EU
PHYSICAL
ACTIVITY ON
PRESCRIPTION

EUPAP

Deliverable 7.1.

PAP Implementation Report

WP7 – Local implementation and monitoring

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PAP IMPLEMENTATION REPORT

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ABOUT THIS PUBLICATION

This deliverable consists of a report regarding the implementation of physical activity on prescription (PAP) in eight of the EUPAP partner countries.

This report is part of work package 7 within the project and describes and analyses the overall results of the PAP implementation in each partner country.

The EUPAP-project is based on the Swedish model of PAP, which has already been implemented in Sweden. Therefore, Sweden has had a supporting role in the process and content of work package 7.

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EXECUTIVE SUMMARY

This report is part of work package 7 of the project EUPAP – A European Physical Activity on Prescription Model. The objective of this deliverable is to describe and analyse the results of the transfer, adaptation and implementation of the Swedish Physical Activity on Prescription (PAP) model to other countries, namely through different organisations in eight of the partner countries involved in the project (Belgium, Germany, Italy, Lithuania, Malta, Portugal, Romania and Spain). These organisations included national public health agencies, local health services and universities.

Implementation plans were developed based on the feasibility study previously conducted in the scope of work package 4 and the RE-AIM framework. Accordingly, a set of indicators was defined to best support and monitor the implementation process. Then, each partner country customised their own implementation plans, choosing the indicators they were able to use and measure according to their context possibilities and settings. This process made the approach simultaneously consistent and flexible.

Two levels of implementation were observed. In settings where a PAP system was already in place or under development, the Swedish PAP (PAP-S) was used to leverage the quality of the local model (Belgium, Italy, Germany and Spain). This happened in settings where PAP was implemented for the first time, or in line with a recent approach, it was completed according to the possibilities offered by the local system (e.g., Lithuania, Malta, Portugal and Romania).

Results show that the use and reach of PAP-S were solved differently among partners, e.g. depending on (a) the way national and/or local trainings were provided, (b) the healthcare settings involved and networks created (networks human resources involved in PAP and networks with stakeholders), (c) involvement of different healthcare professionals, and (d) the participation of end-users with different clinical backgrounds.

The countries provided 145 local trainings, where a total of 4,471 professionals with more than 19 different profiles, attended. The countries used both virtual and presential approaches. Some trainings were made open to different sectors of the public, and others were restricted only for the professionals who were directly involved in the implementation.

Of all the trained professionals, 155 were directly involved in the PAP implementation in their countries or professional settings.

A total of 6,229 patients received PAP in the eight countries. Of these, 2,906 end-users received at least one follow-up during the period of implementation. Different end-users' profiles were considered previously as defined in the feasibility study.

The routines of the healthcare settings and the professionals and other staff involved in the PAP implementation changed during the process as a result of the involvement of (1) new professional profiles involvement, and/or (b) new administrative and clinical procedures. Nevertheless, the change of routines in the future depends on the systematic implementation of the PAP in their own systems.

One of the main conclusions from the implementation process is that a European model of PAP cannot represent a "one size fits all" model. Five-core components of the PAP-S should all be applied but may be adapted to the particularities of each country and setting.

INTRODUCTION

The work package 7 of the EUPAP – A European Physical Activity on Prescription project was focused on the local implementation and monitoring of the Swedish model in the partner countries.

The work package had the following objectives:

- To raise awareness about Physical Activity on Prescription (PAP) in the institutions involved in the implementation.
- To train practitioners involved in local implementation.
- To implement PAP method in different European countries / regions.
- To apply monitoring and quality control mechanisms.

These objectives were part of the whole implementation process. This final implementation report present the results obtained to fulfil these objectives. The report is organised in three main parts:

1. A general presentation of the Swedish PAP model.
2. The methodology used for the PAP implementation in the eight partner countries
3. The implementation results obtained regarding (1) trainings provided, (2) healthcare settings where PAP was implemented, (3) end-users who received PAP, (4) meetings performed with local/national stakeholders, and the (5) Views of partners regarding PAP implementation.

Based on the results described and analysed a set of conclusions and final remarks is provided at the end of the document.

Results per partner country can be found in the appendixes of the report.

1. EUPAP AND THE SWEDISH PAP MODEL[1]

The EUPAP – A European Physical Activity on Prescription Model is a project co-funded by the European Commission in the scope of the 3rd Health Programme (Priority 1. Promote health, prevent diseases and foster supportive environments for healthy lifestyles taking account the "health in all policies" principle, through the call "Implementation of best practices to promote health and prevent non-communicable diseases and to reduce health inequalities", namely the topic "Transferring the Swedish Physical Activity Initiative to other countries".

The Swedish Physical Activity on Prescription (PAP-S) method has shown to be effective in increasing physical activity levels, but also in improving quality of life and cardio metabolic risk factors in several populations (1-7). The Swedish National Institute of Public Health, the predecessor to the Public Health Agency of Sweden, coordinator of the EUPAP-project, was assigned by the Swedish government to develop and implement PAP-S in the beginning of the 21st century (8-11). Other organisations, like the National Board of Health and Welfare, in Sweden was and is also involved in the implementation and promotion of PAP-S (12). The Board states in their national guidelines that *"healthcare services should offer counselling as well as written prescriptions or pedometers and special follow-ups to individuals with insufficient levels of physical activity"* (13,14).

The health sector in Sweden is the gate for citizens to receive physical activity on prescription, mostly primary healthcare settings, but also hospitals and psychiatric clinics. The first option is that the physical activity is performed outside the healthcare setting, as everyday activities or more structured exercise. **The PAP-S has five core components, which must be implemented to some extent for full transfer of the method**.

[1] This section is adopted from the "The Swedish PAP-S" chapter presented in the feasibility study.

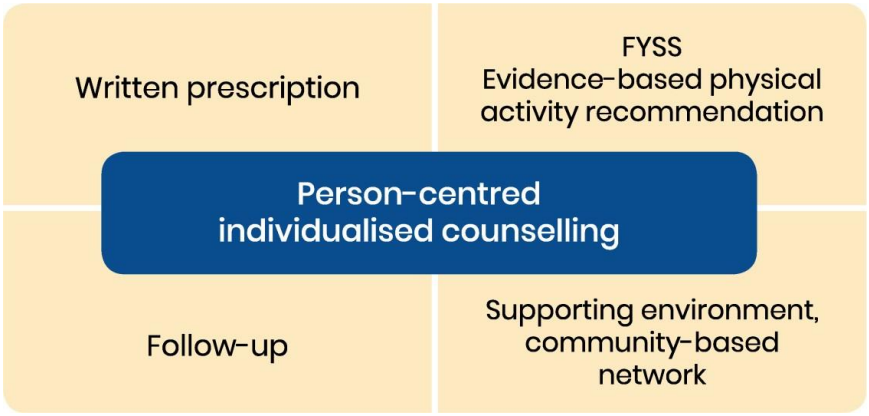


Figure 1. The five core components of the method. Adapted from Kallings (1).

