplinary Digital Publishing Institute.
9. Inchley J, Currie D, Young T, et al. (2016) *Growing up unequal: gender and socioeconomic differences in young people's health and well-being. (HBSC study: International Report from the 2013/2014 Survey)*. UN City, Copenhagen: .
10. Health Promotion and Disease Prevention Directorate (2012) *Highlights from the study on Health Behaviour in School Children (HBSC) 2010*. Msida: Health Promotion and Disease Prevention Directorate.
11. Sammut C & Sammut R (2014) The Eating Habits of Boys ' in Secondary Schools : A Focus on Packed Lunches. *BEd Diss. Univ. Malta*. University of Malta.
12. Piscopo S (2004) Socio-ecological factors influencing food choices and behaviours of Maltese Primary Schoolchildren. *PhD Diss. Univ. Birmingham*.
13. Manios Y, Androutsos O, Katsarou C, et al. (2014) Designing and implementing a kindergarten-based, family-involved intervention to prevent obesity in early childhood: the ToyBox-study. *Obes. Rev.* **15**, 5–13.
14. Manios Y (2012) The 'ToyBox-study' obesity prevention programme in early childhood: an

introduction. *Obes. Rev.* **13**, 1–2.

**F. Multimodal training intervention for 65+ in Klaipeda District, Lithuania – Pilot Action Plan**

<p>1. Problem Description</p>	<ul style="list-style-type: none"> <li>• Nature and significance of the local problem</li> </ul> <p>In Klaipeda District municipality lives 8500 people older than 65 years (15.2% of the population). According to the results of the study on the lifestyle of the adult population in Klaipeda District Municipality done by Klaipeda District Municipal Public Health Bureau, from 2007 to 2018, 60 and older persons who have been engaged in energetic physical activity for at least 30 minutes and 4-6 times a week to accelerate the respiration and pulse, increased to 60.3 from 5.6% (p &lt;0.05). Daily for at least 30 minutes is engaged in energetic physical activity - in 2007 16.7% and 22.4% in 2018. Just 31.3 % of the population 60 year and older assess their as health good and 47% (35% in 2007) rate their quality of life as well or very well.</p> <p>Municipality from 2013 and 2015 have a goal approved by Municipal Council “To increase physical activity of population”. There are 57 different sport clubs and they advocate 23 different sports and have 1500 members, it is just 2 percent of population. For all population there is more and more outdoor places for sport and physical activity, <i>but still missing in municipality multimodal training programs for target groups, especially with focus on the health promotion of older age groups. By intervention will be solved the problem – still low physical activity level of old age group population and low self-evaluated quality of life of target group. Will be piloted multimodal training program in rural and urban area.</i></p>
<p>2. Available knowledge</p>	<ul style="list-style-type: none"> <li>• Summary of what is currently known about the problem, including relevant previous studies</li> </ul> <p>Research has demonstrated that the worldwide population is aging. It has also confirmed that physical activity (PA) can play a meaningful role in decreasing impairment characteristics of old age. Adopting a healthier and more active lifestyle that includes aerobic and resistance exercises has been demonstrated to reform cardiovascular, respiratory, and musculoskeletal parameters in older adults. Recent review articles have also concluded that there is strong evidence for the positive effects of exercise training on physical fitness, functional performance, activity of daily living and quality of life, even in frail older individuals.</p> <p>Available data about people’s daily activity indicate that about 30% of the world’s population is not meeting the minimum recommendation for PA, and in 2009, the global prevalence of inactivity was estimated at 17%. Despite promising positive trends in leisure-time PA in many countries, incidental PA patterns and activity connected to transportation or labour, the prevalence of PA is decreasing.</p> <p>Despite it being known that PA leads to positive results, inactivity among populations is still increasing. Research has established that 6–10% of all</p>

	<p>deaths from non-communicable diseases worldwide can be attributed to physical inactivity. This percentage is even higher for specific diseases, such as ischaemic heart disease, being about 30%. In 2007, about 5.5 million deaths globally from non-communicable diseases could theoretically have been prevented if people who were inactive had instead been sufficiently active. Despite greater knowledge of training methods that result in better physical health for all age groups, inactivity has increased, and the issue is described as a pandemic, with far-reaching health, economic, environmental, and social consequences.</p> <p>In a relatively new statement from aging and health authorities in the United States, the National Report Card for the State of Aging and Health in America, 15 key indicators related to the health of adults aged 65 and older are defined. However, key indicators for health risk behaviour for older adults are lack of activity, eating fewer than five portions of fruit and vegetables per day, obesity, and current smoking. Results from a recently published study showed that 33% of older adults engaged in no leisure time activity, 73% were eating fewer than five portions of fruit and vegetables daily, 24% were obese, and 8% were currently smoking. This underlines the importance of establishing specific health intervention efforts in communities in different countries to address preventable health risks among older adults and at the same time encourage systematic PA and preferable nutrition among older adults (<i>information from abstract</i>).</p>
<p>3. Rationale</p>	<ul style="list-style-type: none"> <li>• Informal or formal frameworks, models, concepts, and/or theories used to explain the problem, any reasons or assumptions that were used to develop the intervention(s), and reasons why the intervention(s) was expected to work</li> </ul> <p><i>Information from intervention description (Abstract):</i></p> <p>The aim of the health promotion project is to examine the effects of a four 6-month multimodal training intervention (6-MTI) and nutrition and health counselling on different variables, such as functional performance, strength, endurance, body composition and metabolic risk factors. Furthermore, the aim is to investigate the effects on the different sexes and to see whether they were different between older males and females. Finally, the aim is to evaluate whether the applied 6-MTI design and methodology can form a sustainable strategy for developing and maintaining the health of older age groups according to international recommendations. The aim is also to evaluate the results every 6 months and how capable the participants will be working at their own health promotion with less and less help in each step.</p> <p>Methods</p> <p>The total time period is estimated in four 6-month periods. This health promotion project is a random sample, where everyone can participate while spaces is available.</p> <p>The trial is conducted in four 6-month phases after the baseline assessment. The intervention group in their first step of 6-MTI will have three workouts per week under the guidance of professional health instructors. Other</p>

	<p>exercises are self-evident, as they follow a focused program based on daily exercise training (especially walking) and strength training twice a week. In the second 6-MTI step the workout per week under the guidance of health instructors will decrease, from three to two times each week and in the third 6-month step it will down to one under the guidance of a health instructor. The fourth and last step is based on sustainability as a dominant factor and digital approach. Nevertheless, the participants will receive a step-by-step plan based on a targeted structure, with the same exercise frequency as before, and the training volume will be increased carefully, step by step. The training intensity will also increase carefully, step by step, but based on the ability of each individual.</p> <p>After the second 6-MTI step, the baseline measurements will be repeated and it will continue at the end of every 6-month cycle. At the end of the fourth 6-MTI the health-promotion project will be formally closed. The possibility of calling the relevant participants for measurements is still available.</p> <p>The intervention will contain four steps of a 6-month multimodal training which has been described and is showed in figure 1. The emphasis is on daily endurance training (ET) and twice-a-week resistance training (RT). This will be supported by two lectures on nutrition and four on health-related topics in the first 6-month step. More lectures, related to health and well-being, will follow in the next three steps. The ET will contain daily walking throughout the intervention phase, and the average duration per day will be estimated at around 30 minutes over the whole period. The RT will take place twice-a-week in a fitness centre, will be individualized and contain 12 exercises for all major muscle groups.</p>
<p>4. Specific aims</p>	<ul style="list-style-type: none"> <li>• Purpose of the project and of this report To improve and maintain health of old age adults through regular movement in Klaipeda District Municipality</li> </ul> <p><i>Objectives</i></p> <ul style="list-style-type: none"> <li>• To implement multimodal intervention program (6-MTI) 65+ in Klaipeda District Municipality</li> <li>• To translate the measurements collecting instruments and instruments for individual oriented program in Lithuanian:</li> <li>• To prepare and implement social media for informing target group about intervention.</li> <li>• To negotiate for budget for measurements (blood test) from Local Public Health Program.</li> <li>• To do regularly health survey and measurements every 6 months</li> <li>• To increase participants sustainability and teach and train with health instructor.</li> <li>• To support training with lectures and to discuss individually with participant on social support needed</li> <li>• To evaluate the intervention.</li> </ul>
<p>Methods</p>	<p>What did you do?</p>
<p>5. Context</p>	<p>Contextual elements considered important at the outset of introducing the intervention(s)</p>

	<ol style="list-style-type: none"> <li>1. Creating environment for intervention</li> <li>2. Translation and use of the health surveys instruments, implementation instruments for individual oriented training</li> <li>3. Measuring and selecting participants for intervention, evaluating changes every 6 months</li> <li>4. Implementation of target expert training up to 3 times per week for max 175 participants (2 groups in rural area)</li> <li>5. Lectures about healthy aging and nutrition and social support</li> <li>6. Improving cooperation and indoor facilities for ensuring intervention sustainability and dissemination of results</li> </ol>
<p>6. Intervention(s)</p>	<ul style="list-style-type: none"> <li>• Description of the intervention(s) in sufficient detail that others could reproduce it. Old age (65+) inhabitants of the municipality with the possibility to participate for younger 60+.</li> </ul> <p>Improvement area I. Instruments. Measurements check list, Daily physical activity survey, Endurance performance test and Quality of life tests, agreement and contract form for participant translation. 1 meeting with Third Age University community. 10 meetings with NGO Community Heads and Health Ambassadors network members. Preparation of presentation for Community Health Board for negotiation for budget. Selecting primary Health Care for blood tests Place and time selection for participants (stakeholders from sport and culture or education sector). Involvement of additional staff for measurements and data analysis. Doing 2<sup>nd</sup> measurement, 3<sup>rd</sup> measurement, 4<sup>th</sup> measurement, 5<sup>th</sup> measurement of participants. First 6 months physical activity program: Endurance: 1 daily walking day and twice-a-week resistance training. Homework sheets. 7<sup>th</sup> – 12<sup>th</sup> month increasing sustainability participants and teaching and training with health instructor 2x a week. Homework sheets. 13<sup>th</sup> to 18<sup>th</sup> month increasing sustainability participants and teaching and training with health instructor 1 x a week. Homework sheets. 19<sup>th</sup> to 24<sup>th</sup> month individual training (sustainable) and follow up of health instructor. Homework sheets. Organize 6 lectures every 6 month 2 on nutrition and 4 on healthy aging, endurance and motivation to train and goal setting. Initiation of support from social or health sector Prepare written negotiation letter for Municipality about intervention Dissemination of success stories and population-based results of the intervention Preparation of reports and articles for publishing in local news medias Evaluation (process and results) of intervention.</p> <ul style="list-style-type: none"> <li>• Specifics of the team involved in the work</li> </ul>



	<p>Local stakeholders involved into implementation of intervention are from sport, health, culture, education, nongovernmental and governmental sector.</p> <p>LIWG</p> <p>Organizer: the main organizer to plan, prepare chair and run the group is Klaipeda District Municipality Public Health Bureau (PHB) municipal budget institution responsible for public health) – head of institution. From institution running the secretariat. Writing reports and also implementation-direct work with target group is responsible from institution - public health specialist. Also, PHB provides strategic vision for decision makers, also as decision maker to eliminate bottlenecks during the implementation process.</p> <p>Decision makers in LIWG are from governmental sector in LIWG involved Municipal administration with dedicated role to participate in the intervention implementation process to Klaipeda District Municipality Administration Health Division. From division responsible persons are Head of division (Division is responsible for coordinating Health (public health and personal health care, community and sport areas). She is responsible for arraignment support and sponsorship of the implementation process And Civil servant responsible for sport is responsible for preparation of documents.</p> <p>Also into the Decision making involved Community Health Board (it is near the Municipal Council group of people created from NGO, communities, municipal institutions and advising for politicians). LWIG ask the advice, agreements and support for intervention and informs about changes.</p> <p>Implementers are PHB specialist for physical activity and from sport sector in LIWG works Head of Sport Centre (1 person). His role to create conditions for implementation. PHB specialist is implement the intervention following the agreed plan, continuously asses the implementation plan and involves other stakeholders from Education sector - Education centre (1 person) (responsible for additional education of target group), 1 person from Endriejavas Church responsible for communication with target group from rural area.</p>
<p>7. Study of the Intervention(s)</p>	<ul style="list-style-type: none"> <li>• Approach chosen for assessing the impact of the intervention(s) (quantitative or qualitative analysis)</li> <li>• Approach used to establish whether the observed outcomes were due to the intervention(s)</li> </ul> <p>Information from Abstract.</p> <p>The measurements will be performed at five time-points, at baseline and then additionally four at the end of each 6-month period. The primary measurements are: daily activity assessed with a standardized questionnaire and body mass index (BMI) will be calculated as body mass (kg) divided by height squared (m2) and blood pressure and heart rate rest will be measured. Physical performance will be measured with the SPPB-test and mobility and balance will be measured by the 8-foot up-and-go test. Hand grip strength test will be measured as Chair stand test (in 30 sec), Arm curl test (in 30 sec), Chair sit-and-reach test and Back scratch test.</p>

	<p>Endurance performance will be measured using the 6-minute walk test (6MW) and quality of life will be measured with standardized questionnaire; EQ-5D and GDS-Scale. Whole-body composition will be measured using InBody software. Blood analysis will be done at the local hospital using standard protocols if funding for such research is available. A questionnaire about drug use and health of the participants will also be proposed.</p>
<p>8. Measures</p>	<ul style="list-style-type: none"> <li>• Measures chosen for studying processes and outcomes of the intervention(s), including rationale for choosing them, their operational definitions, and their validity and reliability</li> </ul> <p>Process indicators of intervention – participants started the program, following program after 1 month, 3 month, 6 month, 12, 18 and 24 months. Their participants average in trainings.</p> <p>Outcomes:</p> <ol style="list-style-type: none"> <li>1. Daily activity change of participants</li> <li>2. Strength change</li> <li>3. Blood pressure changes</li> <li>4. Body Mass index changes, Metabolic Syndrome changes.</li> <li>5. 6 min walking test changes</li> <li>6. Quality of life</li> </ol> <ul style="list-style-type: none"> <li>• Key Performance Indicator of the Collaborative methodology</li> </ul> <ol style="list-style-type: none"> <li>1. 5 translated instruments and 2 contracts and agreements. 2 individual performance list translated.</li> <li>2. Contract with Municipality and PHC centre for tests (1 measurements of 175 participants).</li> <li>3. 175 participants selected into intervention till 31<sup>st</sup> December – 2 groups in rural area and other in city Gargzdai. 1<sup>st</sup> data analysis will be done and 1 report (till 29<sup>th</sup> February)</li> <li>4. From 8 till 11 groups will be created – depending on facility possibilities)</li> <li>5. 5 measurements done for evaluating changes, 4 middle short reports and 1 final report. 1 publication.</li> <li>6. 5 groups from 40 to 43 participants started trainings and doing homework (till 31<sup>st</sup> December – 1<sup>st</sup> group of 40 participants, 2 groups – about 20 participants in rural area)</li> <li>7. 24 lectures organized.</li> <li>8. Organized support from municipality if needed.</li> <li>9. Additional equipment bought for Sport centre and budget for blood test approved for 2019 and 2020</li> <li>10. Stakeholders, decision makers and community informed about intervention - 3 presentations of reports.</li> </ol>
<p>9. Chronogram</p>	<ul style="list-style-type: none"> <li>• Expected timing of the activities of the Change package, scheduling the start and end month</li> </ul> <ol style="list-style-type: none"> <li>1. <i>Start – October 2018, End – November 2018.</i> Improvement area I. Instruments. Measurements check list, Daily physical activity survey, Endurance performance test and Quality of life tests, agreement and contract form for participant translation.</li> </ol>