1. The **individualised patient-centred counselling** is central in the PAP-S model (16). The overall goal is to integrate physical activity into everyday life, and to support behaviour change. It is built on patient's health, symptoms, diagnoses, potential risk factors, motivation, prior experiences, preferences and need of support. It concludes with a written prescription form which is also an agreement.
2. The **prescription** should be documented in the patient's clinical record and, if feasible, printed out. It must state of components of physical activity (type, dose, specific activities) possible contraindications and a plan for follow-up. It often includes part of an anamnesis, such as, current physical activity levels, reason for prescription, patient's ambition. Also, a physical activity diary or a pedometer can be attached to it.
3. The **FYSS handbook** summarises the scientific knowledge on how to prevent and treat various diseases and conditions using physical activity. It can be used within the healthcare services, for physical activity organisers and for educational institutions (17). It is used to ensure evidence-based prescription.
4. The **follow-up** is to adjust the prescription and foster motivation if necessary. The prescriber is responsible for ensuring that the follow-up is done for both, the health outcome(s) and the levels of physical activity. The contact can be through return visits, by phone, letter, e-mail, text message and be done by the same prescriber or other healthcare agents.
5. **Collaboration with activity organisers** (PAP-coaches) is important since the prescription may include structured exercise. Activity organisers can be NGOs like sports, pensioners' or patient associations, public-driven facilities or private businesses like gyms and fitness centres.

These five core components, however, have been adapted to the local and regional circumstances in Sweden. Since the county councils and regions are self-governed with autonomy they can also decide on how to implement and work with PAP-S. Some of the variations in use of PAP-S include:

- Guidance or support functions, such as PAP-S-coaches (who carry out the prescription) or PAP-coordinators in places either within or outside the healthcare setting.
- Collaborations between healthcare services and activity organisers are regulated by agreement or contract, or developed together with local neighbourhoods (a collaboration rather than contract).
- There may be specially trained leaders for supervised activities, and/or activity organisers who also monitor physical activity levels and provide feedback to the prescriber.

A challenge to address is the decline of physical activity behaviour when there is no structural and regular follow-up or feedback to the end-users after the initial counselling and prescription (18).

2. EUPAP IMPLEMENTATION METHODOLOGY

2.1. RE-AIM

Following the methodology used in the feasibility study, it was decided to keep RE-AIM as the methodological guide of the implementation indicators and evaluation.

As stated in the feasibility study, transferring good practises to different contexts is very complex. The broad evidence on the PAP-S allow other contexts to prepare the "transferability", that is, the process of comparing the results of the new practice transfer in comparison with the evidence previously collected in Sweden, and to collect practice-based evidence regarding what works and what is considered as not working in terms of prescribed physical activity within the new contexts (19).

With the purpose of transferring good practices, Reis and cols. (20) consider the RE-AIM framework (21) as one of that best frame core elements for scaling up public health programmes. As an acronym, RE-AIM measures Reach, Effectiveness, Adoption, Implementation and Maintenance of the programme acquired, as can be seen below.

Table 1. Elements and definition of the RE-AIM methodology[2].

Reach the target population	The absolute number, proportion, and representativeness of individuals who are willing to participate in each initiative, intervention, or program.
Effectiveness or efficacy	The impact of an intervention on important outcomes, including potential negative effects, quality of life, and economic outcomes.
Adoption by target staff, settings, systems and communities	The absolute number, proportion, and representativeness of settings and intervention agents (people who deliver the program) who are willing to initiate a program.
Implementation consistency, costs and adaptions made during delivery	At the setting level, implementation refers to the intervention agents' fidelity to the various elements of an intervention's protocol, including consistency of delivery as intended and the time and cost of the intervention. At the individual level, implementation refers to clients' use of the intervention strategies.

[2] Taken from https://re-aim.org/.

Maintenance/sustainment of intervention effects in individuals and settings over time	The extent to which a program or policy becomes institutionalized or part of the routine organizational practices and policies. Within the RE-AIM framework, maintenance also applies at the individual level. At the individual level, maintenance has been defined as the long-term effects of a program on outcomes after 6 or more months after the most recent intervention contact.

2.2. Indicators and Contexts

In line with RE-AIM elements, the EUPAP project partners proposed and discussed a set of indicators to be used during implementation. These indicators have been revised throughout the process, considering (1) the possibilities of each partner to use it or not, and (2) the alignment between partners regarding the requirements of what was needed to be done in the scope of each indicator. Thus, the final list used to guide the implementation and proceed with the implementation monitoring and evaluation was the following.

Table 2. List of indicators used to monitor and evaluate PAP implementation in every partner's setting.

Reach	R.1. End-user diagnosis and other conditions according to each country (e.g., demographic characterization of the end-users)
	R.2. Total number of potential end-users (i.e., people who were in a consultation)
	R.3. Total number of end-users who received PA prescription (i.e., people that start the PAP process)
	R.4. Total number of PAP's per end-user profile (i.e., according to the profiles defined in the feasibility study / e.g., people with diabetes)
	R.5. The way it was done the identification of end-users to be involved in EUPAP is being/was done? (i.e., how people were directed to the PAP)
	R.6. Barriers and facilitators found in identifying end-users
Effectiveness	E.1. Physical activity and sedentary habits of the participants
	E.2. Quality of life
	E.3. Disease related factors (i.e., blood pressure, body-mass index, waist circumference, physical fitness)
	E.4. Report of adverse events
Adoption	A.1. Number of healthcare settings in the region/area/institution of implementation
	A.2. Number of healthcare settings invited to participate
	A.3. Number of healthcare settings involved (e.g., that will participate in the EUPAP)
	A.4. The way it was done the recruitment of staff (i.e., how to be involved in the EUPAP
	A.5. Barriers and facilitators found in recruiting staff

	A.6. Number of professionals staffed by the healthcare settings (i.e., all profiles that can be directly and indirectly involved in the PAP)
	A.7. Number of prescribers staffed by the healthcare settings (i.e., number of existent prescribers in the healthcare setting)
	A.8. Number of professionals staffed by the healthcare settings invited to participate (e.g., number of different professionals directly and indirectly that will be involved in the PAP)
	A.9. Number of prescribers staffed by the healthcare settings invited to participate (i.e., number of prescribers involved in EUPAP)
	A.10. Number of professionals involved from outside the healthcare settings (through local stakeholders) (e.g., exercise scientists, community professionals, coaches, officers, ...)
	A.11. Demographic characterization of the professionals staffed (e.g., age, gender, academic background, profession situation, years of experience)
	A.12. Total number of professionals trained (i.e., independently of the profile)
	A.13. Number of professionals trained (per profession)
	A.14. Number of trained professionals directly involved in the PAP process (i.e., have participated in the EUPAP)
	A.15. Did the healthcare settings changed their routines after experiencing PAP (i.e., regarding the inclusion of PAP workflow)
	A.16. Did the prescribers changed their routines after experiencing PAP (i.e., regarding the sion of PAP workflow)
	A.17. Did the end-users changed their routines after experiencing PAP (i.e., regarding physical activity habit and sedentary behaviour)
Implementation	I.1. Number of meetings with national stakeholders
	I.2. Number of meetings with healthcare settings
	I.3. Number of meetings with local-community stakeholders (of each healthcare setting)
	I.4. Number of trainings provided (i.e., total number of trainings provided)
	I.5. Total number of participants who received PA prescription with follow-up
	I.6. Total number of PAP's with follow-up per end-user profile (according to the profiles defined in the feasibility study)
	I.7. Dropout rate (prior to follow-up)
	I.8. Swedish-PAP model implementation fidelity (i.e., considering the application of each of its 5 core-elements all together)
	I.9. Use of EUPAP tools (i.e., did they improve the quality of the intervention)
Maintenance	M.1. Number of healthcare settings who will continue to work with the EUPAP procedure in the future (i.e., including PAP process in their workflow)
	M.2. Total number of professionals who will adopt the EUPAP procedure in the future (i.e., including PAP process in their workflow)
	M.3. Number of professionals who will adopt the EUPAP procedure in the future (per professional profile)