	<ol style="list-style-type: none"> <li>2. <i>Start – October 2018, End – December 2018.</i> 1 meeting with Third Age University community. 10 meetings with NGO Community Heads and Health Ambassadors network members.</li> <li>3. <i>Start – October 2018, End – December 2018.</i> Preparation of presentation for Community Health Board for negotiation for budget.</li> <li>4. <i>Start – October 2018, End – November 2018.</i> Selecting primary Health Care for blood tests</li> <li>5. <i>Start – October 2018, End – December 2018. – 1<sup>st</sup> measurements</i> Place and time selection for participants (stakeholders from sport and culture or education sector). Involvement of additional staff for measurements and data analysis.</li> <li>6. <i>Start – April 2019, End – May 2019.</i> Doing 2<sup>nd</sup> measurement,</li> <li>7. <i>Start – October 2019, End – November 2019.</i> 3<sup>rd</sup> measurement,</li> <li>8. <i>Start – April 2020, End – May 2020.</i> 4<sup>th</sup> measurement, 5<sup>th</sup> measurement of participants will be done after the project as continuity.</li> <li>9. <i>Start – November 2018, End – April 2019</i> First 6 months physical activity program: Endurance: 1 daily walking day and twice-a-week resistance training. Homework sheets.</li> <li>10. <i>Start – May 2018, End – October 2019</i> 7<sup>th</sup> – 12<sup>th</sup> month increasing sustainability participants and teaching and training with health instructor 2x a week. Homework sheets.</li> <li>11. <i>Start – November 2019, End – April 2020</i> 13<sup>th</sup> to 18<sup>th</sup> month increasing sustainability participants and teaching and training with health instructor 1 x a week. Homework sheets.</li> <li>12. <i>Start – May 2020, End – November 2020</i> 19<sup>th</sup> to 24<sup>th</sup> month individual training (sustainable) and follow up of health instructor. Homework sheets.</li> <li>13. <i>Start – January 2018, End – November 2020</i> Organize 6 lectures every 6 month 2 on nutrition and 4 on healthy aging, endurance and motivation to train and goal setting.</li> <li>14. <i>Start – October 2018, End – January 2019</i> prepare written negotiation letter for Municipality about intervention</li> <li>15. <i>Start – December 2018, End – November 2020</i> Dissemination of success stories and population-based results of the intervention. Preparation of reports and articles for publishing in local news medias</li> <li>16. Every month – process indicators and every 6 months result indicators to evaluate.</li> </ol>
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**G. Multimodal training intervention for 65+ in Klaipeda City, Lithuania – Pilot Action Plan**

<b>Introduction</b>	
<b>1. Problem Description</b>	<p>Elderly people don't do enough daily physical activity.</p> <p>By intervention will be solved the problem – still low physical activity level of old age group population and low self-evaluated quality of life of target group. Will be piloted multimodal training program in Klaipeda city.</p> <p>To find out if the multi-component model of activities can be used to formulate a long-term strategy to maintain the health of older people in line with international recommendations.</p>
<b>2. Available knowledge</b>	<ul style="list-style-type: none"> <li>• Summary of what is currently known about the problem, including relevant previous studies</li> </ul> <p>Research has demonstrated that the worldwide population is aging. It has also confirmed that physical activity (PA) can play a meaningful role in decreasing impairment characteristics of old age. Adopting a healthier and more active lifestyle that includes aerobic and resistance exercises has been demonstrated to reform cardiovascular, respiratory, and musculoskeletal parameters in older adults. Recent review articles have also concluded that there is strong evidence for the positive effects of exercise training on physical fitness, functional performance, activity of daily living and quality of life, even in frail older individuals.</p> <p>Available data about people's daily activity indicate that about 30% of the world's population is not meeting the minimum recommendation for PA, and in 2009, the global prevalence of inactivity was estimated at 17%. Despite promising positive trends in leisure-time PA in many countries, incidental PA patterns and activity connected to transportation or labour, the prevalence of PA is decreasing.</p> <p>Despite it being known that PA leads to positive results, inactivity among populations is still increasing. Research has established that 6–10% of all deaths from non-communicable diseases worldwide can be attributed to physical inactivity. This percentage is even higher for specific diseases, such as ischaemic heart disease, being about 30%. In 2007, about 5.5 million deaths globally from non-communicable diseases could theoretically have been prevented if people who were inactive had instead been sufficiently active. Despite greater knowledge of training methods that result in better physical health for all age groups, inactivity has increased, and the issue is described as a pandemic, with far-reaching health, economic, environmental, and social consequences.</p> <p>In a relatively new statement from aging and health authorities in the United States, the National Report Card for the State of Aging and Health in America, 15 key indicators related to the health of adults aged 65 and older are defined. However, key indicators for health risk behaviour for older adults are lack of activity, eating fewer than five portions of fruit and vegetables per day, obesity, and current smoking. Results from a recently published study showed that 33% of older adults engaged in no leisure time activity, 73% were eating fewer than five portions of fruit and vegetables daily, 24% were obese, and 8% were currently smoking. This underlines the importance of establishing specific health intervention efforts in communities in different countries to address preventable health risks among older adults and at the same time encourage systematic PA and preferable nutrition among older adults (<i>information from Abstract</i>).</p>

<p>3. Rationale</p>	<ul style="list-style-type: none"> <li>Informal or formal frameworks, models, concepts, and/or theories used to explain the problem, any reasons or assumptions that were used to develop the intervention(s), and reasons why the intervention(s) was expected to work</li> </ul> <p><i>Information from intervention description (Abstract):</i></p> <p>The aim of the health promotion project is to examine the effects of a four 6-month multimodal training intervention (6-MTI) and nutrition and health counselling on different variables, such as functional performance, strength, endurance, body composition and metabolic risk factors. Furthermore, the aim is to investigate the effects on the different sexes and to see whether they were different between older males and females. Finally, the aim is to evaluate whether the applied 6-MTI design and methodology can form a sustainable strategy for developing and maintaining the health of older age groups according to international recommendations. The aim is also to evaluate the results every 6 months and how capable the participants will be working at their own health promotion with less and less help in each step.</p> <p><b>Methods</b></p> <p>The total time period is estimated in four 6-month periods. This health promotion project is a random sample, where everyone can participate while spaces is available.</p> <p>The trial is conducted in four 6-month phases after the baseline assessment. The intervention group in their first step of 6-MTI will have three workouts per week under the guidance of professional health instructors. Other exercises are self-evident, as they follow a focused program based on daily exercise training (especially walking) and strength training twice a week. In the second 6-MTI step the workout per week under the guidance of health instructors will decrease, from three to two times each week and in the third 6-month step it will down to one under the guidance of a health instructor. The fourth and last step is based on sustainability as a dominant factor and digital approach. Nevertheless, the participants will receive a step-by-step plan based on a targeted structure, with the same exercise frequency as before, and the training volume will be increased carefully, step by step. The training intensity will also increase carefully, step by step, but based on the ability of each individual.</p> <p>After the second 6-MTI step, the baseline measurements will be repeated and it will continue at the end of every 6-month cycle. At the end of the fourth 6-MTI the health-promotion project will be formally closed. The possibility of calling the relevant participants for measurements is still available.</p> <p>The intervention will contain four steps of a 6-month multimodal training which has been described and is showed in figure 1. The emphasis is on daily endurance training (ET) and twice-a-week resistance training (RT). This will be supported by two lectures on nutrition and four on health-related topics in the first 6-month step. More lectures, related to health and well-being, will follow in the next three steps. The ET will contain daily walking throughout the intervention phase, and the average duration per day will be estimated at</p>

	<p>around 30 minutes over the whole period. The RT will take place twice-a-week in a fitness centre, will be individualized and contain 12 exercises for all major muscle groups.</p>
<p>4. Specific aims</p>	<ul style="list-style-type: none"> <li>• Purpose of the project and of this report</li> <li>To improve and maintain health of old age adults through regular movement in Klaipeda city</li> </ul> <p><i>Objectives</i></p> <ul style="list-style-type: none"> <li>• To implement multimodal intervention program (6-MTI) 65+ in Klaipeda city</li> <li>• To translate the measurements collecting instruments and instruments for individual oriented program in Lithuanian:</li> <li>• To prepare and implement social media for informing target group about intervention.</li> <li>• To negotiate for budget for measurements (blood test) from Local Public Health Program.</li> <li>• To do regularly health survey and measurements every 6 months</li> <li>• To increase participants sustainability and teach and train with health instructor.</li> <li>• To support training with lectures and to discuss individually with participant on social support needed</li> </ul> <p>To evaluate the intervention.</p> <p>Evaluate the changes and their stability caused by multi-component exercises during months. It is possible to formulate a long-term strategy to maintain the health of older people into account international recommendations, through the adaptation of the multi-component exercise model. With the help of FA knowledge, participants are trained in the correct exercise strength exercises using simulators and other equipment.</p>
<p><b>Methods</b></p>	
<p>5. Context</p>	<p>Contextual elements considered important at the outset of introducing the intervention(s)</p> <ol style="list-style-type: none"> <li>7. Creating environment for intervention</li> <li>8. Translation and use of the health surveys instruments, implementation instruments for individual oriented training</li> <li>9. Measuring and selecting participants for intervention, evaluating changes every 6 months</li> <li>10. Implementation of target expert training up to 3 times per week for max 175 participants in Klaipeda city</li> <li>11. Lectures about healthy aging and nutrition and social support</li> </ol> <p>Improving cooperation and indoor facilities for ensuring intervention sustainability and dissemination of results</p>

<p>6. Intervention (s)</p>	<ul style="list-style-type: none"> <li>• Description of the intervention(s) in sufficient detail that others could reproduce it. Old age (65+) inhabitants of the municipality with the possibility to participate for younger 60+.</li> </ul> <p>Improvement area I. Instruments. Measurements check list, Daily physical activity survey, Endurance performance test and Quality of life tests, agreement and contract form for participant translation.</p> <p>1 meeting with Third Age University community. 10 meetings with NGO Community Heads and Health Ambassadors network members.</p> <p>Preparation of presentation for Community Health Board for negotiation for budget.</p> <p>Selecting primary Health Care for blood tests</p> <p>Place and time selection for participants (stakeholders from sport and culture or education sector). Involvement of additional staff for measurements and data analysis.</p> <p>Doing 2<sup>nd</sup> measurement, 3<sup>rd</sup> measurement, 4<sup>th</sup> measurement, 5<sup>th</sup> measurement of participants.</p> <p>First 6 months physical activity program:</p> <p>Endurance: 1 daily walking day and twice-a-week resistance training. Homework sheets.</p> <p>7<sup>th</sup> – 12<sup>th</sup> month increasing sustainability participants and teaching and training with health instructor 2x a week. Homework sheets.</p> <p>13<sup>th</sup> to 18<sup>th</sup> month increasing sustainability participants and teaching and training with health instructor 1 x a week. Homework sheets.</p> <p>19<sup>th</sup> to 24<sup>th</sup> month individual training (sustainable) and follow up of health instructor. Homework sheets.</p> <p>Organize 6 lectures every 6 month 2 on nutrition and 4 on healthy aging, endurance and motivation to train and goal setting.</p> <p>Initiation of support from social or health sector</p> <p>Dissemination of success stories and population-based results of the intervention</p> <p>Preparation of reports and articles for publishing in local news medias</p> <p>Evaluation (process and results) of intervention.</p> <ul style="list-style-type: none"> <li>• Specifics of the team involved in the work</li> </ul>

	<p>Local stakeholders involved into implementation of intervention are from sport, health, culture, education, nongovernmental and governmental sector.</p>
<p>7. Study of the Intervention (s)</p>	<ul style="list-style-type: none"> <li>• Approach chosen for assessing the impact of the intervention(s) (quantitative or qualitative analysis)</li> <li>• Approach used to establish whether the observed outcomes were due to the intervention(s)</li> </ul> <p>Information from Abstract.</p> <p>The measurements will be performed at five time-points, at baseline and then additionally four at the end of each 6-month period. The primary measurements are: daily activity assessed with a standardized questionnaire and body mass index (BMI) will be calculated as body mass (kg) divided by height squared (m<sup>2</sup>) and blood pressure and heart rate rest will be measured. Physical performance will be measured with the SPPB-test and mobility and balance will be measured by the 8-foot up-and-go test. Hand grip strength test will be measured as Chair stand test (in 30 sec), Arm curl test (in 30 sec), Chair sit-and-reach test and Back scratch test. Endurance performance will be measured using the 6-minute walk test (6MW) and quality of life will be measured with standardized questionnaire; EQ-5D and GDS-Scale.</p>
<p>8. Measures</p>	<p>Measures chosen for studying processes and outcomes of the intervention(s), including rationale for choosing them, their operational definitions, and their validity and reliability</p> <p>Process indicators of intervention – participants started the program, following program after 1 month, 3 month, 6 month, 12, 18 and 24 months. Their participants average in trainings.</p> <p>Outcomes:</p> <ol style="list-style-type: none"> <li>7. Daily activity change of participants</li> <li>8. Strength change</li> <li>9. Blood pressure changes</li> <li>10. Body Mass index changes, Metabolic Syndrome changes.</li> <li>11. 6 min walking test changes</li> <li>12. Quality of life</li> </ol>
<p>9. Chronogram</p>	<p>Every month – process indicators and every 6 months result indicators to evaluate.</p> <p><i>Start – December 2018, End – November 2020</i> Dissemination of success stories and population-based results of the intervention. Preparation of reports and articles for publishing in local news medias.</p> <p><i>Start – December 2018, End – November 2020.</i> Organize 6 lectures every 6 month 2 on nutrition and 4 on healthy aging, endurance and motivation to train and goal setting.</p>