2.3. Partner's Implementation Map of Indicators

As the indicators list was defined, it was important to adapt the implementation to the reality and possibilities of each partner, and their implementation settings. This way, every partner chose the indicators that they wanted to use to guide, monitor and evaluate the implementation done by partners. As with the definition of the indicators, the partner's indicators lists have been evolving across the process due to (1) the possibilities of each partner to use it or not, (2) the alignment between partners regarding the requirements of what was needed to be done in the scope of each indicator, and (3) the feasibility of the data collected (in some cases, the COVID-19 pandemic and its restrictions were a barrier to collect some of the data planned to be collected. Based on the customised map of indicators, every partner designed their own implementation plans which where, simultaneously, internally consistent and partner specific.

Table 3. Map of indicators used by every partner during the process of PAP implementation in their own settings.

		BE	DE	IT	LT	MT	PT	RO	ES
Reach	R.1. End-user diagnosis and other conditions according to each country (e.g., demographic characterization of the end-users)								
	R.2. Total number of potential end-users (i.e., people who were in a consultation)								
	R.3. Total number of end-users who received PA prescription (i.e., people that start the PAP process)								
	R.4. Total number of PAP's per end-user profile (i.e., according to the profiles defined in the feasibility study / e.g., people with diabetes)								
	R.5. The way it was done the identification of end-users to be involved in EUPAP is being/was done? (i.e., how people were directed to the PAP)								
	R.6. Barriers and facilitators found in identifying end-users								
Effecti	E.1. Physical activity and sedentary habits of the participants								
	E.2. Quality of life								

	E.3. Disease related factors (i.e., blood pressure, body-mass index, waist circumference, physical fitness)								
	E.4. Report of adverse events								
Adoption	A.1. Number of healthcare settings in the region/area/institution of implementation								
	A.2. Number of healthcare settings invited to participate								
	A.3. Number of healthcare settings involved (e.g., that will participate in the EUPAP)								
	A.4. The way it was done the recruitment of staff (i.e., how to be involved in the EUPAP								
	A.5. Barriers and facilitators found in recruiting staff								
	A.6. Number of professionals staffed by the healthcare settings (i.e., all profiles that can be directly and indirectly involved in the PAP)								
	A.7. Number of prescribers staffed by the healthcare settings (i.e., number of existent prescribers in the healthcare setting)								
	A.8. Number of professionals staffed by the healthcare settings invited to participate (e.g., number of different professionals directly and indirectly that will be involved in the PAP)								
	A.9. Number of prescribers staffed by the healthcare settings invited to participate (i.e., number of prescribers involved in EUPAP)								
	A.10. Number of professionals involved from outside the healthcare settings (through local stakeholders) (e.g., exercise scientists, community professionals, coaches, officers, ...)								
	A.11. Demographic characterization of the professionals staffed (e.g., age, gender, academic background, profession situation, years of experience)								
	A.12. Total number of professionals trained (i.e., independently of the profile)								
	A.13. Number of professionals trained (per profession)								
	A.14. Number of trained professionals directly involved in the PAP process (i.e., have participated in the EUPAP)								
	A.15. Did the healthcare settings changed their routines after experiencing PAP (i.e., regarding the inclusion of PAP workflow)								

	A.16. Did the prescribers changed their routines after experiencing PAP (i.e., regarding the inclusion of PAP workflow)								
	A.17. Did the end-users changed their routines after experiencing PAP (i.e., regarding physical activity habit and sedentary behaviour)								
Implementation	I.1. Number of meetings with national stakeholders								
	I.2. Number of meetings with healthcare settings								
	I.3. Number of meetings with local-community stakeholders (of each healthcare setting)								
	I.4. Number of trainings provided (i.e., total number of trainings provided)								
	I.5. Total number of participants who received PA prescription with follow-up								
	I.6. Total number of PAP's with follow-up per end-user profile (according to the profiles defined in the feasibility study)								
	I.7. Dropout rate (prior to follow-up)								
	I.8. Swedish-PAP model implementation fidelity (i.e., considering the application of each of its 5 core-elements all together)								
	I.9. Use of EUPAP tools (i.e., did they improve the quality of the intervention)								
Maintenance	M.1. Number of healthcare settings who will continue to work with the EUPAP procedure in the future (i.e., including PAP process in their workflow)								
	M.2. Total number of professionals who will adopt the EUPAP procedure in the future (i.e., including PAP process in their workflow)								
	M.3. Number of professionals who will adopt the EUPAP procedure in the future (per professional profile)								

2.4. Planning and COVID-19 Pandemic Impact

Amongst all of the project partners, the initial plan for the PAP implementation was to have a duration of 15 months. Although, due to the COVID-19 pandemic, the EUPAP project was extended for 12 months, and the execution of different implementation approaches by each of the partners was caused by the different national and regional restrictions imposed that were not always homogeneous among countries. This way, the following periods were considered for the PAP implementation in every partner country.

Table 4. Implementation length of every partner (considering when the implementation started and the end of data collection).

	Implementation start	End of Data collection	Implementation length (with data collection)
Belgium (BE)	January 1st, 2021 (and September 1st, 2021[3])	October 31st, 2022	22 months
Germany (DE)	May 1st, 2020 (January 1st, 2022)	October 31st, 2022	Between 10 and 34 months
Italy (IT)	October 4th, 2021	October 31st, 2022	1 year and 27 days
Lithuania (LT)	September 25th, 2021	October 31st, 2022	13 months and 6 days
Malta (MT)	April 7th, 2022	October 31st, 2022	6 months and 23 days
Portugal (PT)	March 6th, 2022	October 31st, 2022	7 months and 25 days
Romania (RO)	June 1st, 2022	October 31st, 2022	5 months
Spain (ES)	March 1st, 2019 (and October 6th, 2022)[4]	October 31st, 2022	9 months[5]

In the next pages, partners will be identified by the name of their countries.