	<p><i>Start – December 2018, End – February 2019. – 1<sup>st</sup> measurements.</i></p> <p>Place and time selection for participants (stakeholders from sport and culture or education sector). Involvement of additional staff for measurements and data analysis.</p> <p><i>Start – November 2018, End – December 2018.</i> 1 meeting with Third Age University community. 10 meetings with NGO Community Heads and Health Ambassadors network members.</p> <p><i>Start – October 2018, End – November 2018.</i> Improvement area I. Instruments. Measurements check list, Daily physical activity survey, Endurance performance test and Quality of life tests, agreement and contract form for participant translation.</p> <p>Expected timing of the activities of the Change package, scheduling the start and end month</p>
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H. Multi-Modal Intervention 65+ Zaragoza, Spain

### Plan de Acción Piloto de Utebo

Introducción	<i>¿Por qué empezamos?</i>
<p><b>1. Problema</b></p>	<p>Las personas mayores de nuestro entorno precisan actuaciones que fomenten la realización de ejercicio físico como uno de los principales elementos para promocionar su salud y prevenir las enfermedades crónicas.</p> <p>Según datos de la Encuesta Nacional de Salud de España (ENSE) 2017, el 28'9% de los hombres y el 38'8% de las mujeres de entre 65 y 74 años se declaran sedentarios en su tiempo libre. Además, en el grupo de edad de 75 a 84 años, estas cifras ascienden al 38'6% de los hombres y al 58'7% de las mujeres.</p> <p>No obstante, en estas cifras se aprecia una mejoría con respecto a los datos de la ENSE de 2012 en la que en el grupo de edad de 65 a 74 años, se declaraban sedentarios un 36% de los hombres y un 47'5% de las mujeres, cifras que ascienden a un 49'5% de los hombres y un 60'8% de las mujeres en el caso del grupo de edad de 75 a 84 años.</p> <p>Se observa un gradiente por clase social y nivel de ingresos económicos, siendo mayor el porcentaje de sedentarios cuanto más bajo es el indicador social.</p> <p>Aragón, región donde se circunscribe la implementación local de esta actividad, se encuentra en un nivel medio en cuanto al resto del estado disponiéndose de mediciones individuales de gasto energético total en las poblaciones de Cinco Villas y Zaragoza donde se describe su relación con el grado de discapacidad.</p> <p>Utebo tiene una población de 18.593 habitantes según el padrón de 2017. El 12.7% de las tarjetas sanitarias del municipio, pertenecen a personas de 65 o más años.</p>
<p><b>2. Conocimiento disponible</b></p>	<p>La evidencia científica nos muestra que la modificación de determinados hábitos de vida en mayores (ejercicio físico, tabaquismo, ingesta alcohol, dieta, controles en atención primaria, etc.), tienen un impacto positivo en la prevención de las enfermedades crónicas</p> <p>Es sabida la necesidad y relevancia de mantenerse haciendo ejercicio y la necesidad de mejora de hábitos de salud en población mayor.</p> <p>DOI: 10.3399/bjgp15X687361</p> <p>DOI: 10.1177/0163278713488117</p> <p>Es sabido que en programas de este tipo existe una alta pérdida de adherencia de los sujetos con el tiempo.</p>

	<p>DOI 10.1007/s12529-014-9438-y</p> <p>doi.org/10.1016/j.physio.2014.04.009</p> <p>doi.org/10.1016/j.jphys.2014.06.012</p> <p>Teniendo en cuenta este contexto y dada la necesidad de disponer de una intervención multidimensional sobre factores de riesgo compartidos, Gudlaugsson et al desarrollaron una intervención multimodal en Islandia <sup>1</sup>.</p> <p>Esta intervención, que resalta la importancia de la actividad física y la educación en hábitos de vida saludable, mostró eficacia a corto-medio plazo logrando retrasar dos años o más la pérdida funcional motora (fuerza, resistencia) ligada a la edad, para ambos sexos en todas las edades &gt;70 años. Dicha actividad, también logró mejorar los parámetros metabólicos y la estructura corporal de los participantes, con la consiguiente mejora en su calidad de vida.</p>
<p><b>3. Razón fundamental</b></p>	<p><b>Marco conceptual:</b> La población mayor suele tener grados de discapacidad que condicionan la inclusión en programas y ejecución de actividad física.</p> <p><b>Razones para desarrollar la intervención:</b> Tras el éxito de la experiencia islandesa, así reconocido en JA-CHRODIS, se planteó su escalado y adaptación a otros entornos europeos cuya diversidad de contextos puedan condicionar su aplicación útil, tales como: geografía, cultura y clima.</p> <p><b>Razones por las que se espera que la intervención funcione:</b></p> <ul style="list-style-type: none"> <li>-Existen experiencias investigadoras recientes del ISCIII con el Gobierno de Aragón que han establecido la relación entre actividad física y discapacidad mediante instrumentos validados (WHODAS, escala YALE de actividad física) en la Comarca aragonesa de Cinco Villas (Caron et al. BMC Geriatr.2017;17: 150).</li> <li>-Por cuestiones de logística se elige una Comarca lindante a Cinco Villas y en concreto la población de Utebo, con experiencia en implantación de programas de actividad física y cambio de hábitos.</li> <li>-Por estas razones se considera que la intervención ha de ser trasladable por este equipo teniendo experiencia previa en este contexto y localización (Utebo).</li> <li>-Ya que la Acción ha de ser trasladable, el Gobierno de Aragón actúa como organizador del LIWG a través de la Dirección de Transferencia del Conocimiento del Instituto Aragonés de Ciencias de la Salud (IACS), con experiencia en estos menesteres.</li> </ul>

<p><b>4. Objetivos</b></p>	<p>El <b>objetivo general</b> es comprobar la adaptabilidad de la práctica islandesa en Utebo, así como la reproductibilidad de sus resultados.</p> <p><b>Objetivos específicos:</b></p> <ul style="list-style-type: none"> <li>• Concienciar y modificar los hábitos de vida de la población de mayores de Utebo, con el fin de retrasar la pérdida de la función ligada a la edad y prevenir la fragilidad.</li> <li>• Implementar un programa de realización de ejercicio físico y educación sanitaria en nutrición y estilos de vida saludables.</li> <li>• Empoderar a la población objetivo para mejorar la autogestión de su salud.</li> <li>• Coordinar a distintas instituciones relacionadas con la salud para promover la prescripción de activos comunitarios en salud.</li> </ul>
<p><b>Métodos</b></p>	<p><i>¿Qué hemos hecho?</i></p>
<p><b>5. Contexto</b></p>	<p>El municipio de Utebo forma parte de la Red Española de Ciudades Saludables de la Federación Española de Municipios y Provincias y de la Estrategia de Promoción de la Salud. Destaca la implicación y proactividad en temas relacionados con la salud y el bienestar de sus ciudadanos del Ayuntamiento de Utebo, concretamente la Concejalía de Deportes y Obras Públicas y la Concejalía de Acción Social, Sanidad y Consumo.</p> <p>Su empeño se encuentra reforzado por instituciones superiores como el Instituto Aragonés de Ciencias de la Salud (IACS) y la Dirección de Atención Primaria del Servicio Aragonés de Salud.</p> <p>La atención comunitaria en Utebo figura entre las prioridades de su Departamento de Sanidad y ésta se desarrolla siguiendo la Estrategia de Atención Comunitaria en el Sistema de Salud de Aragón. El ejercicio físico es uno de los pilares de esta Estrategia. Así, en Utebo cuentan con experiencia en el fomento de la actividad física en mayores y disponen de estructuras diseñadas para ello.</p> <p>La concienciación de instituciones sanitarias y no sanitarias sobre la importancia de mejorar el bienestar de la población mayor en Utebo, es esencial para su éxito y mantenimiento en el tiempo.</p> <p>Además, la existencia previa a esta intervención de grupos de ejercicio físico en mayores, puede facilitar el efecto llamada y la formación voluntaria de otros nuevos. En definitiva, la existencia de una concienciación a nivel social de los beneficios del ejercicio físico y la adopción de hábitos de vida saludables, suponen un valor añadido al proyecto.</p>
<p><b>6. Intervenciones</b></p>	<p>La <b>población diana</b> de la intervención son las personas residentes en el municipio de Utebo, de 65 o más años de edad, con condiciones adecuadas (no institucionalizada, independiente para las actividades básicas de la vida diaria y de</p>