[3] 12 health care zones started on September 1st, 2021, having more prescribers involved in the scope of the EUPAP implementation process.
[4] All the 11 health care settings where EUPAP was implemented started in a different moment.
[5] Average of the EUPAP implementation length in every health care setting in Catalonia.

2.5. Monitoring and Reporting

Implementation plans were developed and delivered by every partner with more than one version (due to changes in every country between 2020 and 2022 because of COVID-19 restrictions). Thus, data was collected by the partners along the process of implementation, and delivered at the end of the process (October 31st, 2022). The process of implementation monitoring was done through general meetings with all the partners involved (namely on June 10th, July 12th and September 22nd of 2022), and through bilateral meetings and contacts through internet tools between the implementation coordination and every partner.

3. IMPLEMENTATION RESULTS

The implementation results are presented considering the data obtained regarding each of the indicators used by every partner. These indicators are organised through the following categories: training, healthcare settings, end-users, meetings with stakeholders and views on PAP implementation.

3.1. Training

The indicators regarding the training topic used by EUPAP partners during the implementation are presented in the table 5.

Table 5. List Indicators used by every partner regarding the training topic (green refers to indicators used and red refers to indicators not used).

		BE	DE	IT	LT	MT	PT	RO	ES
Adoption	A.12. Total number of professionals trained (i.e., independently of the profile)								
	A.13. Number of professionals trained (per profession)								
	A.14. Number of trained professionals directly involved in the PAP process (i.e., have participated in the EUPAP)								
I[6]	I.4. Number of trainings provided (i.e., total number of trainings provided)								

The results of the partners regarding every indicator used are presented in the following pages.

A.12. Total number of professionals trained (i.e., independently of the profile)

The number of professionals trained in the scope of every partner's implementation was the following.

[6] Implementation.

BE	DE	IT	LT	MT	PT	RO	ES	Total
2,519	*735*	*47*	*10*	*44*	*634*	*24*	*458*	**4,471**

A total of 4,471 professionals were trained under the scope of EUPAP at a national/local level. More than a half of these professionals were trained in the Flanders region in line with the local model approach in Belgium. Germany, Portugal and Spain, all together, trained around 40% of the human resources professionals trained in total.

A.13. Number of professionals trained (per profession)

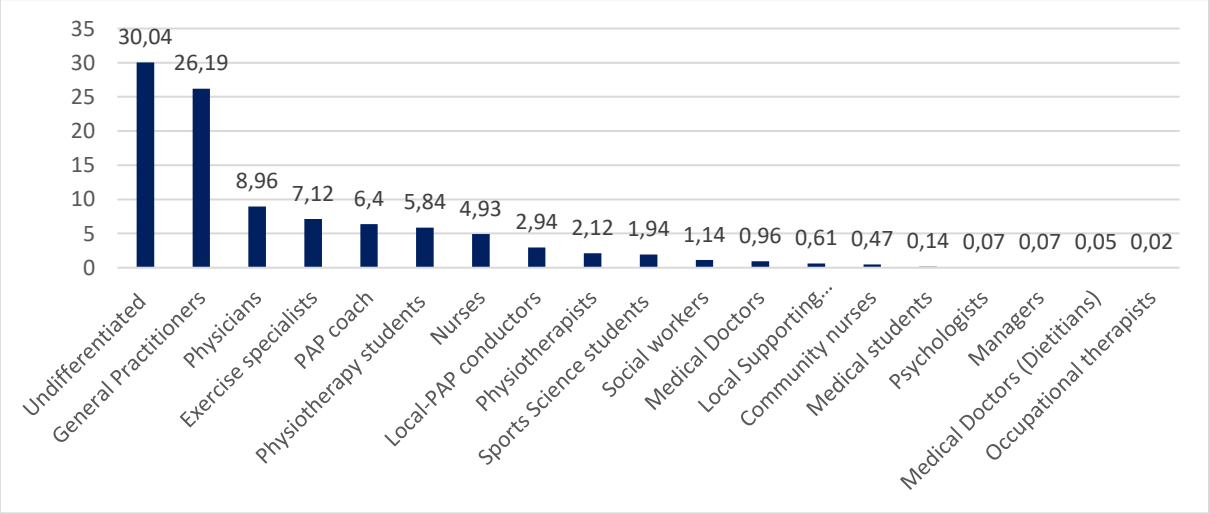
The number of professionals trained by profession in the scope of every partner's implementation was the following.

	Total	Per Profession	
BE	*2,519*	*General Practitioners*	*1082*
		Undifferentiated (dietician, pharmacist, GP, physiotherapist, nurse, psychologist and social worker)	*695*
		PAP coach	*274*[7]
		Local-PAP conductors	*126*
		Nurses	*206*
		Physiotherapists	*55*
		Social workers	*49*
		Local Supporting Organisation (LOGO)	*26*
		Dietician	*3*
		Psychologist	*3*
DE	*735*	*Physicians*	*384*
		Physiotherapy students	*250*
		Sports Science students	*83*
		Undifferentiated (Medical students/Sports science students)	*12*
		Medical students	*6*
IT	*47*	*Medical Doctors*	*41*
		Nurses	*4*
		Exercise specialist	*2*

[7] 140 PAP-coaches were trained before the start of EUPAP they were informed about the improvements of PAP since EUPAP.

LT	*10*	*Management*	*3*
		Medical Doctors Dietitian	*2*
		General Practitioners	*2*
		Physiotherapists	*1*
		Nurses	*1*
		Occupational therapist	*1*
MT	*44*	*Physiotherapists*	*35*
		General Practitioners	*9*
PT	*634*	*Undifferentiated (General Practitioners, Exercise specialists, physiotherapists, psychologists, sports science students, medical students, managers)*	*580*
		Exercise specialists	*29*
		General Practitioners	*25*
RO	*24*	*General Practitioners*	*4*
		Community nurses	*20*
ES	*458*	*Exercise specialists*	*7*
		Volunteers at sports NGO's	*1*
		BSc Sports Science students	*459*

Regarding the total number and variety of professionals trained, independently of the country where they were involved, it is possible to observe the following distribution.



Graphic 1. Distribution (%) of professionals trained (in number and variety), independently of the countries where they were involved.

The majority of professionals involved in training were identified as "undifferentiated" (i.e., dieticians, pharmacists, general practitioners, physiotherapists, nurses, psychologists,

social workers, medical students, spots science students, exercise specialists, managers, etc.), followed by general practitioners (about 25%) and physicians (around 9%). It is also possible to observe different health-allied professionals such as exercise specialists (around 7%), PAP coaches (around 6%), who can have a sports science or physiotherapist background, nurses (around 5%), and physiotherapists (around 2%). Students of physiotherapy, sports sciences and medicine were also trained in the scope of EUPAP implementation.

A.14. Number of trained professionals directly involved in the PAP process (i.e., have participated in the EUPAP)

The number of professionals trained that were directly involved in the EUPAP implementation was the following.

IT	LT	MT	PT	RO	ES	Total
46	*10*	*12*	*54*	*24*	*9*	**155**

A total of 155 professionals were specifically trained to be involved in the EUPAP implementation. Portugal and Italy were the countries with more local trainees overall, followed by Romania. Lithuania and Spain trained less professionals due to their institutional dimension (Lithuania) and due to the existence of previous trained professionals in the topic (Spain).