	<p>ambos sexos) para comenzar un programa de promoción del ejercicio físico y hábitos de vida saludable</p> <p>Del análisis DAFO realizado se encontraron tres áreas de mejora:</p> <ol style="list-style-type: none"> <li>1. En nuestro entorno existe una gran dependencia del Sistema Sanitario, por lo que el acto de cuidar de la salud está muy “medicalizado”. Por ello se ve necesario potenciar la autonomía y habilidades personales para el autocuidado y la interacción social como método para mantener y mejorar el nivel de salud en las personas mayores. Para ello, se va a crear un entorno favorable para la interacción social y la práctica del ejercicio físico. Además, se proporcionará formación adecuada a las personas mayores para incrementar sus conocimientos y habilidades con el fin de mejorar sus estilos de vida haciendo hincapié en la actividad física y los aspectos nutricionales.</li> </ol> <p>Las actividades que desarrollarán estos aspectos consisten en:</p> <ul style="list-style-type: none"> <li>• Establecer un sistema de captación de personas con las características expuestas. Se realizará en el ámbito de la Atención Primaria de Salud, que es la puerta de entrada al Sistema Sanitario universal implantado en España. Ello facilita, además, la recopilación de variables clínicas importantes para la valoración del estado de salud y la mejora que el desarrollo de las actividades previstas provoque.</li> <li>• Crear un grupo con visibilidad que atraiga y difunda el interés al resto de la población.</li> <li>• Implementar un programa de ejercicio físico progresivo con un doble componente de resistencia y de fuerza siguiendo la metodología establecida por Jannus Gudlaugsson en su programa en Islandia<sup>1</sup>: programa Actividad Física (AF) resistencia (30 min, 7 días semana, grupal) y potencia (2 veces semana, esta individualmente),</li> <li>• Desarrollar actividades formativas (nutrición/dieta)</li> <li>• Desarrollar actividades formativas (estilos de vida)</li> </ul> <ol style="list-style-type: none"> <li>2. Establecer un sistema operativo entre las instituciones participantes en la ejecución directa de la presente actividad (Centro de Salud de Atención Primaria y Servicios Deportivos Municipales). Ello requiere identificar las personas interlocutoras, el circuito y la información a intercambiar. Para ello será necesario compartir y complementar información entre profesionales de uno y otro perfil en cuanto a sus mutuas destrezas</li> </ol> <p>Para una sostenibilidad macro de la Acción, ha de incluir como actividades:</p> <ul style="list-style-type: none"> <li>• Establecer una colaboración entre instituciones con el fin de compartir recursos.</li> <li>• Crear un equipo multidisciplinar para el desarrollo de actividades conjuntas y coordinadas.</li> </ul>
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	<ul style="list-style-type: none"> <li>• Crear y actualizar un catálogo de activos comunitarios relacionados con la salud (cualquier factor o recurso que potencia la capacidad de individuos y comunidades y poblaciones para mantener la salud y el bienestar (Morgan y Ziglio, 2007). Estos recursos presentes en la comunidad pueden actuar a nivel individual, familiar y/o comunitario y tienen como denominador común la capacidad de fortalecer la habilidad de las personas o grupos para mantener o mejorar la salud física-psíquica y/o social y contrarrestar situaciones de estrés.)</li> <li>• Realizar sesiones con el fin de compartir información y destrezas complementarias.</li> </ul> <p>3. Existen en la comunidad recursos extra-sanitarios que pueden ayudar a cuidar la salud de la población (activos comunitarios para la salud)*. Para ello se ve necesario integrar la recomendación de activos comunitarios para la salud en las consultas de Atención Primaria. Se trata de proporcionar a los profesionales del Sistema Sanitario un sistema de búsqueda de activos para la salud, alimentado desde los propios recursos comunitarios, y validado por la organización sanitaria. Integrar la recomendación de activos en ejercicio físico en personas mayores en la consulta de atención primaria, a partir de la información disponible, siendo el resultado de una decisión compartida entre el profesional del sistema sanitario y el paciente. También se trata de establecer la comunicación entre los centros de salud y los activos comunitarios con el fin de identificar las personas interlocutoras, el circuito y la información a intercambiar. <i>*Un activo en salud se puede definir como cualquier factor o recurso que potencia la capacidad de individuos y comunidades y poblaciones para mantener la salud y el bienestar. Los activos en salud aportan una visión salutogénica a la estrategia de Atención Comunitaria y se mostrarían como recursos generales de resistencia para superar las dificultades frente a la desigualdad y esenciales para articular la búsqueda de capacidades y habilidades hacia lo que genera salud y empoderamiento individual y colectivo</i></p> <p>Para una sostenibilidad meso/micro de la Acción, ha de incluir como actividades:</p> <ul style="list-style-type: none"> <li>• Integrar en las herramientas de trabajo de Atención Primaria el catálogo de recursos comunitarios</li> <li>• Dotar a los profesionales de Atención Primaria de una herramienta para derivar al usuario al activo comunitario.</li> <li>• Reuniones de seguimiento entre los implementadores y con los usuarios.</li> </ul> <p><b>Grupo de implementación local (LIWG).</b> Está compuesto por las siguientes entidades y personas:</p>
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	<p><b>Organizador:</b></p> <ul style="list-style-type: none"> <li>• Instituto Aragonés de Ciencias de la Salud (IACS; Gobierno de Aragón):</li> </ul> <p><b>Implementers:</b></p> <ul style="list-style-type: none"> <li>• Servicio Municipal de Deportes de Utebo (Ayuntamiento de Utebo) Personal sanitario del Centro de Salud de Utebo ( Gobierno de Aragón)</li> </ul> <p><b>Expertos:</b></p> <ul style="list-style-type: none"> <li>• Instituto de Salud Carlos III (ISCIII; Gobierno de España):</li> </ul> <p><b>Decision makers:</b></p> <ul style="list-style-type: none"> <li>• Dirección de Atención Primaria Sector III del Servicio Aragonés de Salud (SALUD; Gobierno de Aragón).</li> <li>• Ayuntamiento de Utebo: Concejalía de Deportes y Obras Públicas. Concejalía de Acción Social, Sanidad y Consumo. Dirección de los Servicios Municipales Deportivos de Utebo.</li> </ul> <p><b>Front-line Stakeholders:</b></p> <ul style="list-style-type: none"> <li>• Gobierno de Aragón: Dirección General de Deportes. Dirección General de Salud Pública. Dirección General de Asistencia Sanitaria.</li> </ul>
<p><b>7. Study of the Intervention(s)</b></p>	<ul style="list-style-type: none"> <li>• La Buena práctica que forma parte de la sub-tarea 5.2.3.c del WP5 lleva asociada en si misma la forma de evaluar los resultados que la implementación comporta. Según Jannus Gudlaugsson se realizará una medición basal y una al final de la intervención de los parámetros que se especifican en el apartado 8. Measures. Además está previsto un seguimiento para valorar la adherencia al programa con la repetición de las mediciones cada 6 meses durante año y medio.</li> <li>• El proceso de adaptación al medio y sus resultados se medirán mediante indicadores de proceso relacionados con las actividades enumeradas anteriormente.</li> </ul>
<p><b>8. Measures</b></p>	<p><b>1. Medidas de la intervención</b></p> <ul style="list-style-type: none"> <li>• Medidas estructurales/corporales <ul style="list-style-type: none"> <li>○ Tensión arterial sistólica y diastólica</li> <li>○ Frecuencia cardiaca en reposo</li> <li>○ Altura</li> <li>○ Peso</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ Índice de Masa Corporal</li> <li>○ Perímetro cintura</li> <li>○ Perímetro cadera</li> <li>○ Índice cintura-cadera</li> <li>○ Masa muscular</li> <li>○ Masa grasa corporal</li> <li>○ Masa libre de grasa</li> <li>○ Porcentaje de grasa corporal</li> <li>○ Analíticas sanguíneas: colesterol total, HDL, LDL, triglicéridos, glucosa y hemoglobina glicosilada si se trata de diabéticos.</li> </ul> <ul style="list-style-type: none"> <li>● <b>Medidas funcionales Motoras</b> <ul style="list-style-type: none"> <li>○ Chair sit an reach</li> <li>○ Back Scratch</li> <li>○ Chair stand</li> <li>○ Arm Curl</li> <li>○ 8-foot up and go test</li> <li>○ SPPB teste (balance, 4m gait speed, chair stand</li> <li>○ Hand Strength</li> <li>○ 6 minute walk test</li> </ul> </li> <li>● <b>Medidas funcionales de estados de salud:</b> <ul style="list-style-type: none"> <li>○ Geriatric Depression Scale (GDS)</li> <li>○ Generic Health Status Measurements (EQ-5D-5L)</li> </ul> </li> </ul> <p><b>2. Indicadores de proceso:</b></p> <ul style="list-style-type: none"> <li>● Colaboración entre instituciones para compartir recursos establecida (SI/NO)</li> <li>● Equipo multidisciplinar para el desarrollo de actividades creado (SI/NO)</li> <li>● Catálogo de activos comunitarios relacionados con la salud creado (SI/NO)</li> <li>● Número de sesiones con el fin de compartir información y destrezas complementarias realizadas.</li> <li>● Número y tipo de acciones de difusión realizadas</li> <li>● Número de personas captadas</li> <li>● Programa realizado (SI/NO)</li> <li>● % de usuarios que acaban el programa</li> <li>● % de personas de continúan activas a los 12 meses de terminado el programa</li> <li>● Mejora en los parámetros de evaluación medidos (SI/NO)</li> <li>● Integración del catálogo de activos comunitarios en la aplicación informática de historia de salud en Atención Primaria.</li> <li>● Herramienta de derivación de usuarios al activo comunitario integrado en la aplicación informática de historia de salud en Atención Primaria.</li> <li>● Número de reuniones de seguimiento realizadas</li> </ul>
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9. Chronogram	<b>Cronograma de implementación de la actividad de ejercicio físico.</b>		
	<b>TEMPORALIZACIÓN</b>	<b>ACCIÓN</b>	
	<b>ACCIONES PREVIAS</b>	19 Noviembre 21 diciembre	Consentimiento firmado por usuarios, realización de analíticas y toma de presión arterial en el Centro de Salud
		8 al 11 de Enero	Formación técnicos gimnasio, sanitarios, voluntarios. Reunión explicativa a los usuarios
		14, 15 y 16 de Enero	Mediciones usuarios según modelo islandés.
		17 de Enero	Presentar instalaciones: gimnasio, pista atletismo, charla objetivos a usuarios
		18 de Enero	Explicar trayectos para caminar por Utebo, uso de las hojas de seguimiento, pulsómetros
		21 de Enero	Comienzo del programa
	<b>IMPLEMENTACIÓN – 6 MESES</b>	Semana 21 al 26 de Enero	Charla 1: Información general y beneficios estimados
		Semana 11 al 15 de Febrero	Charla 2: Entrenamiento resistencia
		Semana 11 al 15 de Marzo	Charla 3: Nutrición y recomendaciones.
		Semana 8 al 12 de Abril	Charla 4: Entrenamiento de la Fuerza
Semana 6 al 10 de Mayo		Charla 5: Charla nutrición 2 (revisión 1ª charla)	