I.4. Number of trainings provided (i.e., total number of trainings provided)

The number of trainings provided at a national/local level in the scope of the EUPAP implementation was the following.

BE	DE	IT	LT	MT	PT	RO	ES	Total
97	16	8	9	7	2	1	4	**144**

A total of 144 trainings were provided in the scope of EUPAP implementation. More than two thirds (2/3) were completed in Belgium, in line with their local model approach.

3.2. Healthcare settings

The indicators regarding the Healthcare settings topic used by EUPAP partners during the implementation are presented in the table 6.

Table 6. List of indicators used by every partner regarding the Healthcare settings topic (green refers to indicators used and red refers to indicators not used).

		BE	DE	IT	LT	MT	PT	RO	ES
Adoption	A.1. Number of healthcare settings in the region/area/institution of implementation								
	A.2. Number of healthcare settings invited to participate								
	A.3. Number of healthcare settings involved (e.g., that will participate in the EUPAP)								
	A.4. The way it was done the recruitment of staff (i.e., how to be involved in the EUPAP								
	A.5. Barriers and facilitators found in recruiting staff								
	A.6. Number of professionals staffed by the healthcare settings (i.e., all profiles that can be directly and indirectly involved in the PAP)								
	A.7. Number of prescribers staffed by the healthcare settings (i.e., number of existent prescribers in the healthcare setting)								
	A.8. Number of professionals staffed by the healthcare settings invited to participate (e.g., number of different professionals directly and indirectly that will be involved in the PAP)								
	A.9. Number of prescribers staffed by the healthcare settings invited to participate (i.e., number of prescribers involved in EUPAP)								
	A.10. Number of professionals involved from outside the healthcare settings (through local stakeholders) (e.g., exercise scientists, community professionals, coaches, officers, ...)								
	A.11. Demographic characterization of the professionals staffed (e.g., age, gender, academic background, profession situation, years of experience)								

The results of the partners regarding every indicator used are presented in the following pages.

A.1. Number of healthcare settings in the region/area/institution of implementation

The number of healthcare settings in the region/area/institution of implementation was the following.

BE	DE	PT	ES
60 health zones (319 municipalities in Flanders and Brussels)	*There are about 12,500 GP`s and specialists in Hessia Federal State*	*6,010 (2,707 in the North region, 871 in the Centre region, 1,725 in Lisbon and Tagus Valley region, 405 in Alentejo region and 302 in Algarve region)*	*23 basic health areas (Lleida Health region)*

Considering the national/regional-wide situation of Flanders (Belgium), Hessia (Germany) and Portugal overall, all the health care settings were taken into account as the institutional and geographic context where to implement PAP. In the case of Catalonia, all of the 23 basic heath areas of the Lleida health region were considered.

A.2. Number of healthcare settings invited to participate

The number of healthcare settings invited to participate in the process of implementation was the following.

IT	LT	MT	RO	ES
1	*1*	*2*	*4*	*11*

Italy and Lithuania participated through the collaboration of their own local organisations. Malta invited two, Romania invited four and Spain invited 11 health care settings within the Lleida Health region.

A.3. Number of healthcare settings involved (e.g., that will participate in the EUPAP)

The number of healthcare involved in the process of implementation was the following.

BE	DE	IT	LT	MT	PT	RO	ES
57 health care zones (of 60)[8]. In 12 areas the implementation had more potential prescribers (other health care workers[9])	*49*	*1*	*1*	*2*	*6*	*4*	*11*

Italy and Lithuania implemented PAP in their own partner settings. Malta had two, Romania had four and Portugal had six. Spain implemented PAP in the same 11 healthcare settigs invited to participate within Lleida Health region. Flanders kept their implementation within the context of 57 of the currently existing 60 healthcare zones, having included an additional 12 potential prescribers besides general practitioners (namely, through the involvement of the Medical Doctor specialities).

A.4. The way it was done the recruitment of staff (i.e., how to be involved in the EUPAP)

The staff involved in the PAP implementation was recruited the following ways.

BE	*Since 2016, healthcare zones can file a request to start a local implementation of PAP. This request is found in a very structured file (created and assessed by the Flemish Institute of Healthy Living). In the request:* – *Specific local partners (the most important partners to form a locally embedded network) must be involved & must fill in a commitment statement (local government, health sector, welfare sector, organizations that could contribute to physical activity, organizations that support low SES groups and a health promotion organization)* – *Many important tasks are described (by the Flemish Institute of Healthy Living) and must be agreed on amongst the partners.*

[8] This covers 250 of the 319 municipalities in Flanders and Brussels.
[9] For example, Medical Doctors dietitians, physiotherapists, etc.

	– *Required criteria are: quality of local network, demands of the healthcare zones, skills of the coaches, involvement of GP's, accessibility for low SES groups, quality of the project…* *With different Flemish organisations (reaching other sectors that need to be involved), it was communicated toward local organisations in order to inform and motivate them to participate. Furthermore, there is a regional organisation that helps local organisations with all kinds of health promotion actions and policies. This organisation helps the local organisations with the implementation of PAP at the local level.* *All participating healthcare zones were asked if they wanted to implement PAP with more prescribers. 12 of 60 zones were interested.*
DE	*Generally, prescribers (physicians) were mainly recruited through the network-partner Medical Chamber of Hessia, the organising body for further medical education in the federal state of Hessia. Additional recruitment efforts have been conducted on various occasions through informal callings in network meetings, other educational programs for physicians, conferences, and through a variety of stakeholders involved in the process such as the German Society for Sports Medicine and Prevention, German Olympic Sports Federation, German College of General Practitioners and Family Physicians and the Sports Federation of Hessia.*
MT	*The General Practitioners were invited by mail through their professional associations while the physiotherapists were invited also via email through the Physiotherapy Lead.*
PT	*Healthcare units were chosen based on the existence of a General Practitioner with a post-graduation degree in sports medicine. With the support of the Portuguese Association of Sports Medicine, their members were invited to be involved in the process of implementation. The healthcare units where they work became those where the implementation happened.* *The requirement for exercise specialists to be involved was to hold a Bachelor's degree in sports science with a specialisation in exercise and health/clinical exercise They were recruited through agreements made according to the specificity of each local setting where the healthcare units are based, either through local Universities (a total of four: three in the North region, and the one in the Centre region), through local Municipalities (one in Lisbon), or through an individual involvement that participated in the WP6 EUPAP training (one in Lisbon) and who is a part of the Portuguese Directorate-General of Health (DGS-PT) team. Thus, the exercise specialists involved in the implementation come from outside the system supporting this way that the establishment of a network with the local community and local organisations to proceed with the PAP outside of the healthcare setting. None of the prescribers nor the exercise specialists received any type of financial compensation.*
ES	*The physical educators were responsible for contacting the Primary Care Centre. First via e-mail presenting the program and requesting a face-to-face meeting with the management of the Primary Care Centre and the community health referent. At this meeting, the project was explained in detail and the Centre was invited to participate. If so, a date was agreed upon for a training session for the entire Primary Care Centre team. None of the prescribers received any type of financial compensation for their involvement.*

Following these results, it is possible to observe:

- All countries involved in the PAP implementation already had staff working in their own healthcare settings.
- Participation in the implementation process by PAP professionals was voluntary.
- Invitations were sent to overall healthcare settings, but also to targeted, individual staff explaining the project, the need for collaboration, and what is expected.

- Some countries (Belgium, Portugal, Spain) required additional staff support (such as exercise specialists) from outside of the primary healthcare system, remarking the possibilities of linking PAP with the local community and relevant stakeholders.

A.5. Barriers and facilitators found in recruiting staff

The following barriers and facilitators in recruiting staff for the PAP implementation were found by the project partners.

	Barriers	Facilitators

BE	– *COVID-19 was a big barrier to implementation, because once it implementation was conducted, some of the serious waves of the outbreak were ongoing in Europe.*
	  – *General Practitioners had a brief period where all non-urgent care was not allowed to be administered.*
	  – *Lots of information was being directed to General Practitioners regarding COVID-19.*
	  – *Time of local organisations to dedicate to other health matters beside COVID-19 decreased during pandemic.*
	– *Lack of time in local organisations, even without COVID-19 (e.g., other projects, few staff, …).*
	– *Most General Practitioners are independent workers, and there is no financial incentive for them to motivate their patients to be more physically active.*
	– *PAP-coaches are recommended to recruit General Practitioners.*
	– *General Practitioners are very busy and hard to reach (even without the onset of the COVID-19 pandemic in consideration).*
	– *Change of staff/staff turnover in some local networks made it difficult to continue the regular workflow, and new professionals often have a smaller network then those who they are substituting.*
		– *An established network. Both at the Flemish and the local level there is a large network from different sectors that supports PAP.*
		– *PAP-coaches enthusiastic. PAP-coaches are recommended to recruit General Practitioners. The General Practitioners can be recruited on a personal level and motivated by a coach that helps General Practitioners help get their end-users more active.*
		– *Financial contribution for PAP-coaches exists. PAP-coaching is affordable for the end-user because the Flemish government pays for the largest portion of the intervention. This is an important aspect for the General Practitioners to participate.*
		– *Lack of physical activity and the consequences are clear.*
		– *Good results showing participants increasing their physical activity-levels in earlier studies in Flanders and Sweden.*

DE	– *The COVID-19 pandemic obviously played a large role as a main barrier in recruiting prescribers. Throughout the project, restrictions regarding COVID-19 led to a number of difficulties – from a shortened time period of implementation to more general challenges in terms of communication with and among health professionals and with stakeholders and postponed or cancelled events.* – *There was also a reserved will of interaction from the physicians as the prescribers, as stated in the meetings done. Consequently, the outcome of data-collection and feedback communication were highly affected by the small numbers of answers received through questionnaires and other ways of communication.*	– *The very well operating network of stakeholders and organisations involved in the process of the project implementation.*
PT	– *When the Portuguese-pilot implementation started in early 2020, COVID-19 paused the implementation and progression overall. This situation implied a lot of coordinated efforts of healthcare units and human resources that were already engaged in the project. When restarting the implementation again in March 2022, only half of the settings and the human resources were still available for collaboration, and additional, new partners had to be involved.* – *Some General Practitioners showed interest in being involved, but they didn't fill the sports medicine postgraduate requirement. This is something that should be considered in the future to get healthcare units more active, but as the Portuguese implementation is also a pilot to test the effectiveness of the process and possible future inclusion in the National healthcare system, there was no possibility to change the requirement.* – *Regarding the participation exercise specialists, there was an issue in terms of qualification, because not everyone had experience in working with end-users involving clinical diagnosis. This was especially evident amongst those who came from the municipalities, alike what happened with the General Practitioners who made impossible to establish PAP in more healthcare units. In the case of the exercise specialists*	– *Previous studies made by DGS-PT showed that if a Medical Doctor or a general practitioner prescribes exercise to inactive and sedentary people, there is a higher probability to engage this population in physical activity. This is one of the main reasons for the creation of the Portuguese pilot in 2017 and the involvement in EUPAP.* – *The individual experience of the General Practitioners involved in the topic. Most of them were already developing their PAP procedures in their health-care settings.* – *The previous experience and models of Flanders (Belgium), Catalonia (Spain) and Sweden were an inspiration to structure the Portuguese-pilot, and the EUPAP was a great opportunity to learn from.*

	who came from the universities, they have been involved in the project throughout their Master's degree academic internships. When their internship finished they were to leave the project and were replaced by another person who was starting the same internship. – *Moreover, since the exercise specialists represent human resources from outside of the national healthcare system, their involvement is voluntary, without any reimbursement (and in the case of the exercise specialists coming from universities, their involvement is part of their internship). In the case of the exercise specialists coming from the municipalities, their participation was a part of their regular work schedule and responsibilities within the municipality).*	
ES	– *The main problem with staff recruitment was the limited time that health professionals had in their offices. Some saw the referral to a physical educator as extra work with consideration of their regular scope.* – *Another problem was that physical educators have had to become self-employed in order to bill.*	*Catalonia health centres had antecedents with CAMINEM programme ("let's walk together") and some professionals already knew the structure, rigour and professionalism with which the CAMINEM program was carried out.* *In Catalonia, specific training in physical exercise for people with pathologies is offered with a Master's degree. The personnel hired have been people with these studies and deemed as trustworthy.*

Following these results, it is possible to observe the following **barriers**:

- COVID-19 was a common barrier in every country, partner and setting.
- Participants expressed a lack of time to add new procedures into their current scope of work.
- Staff changing in some locations required regular restarts of the entire process.
- In the case of the countries with staff included from outside the health system (i.e., Portuguese and Spanish exercise specialists), those professionals recruited acted mainly as volunteers or in the capacity self-employment.

Following these results, it is possible to observe the following **facilitators**:

- The established network within the system and amongst local stakeholders allowed for the effective development of the PAP process.
- The developing body of evidence regarding the impact of physical activity in health.
- The staff involved was truly engaged and enthusiastic about the topic.

- Previous experiences in the field brought into the efforts by some of the staff involved.

A.6. Number of professionals staffed by the healthcare settings (i.e., all profiles that can be directly and indirectly involved in the PAP)

The number of professionals staffed by the healthcare settings was the following.

BE	ES
Approximately 11,000 professionals	*583 (in the 11 healthcare centres)*

In Belgium, which took a regional-wide approach, there was approximately 11,000 professionals staffed in healthcare settings, while in Spain there was 583 amongst the 11 healthcare centres from the Lleida Health Region.

A.7. Number of prescribers staffed by the healthcare settings (i.e., number of existent prescribers in the healthcare setting)

The number of prescribers staffed by the healthcare settings where PAP implementation was done was the following.