		Semana 3 al 7 de Junio	Charla 6: Envejecimiento activo – Medicina y entrenamiento
		7 de Julio	Fin del programa entrenamiento
		8, 9 y 10 de Julio	Mediciones usuarios
<p>Durante el último cuatrimestre de 2018 se diseñarán las herramientas que permitan realizar e integrar en el software disponible en Atención Primaria el catálogo de recursos comunitarios, así como de la herramienta para derivar al usuario al activo comunitario.</p>			

**Bibliografía**

1. Gudlaugsson et al. Effects of a 6-month multimodal training intervention on retention of functional fitness in older adults: A randomized-controlled cross-over design. *International Journal of Behavioral Nutrition and Physical Activity* 2012; 9:107.

*I. Multimodal Training Intervention 65+ in Municipalities in Iceland*

<p><b>Introduction</b></p>	<p><b>Why did you start?</b></p>
<p><b>1. Problem Description</b></p>	<p><b>Nature and significance of the local problem</b></p> <p>The results of Janus Guðlaugsson PhD research showed excellent outcome after 6-month training. But when the intervention stopped after 6 months, a decline in participant’s results and participation showed up. Around 50% of the participants stopped their strength training and around 75% stopped their regular daily exercise after six months follow-up measurements. Participant’s body strength decreased and the parameters moved towards what they were before the intervention (baseline).</p> <p>Subsequently, these research questions were left: What can be done to maintain the interest on daily strength and endurance training, so that the benefits from the first 6-month training can be maintained? What can be done for the participants so that they will continue their daily physical activity for longer period of time?</p>

<p><b>2. Available knowledge</b></p>	<p><b>Summary of what is currently known about the problem, including relevant previous studies</b></p> <p>Icelanders, aged 65 and older, need a 15–20 minutes more physical activity to reach the international recommended exercise time, with regard to a doctoral examination and the results from the pre-implementation or the baseline measurements. Also, very few of them, or about 10%, do regular strength training. To reach the international recommended exercise time, which is twice a week at minimum, there is a need to increase participation in strength training significantly. The BMI coefficient of about 30% of the participants in a preliminary study (pre-implementation part/baseline) have a BMI value of 31 or higher. The participant’s mobility is generally good, but those with impaired mobility and sense of balance need more attention.</p>
<p><b>3. Rationale</b></p>	<p>Informal or formal frameworks, models, concepts, and/or theories used to explain the problem, any reasons or assumptions that were used to develop the intervention(s), and reasons why the intervention(s) was expected to work</p> <p>Behind the project lies Bandura’s ideology: The Theory of Self-Efficacy; Performance accomplishments (i.e. past experience); Vicarious experience (i.e. modelling by others); Verbal encouragement (i.e. coaching and evaluative feedback), Perceiving physiological and affective responses (i.e. correcting negative interpretation) which results to Self-efficacy judgements – which again results to Behaviour Performance. The Behaviour Performance are surrounded by 1) Cognitive Factors (Knowledge, Expectations and Attitudes), 2) Behavioural Factors (Skill, Practice, Self-efficacy) and 3) Environmental Factors (Social norms, Access in community and Influence on others).</p>
<p><b>4. Specific aims</b></p>	<p><b>The specific aims of the project are:</b></p> <ol style="list-style-type: none"> <li>1. <b>To promote the health of older age groups so they:</b> <ul style="list-style-type: none"> <li>▪ can in the future perform the actions of daily living,</li> <li>▪ can live longer in an independent residence,</li> <li>▪ prevent or delay entry into a residential and nursing homes</li> <li>▪ have the opportunity to work longer in the labour market</li> </ul> </li> <li>2. <b>To improve the quality of life in older age.</b></li> <li>3. <b>To reduce government and municipalities expenditures.</b></li> <li>4. <b>To develop sustainable exercise strategies for people in older age.</b></li> </ol>

<b>Methods</b>	<b>What did you do?</b>
<p><b>5. Context</b></p>	<ul style="list-style-type: none"> <li>Contextual elements considered important at the outset of introducing the intervention(s)</li> </ul> <p><b>Main output of the Situation Analysis. SWOT analysis</b></p> <p><b>The strength</b> of the project is that the project is real-time testable, those who developed and work at it have significant experience and a great reputation in this field of training. They have been working on researches in this field for over two decades. A large number of participants have shown interest in the project and others have formed a waiting lists to get involved in the project. There is also a high demand for lectures and presentations on this project that hopefully ensure the distribution of the project in later stages.</p> <p>As a <b>weakness</b>, it is possible that healthcare practitioners have a comparable basis, but that can be improved when the project grows. Another weakness is also that the project could lead to that training facilities are fully booked with the older age group that have started training. However, that is an opportunity for the free market and enhancing its activities in the field of health promotion for this age group.</p> <p>There are endless <b>opportunities</b> in the field of health promotion of older age groups in municipalities.</p> <ul style="list-style-type: none"> <li>With targeted health promotion of this age group, optimization in operation in the field of health and welfare within the municipalities can be achieved,</li> <li>Promote the project in other municipalities and hopefully receive additional funding to follow the project through, both within municipalities as well as nationally.</li> </ul> <p><b>The threats</b> could be the increased numbers of parties that will initiate in interventions of this nature, but do not provide sufficient professional experience for such work and are coming more from the private sector, with profits in mind instead of the ideal with the project and participants success.</p>
<p><b>6. Intervention(s)</b></p>	<p><b>Description of the intervention(s) in sufficient detail that others could reproduce it</b></p> <p><i>“Target population” of the scope definition</i></p>

	<p><i>Areas of improvement and Change package of the Collaborative methodology</i></p> <ul style="list-style-type: none"> <li>• Specifics of the team involved in the work</li> </ul> <p><i>Description of the LIWG participants (number, profiles, roles)</i></p> <p><b>Twofold Physical Exercise Intervention</b></p> <ul style="list-style-type: none"> <li>• <b>Endurance:</b> <u>Daily walking</u> On average ~30 minutes per day</li> <li>• <b>Resistance training:</b> Twice-a-week</li> </ul> <p>Training/Physical exercise Intervention are supported by six <b>lectures/education</b> across every 6-month intervention phase (i.e. nutrition, medicine (drug) and training, healthy aging, endurance, strength, how to train and goal settings)</p> <ul style="list-style-type: none"> <li>• <b>Social factors</b> as having a schedule for the week where you go training with the same group of people for a longer period of time and getting to know them, coming to lectures once a month where you meet with a larger group of peers, in the same program as you, taking part in cooking classes in small groups, festival and dancing once in a year etc.</li> </ul> <p>Closed group on Facebook and a website with information (<a href="https://www.janusheilsuefling.is/">https://www.janusheilsuefling.is/</a>)</p>
<p><b>7. Study of the Intervention(s)</b></p>	<ul style="list-style-type: none"> <li>• Approach chosen for assessing the impact of the intervention(s) (quantitative or qualitative analysis)</li> <li>• Approach used to establish whether the observed outcomes were due to the intervention(s)</li> </ul> <p>Measurements with verifiable results are one of the special features of this research project, see measurements below in the next column. Measurements are every six months, in the beginning before the intervention starts and then every six months. This has been described in data from Janus Health Promotion.</p> <p>There have been assistants for specialized measurements and all results are in a closed database. The research project has obtained a special license from the Icelandic Research Committee (VSN) in Iceland.</p> <p>Dr. Janus Gudlaugsson, Director          Dr. Thor Aspelund, Research Project Coordinator          Lara Janusdottir, Project Manager          Ingvi Gudmundsson, Health Instructor          Thoroddur Einar Thordarson, Health Instructor</p>

	<p>Dadi Janusson, finance and consulting          Andri Janusson, Programmer and Computer Technician Kristinn Magnússon, physiotherapist          Gísli Jonsson, cardiologist          Guðrún Frímansdóttir, contact person to Hafnarfjordur Hera Ósk Einarsdóttir, contact person to Reykjanesbae</p>
<p><b>8. Measures</b></p>	<ul style="list-style-type: none"> <li>• Measures chosen for studying processes and outcomes of the intervention(s), including rationale for choosing them, their operational definitions, and their validity and reliability</li> <li>• <i>Key Performance Indicator of the Collaborative methodology</i></li> </ul> <p><b>The primary measurements are:</b></p> <ul style="list-style-type: none"> <li>• Blood pressure and blood analysis</li> <li>• Body mass index and Whole-body composition using a InBody scale</li> <li>• Daily physical activity</li> <li>• Physical performance             <ul style="list-style-type: none"> <li>• Endurance performance                 <ul style="list-style-type: none"> <li>• 6 MW-test</li> <li>• Strength test (Rikli &amp; Jones)</li> </ul> </li> </ul> </li> <li>• SPPB-test and 8-foot up-and-go test</li> <li>• Maximal muscle strength test (grip-test)</li> <li>• Quality of life Questionnaire</li> <li>• Blood-measurements             <ul style="list-style-type: none"> <li>• Metabolic Syndrome                 <ul style="list-style-type: none"> <li>• Waistline or abdominal fat</li> <li>• Blood pressure</li> <li>• High amount of blood Glucose</li> <li>• High amount of Triglycerides (serum triglycerides)</li> <li>• Low levels of HDL-cholesterol</li> </ul> </li> </ul> </li> <li>• Geriatric Depression Scale (Short Form)              Geriatric Depression Scale (Short Form)              Self-Rated Version  <a href="http://dementiapathways.ie/filecache/0c8/57e/37-gds.pdf">http://dementiapathways.ie/filecache/0c8/57e/37-gds.pdf</a>  <a href="https://consultgeri.org/try-.../general-assessment/issue-4.pdf">https://consultgeri.org/try-.../general-assessment/issue-4.pdf</a> </li> <li>• Global Physical Activity Questionnaire (GPAQ)              Analysis Guide</li> </ul> <p>EQ-5D-5L User Guide              Basic information on how to use the EQ-5D-5L instrument</p>

<p><b>9. Chronogram</b></p>	<p>Expected timing of the activities of the Change package, scheduling the start and end month</p> <p><b>Pre-Implementation phase:</b> October 2017 – September 2018</p> <p>Workshop, site visit, the scope, situation analysis and action plan</p> <p><b>Implementation:</b> October 2018 – March 2020</p> <p>Evaluation and Final Report</p>
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