BE	DE	IT	LT	MT	ES
+/- 6,000	*21*	*6*	*547*	*18*	*94*

Belgium had approximately 6,000 prescribers staffed in the healthcare settings, whereas in Lithuania there was 547 and in Spain there 95. Germany, Malta and Italy and Lithuania had 21, 18 and 6 respectively.

A.8. Number of professionals staffed by the healthcare settings invited to participate (e.g., number of different professionals directly and indirectly that will be involved in the PAP)

The number of professionals staffed by the healthcare settings invited to participate in the PAP implementation was the following.

ES
583 (in the 11 healthcare centres)

In Spain, the entirety of the 583 professionals staffed in the 11 healthcare centres involved were invited to be involved in the process of PAP implementation.

A.9. Number of prescribers staffed by the healthcare settings invited to participate (i.e., number of prescribers involved in EUPAP)

The number of prescribers (independently of the role) staffed by the healthcare settings invited to participate in the PAP implementation was the following (considering their background).

BE	*Approximately 6,000 general practitioners (involved in the process in the whole region)*		
IT	*4*		
LT	*10*	*General Practitioners*	*2*
		Medical Doctors (Dietitians)	*4*
		Physiotherapists	*2*
		Occupational therapist	*1*
		Management officer	*1*
MT	*18*	*General Practitioners*	*1 (1 dropped out)*
		Physiotherapists	*17 (5 dropped out)*
PT	*General Practitioners*		*8*
RO	*24*	*General Practitioners*	*4*
		Community nurses	*20*
ES	*48*	*General Practitioners*	*40*
		Exercise Specialist	*7*
		Medical Doctors (Dietitians)	*1*

Besides Belgium, with already had their whole region-wide implementation in place, countries involved prescribers according to the dimension of their intervention, i.e., between a total of 5 and 48.

The professional background of the human resources involved is also different. It is possible to observe the inclusion of physiotherapists (in Lithuania and Malta), community nurses (in Romania) and exercise specialists (in Portugal and Spain), who are not allowed by law to

conduct prescription on their own, but only in the scope of the Medical Doctors activity, which represents an interesting future solution in terms of the creation of new PAP dynamics inside healthcare settings.

A.10. Number of professionals involved from outside the healthcare settings (through local stakeholders) (e.g., exercise scientists, community professionals, coaches, officers, ...)

The number of professionals from outside the healthcare settings involved was the following.

BE	*Belgium tried to involve every health care worker through a massive approach focused on the whole region (mainly PAP-coaches)*
IT	*14 (Exercise specialists)*
PT	*9 (Exercise specialists)*
ES	*7 (Exercise specialist)*

In the four countries analysed, the professionals involved from outside of the healthcare are exercise specialists who work with end-users after the PAP is made by the General Practitioners and Medical Doctors in the scope of their health services. As exercise specialists are not considered as health professionals in the context of primary healthcare, their activity in the countries that did the PAP implementation with the involvement of this role was done through the link between the healthcare settings and other local, community workers.

A.11. Demographic characterization of the professionals staffed (e.g., age, gender, academic background, profession situation, years of experience)

The characterisation of the professionals involved in PAP, namely prescribers, was the following.

MT	RO
12 physiotherapists[10]: – *Academic background (6 postgraduate master's degree, 5 undergraduate bachelor's degree, 1 postgraduate diploma)* – *Age (average 32,58) and gender (9 female, 3 male)* – *Years of experience (average of 10,42)* – *Job situation (11 works full time in the public and private sector, 1 works reduced hours in the public sector)* – *Employer (9 Ministry of Health, 2 Foundation for Medical Services, 1 Health Department Steward Healthcare)*	*4 General practitioners* – *Family medicine background* – *Average age of 47 years old* – *All the four with more than 10 years of experience* – *Work to private employer with a full-time contract*

In Romania, the prescribers have a family medicine background and more than 10 years of experience. In Malta, as the only general practitioner involved in the process dropped-out, the PAP implementation proceeded with the intervention of experienced physiotherapists (with more than 10 years of experience).

[10] The only General Practitioner involved in the beginning dropped-out of the implementation process.

3.3. End-users

The indicators regarding the end-user's topic used by EUPAP partners during the implementation are presented in the table 7.

Table 7. List of indicators used by every partner regarding the end-user's topic (green refers to indicators used and red refers to indicators not used).

		BE	DE	IT	LT	MT	PT	RO	ES
Reach	R.1. End-user diagnosis and other conditions according to each country (e.g., demographic characterization of the end-users)								
	R.2. Total number of potential end-users (i.e., people who were in a consultation)								
	R.3. Total number of end-users who received PA prescription (i.e., people that start the PAP process)								
	R.4. Total number of PAP's per end-user profile (i.e., according to the profiles defined in the feasibility study / e.g., people with diabetes)								
	R.5. The way it was done the identification of end-users to be involved in EUPAP is being/was done? (i.e., how people were directed to the PAP)								
	R.6. Barriers and facilitators found in identifying end-users								
Effectiveness	E.1. Physical activity and sedentary habits of the participants								
	E.2. Quality of life								
	E.3. Disease related factors (i.e., blood pressure, body-mass index, waist circumference, physical fitness)								
	E.4. Report of adverse events								
Implementati	I.5. Total number of participants who received PA prescription with follow-up								
	I.6. Total number of PAP's with follow-up per end-user profile (according to the profiles defined in the feasibility study)								
	I.7. Dropout rate (prior to follow-up)								

The results of the partners regarding every indicator used are presented in the following pages.

R.1. End-user diagnosis and other conditions according to each country (e.g., demographic characterization of the end-users)

The end-user diagnosis and other conditions according to each country is the following.

BE	IT	MT	PT
3,376 end-users *Average of 50,55 years old* *1085 Male (32,14%) and 2291 Female (67,86%)* *(Self)employed (36,79%), incapacitated (22,6%), retired (19,79%), unknown (7,32%), jobseeker (6,58%), student (4,41%) and housewife/houseman (2,52%)*	*27 end-users* *Average of 59,89 years old* *20 Male (74,07%) and 7 Female (25,93%)* *Referred by:* – *Hospital at discharge (10)* – *GP's (9)* – *MD after ambulatory consultancy (5)* – *Ambulatory consultancy (3)*	*13 end-users* *Average of 52,77 years old* *5 Male (38,46%) and 8 Female (61,54%)*	*82 end-users* *Average of 55,42 years old* *50 female (60,98%) and 32 male (39,02%)*

The average age of the end-users in the countries who used this indicator was between 50.55 years of age and 59.89 years of age, with more female end-users then male end-users in total (even considering Italy and Portugal having more male end-users). Belgium described their work status (36.79% were (self-)employed), and Italy identified from where they were referred (the most common case was in the Hospital at discharge followed by General Practitioners).

R.2. Total number of potential end-users (i.e., people who were in a consultation)

The total number of potential end-users was the following.

BE	DE	LT
Depending on the threshold; 1,816,332[11] or 4,674,905[12]	*10,100*	*147*

[11] According to WHO definition for health promoting physical activity (non-work related) or moderate work-related physical activity.

[12] According to definition '% of Flemish people (18+) doing at least 150'/week moderate physical activity + minimum 2 days a week of strength training') citizens do not reach the recommended level of physical activity.

Belgium considered the entire population of the Flanders region as potential end-users considering different threshold criteria, while Germany and Lithuania counted the number of end-users that fulfilled the inclusion criteria within their own contextual working scope (geographic in the case of Germany and institutional in the case of Lithuania).

R.3. Total number of end-users who received PA prescription (i.e., people that start the PAP process)

The total number of end-users who received PA prescription in the scope of EUPAP implementation was the following.

BE	DE	IT	LT	MT	PO	RO	ES	Total
3.376	*1.712*	*27*	*124*	*13*	*82*	*159*[13] *(51+108)*	*736*	**6,229**

This indicator was used by every partner of the project. A total number of 6,229 end-users received PAP. More than a half were in Flanders (3,376), followed by Germany (1,712), Spain (736), Lithuania (124), Portugal (82), Romania (159, divided between the prescriptions completed by general practitioners and the counselling done by community nurses found as a feasible alternative), Italy (27) and Malta (13, all conducted by physiotherapists). These results also show the level of maturity of the countries and the geographic and/or institutional scope of their interventions.

R.4. Total number of PAP's per end-user profile (i.e., according to the profiles defined in the feasibility study / e.g., people with diabetes)

The total number of PAP's provided per end-user profile was the following.

BE	*Overweight/obesity*	*1.771*
	No disease	*1.408*
	Burn-out/stress	*478*
	Low back pain	*444*
	Diabetes mellitus type 2	*358*

[13] 51 people were prescribed by the General practitioners and 108 people were counselled by the community nurses. It is relevant to remark that in Romania, the prescription made by community nurses was an alternative founded within the system, but they can only provide counselling and not prescription.

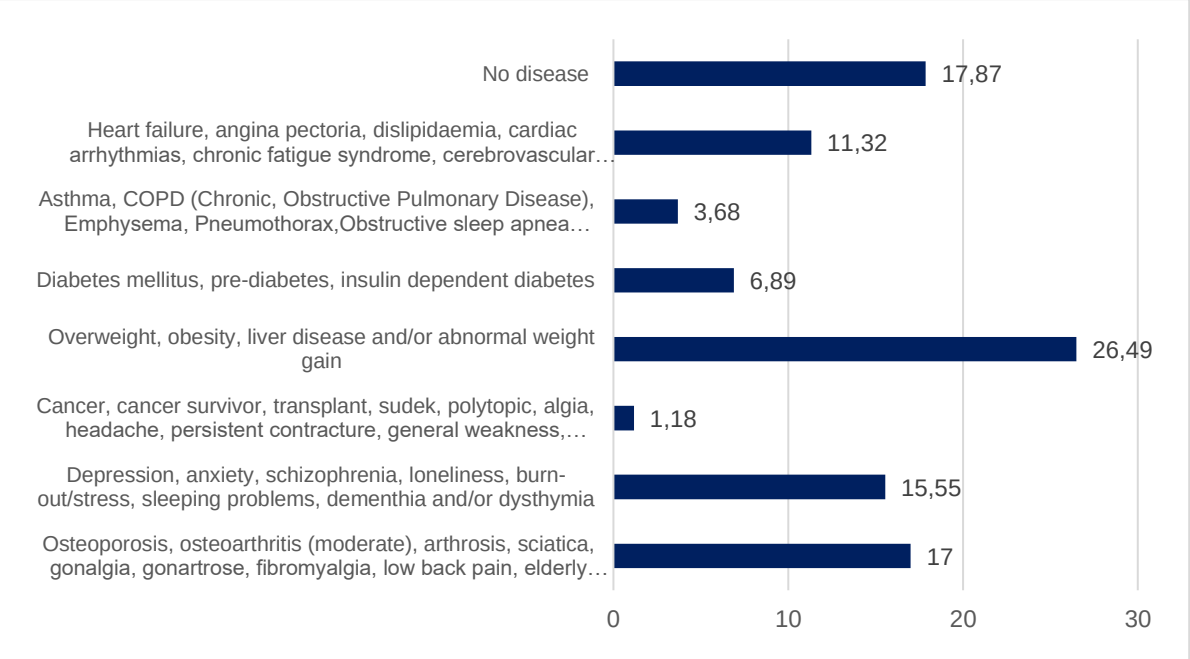
	Hypertension		*351*
	Osteoarthritis (moderate)		*327*
	Depression		*308*
	Sleeping problems		*291*
	Anxiety disorder		*248*
	Asthma		*134*
	COPD-Chronic Obstructive Pulmonary Disease		*111*
	Elderly at risk of falling		*66*
	Osteoporosis		*60*
	Cardiac arrhythmias		*58*
	Fibromyalgia		*49*
	Diabetes mellitus type 1		*45*
	Chronic fatigue syndrome		*37*
	Heart failure		*36*
	Cancer		*33*
	Cerebrovascular accident		*29*
	Dementia		*12*
IT	*All the 27 end-users showed a multiple disease situation*	*Hypertension*	*22*
		Hypercholesterolemia	*16*
		Coronary artery disease	*14*
		Obesity	*11*
		Obstructive sleep apnea syndrome	*3*
		Diabetes	*3*
		Other	*2*
		Valvular heart disease	*2*
		Gonarthrosis	*2*
		Myocardial bridging	*2*
		Stroke	*2*
		Pre-diabetes	*1*
		Aortic aneurism	*1*
		Atrial fibrillation	*1*
		Chronic obstructive pulmonary disease	*1*
		Insulin dependent diabetes	*1*
		Liver disease	*1*
		Previous stroke	*1*
		Severe gonarthrosis	*1*
		Previous Sars-Cov-2 pneumonia	*1*
		Severe hypertension	*1*
		Supraventricular arrhythmias	*1*
		Subarachnoid haemorrhage	*1*
MT	*Diabetes*		*8*
	Obesity		*4*
	Obesity and diabetes mellitus		*1*
PO	*Depression*		*42*
	Diabetes type 2		*40*
	Hypertension		*101 (23 +78)*
	Overweight and obesity		*73 (28+45)*
	Diabetes		*50 (13+37)*
	Osteoporosis		*39 (5+34)*
	Anxiety		*22 (5+17)*
	Depression		*17 (2+15)*
	Cancer		*13 (3+10)*
ES[14]	*Osteoporosis, arthrosis, sciatica, gonalgia, fibromyalgia and/or lumbago*		*381*

[14] In Spain, many of the end-users have more than one clinical diagnose. This way, the total number of people who receive PAP doesn't fit with the total number of end-users per disease profile.

	Overweight, obesity and/or abnormal weight gain	*238*
	Hypertension	*136*
	Diabetes mellitus	*107*
	Depression, anxiety, schizophrenia, loneliness and/or dysthymia	*80*
	Cancer, cancer survivor, transplant, sudek, polytopic, algia, headache, persistent contracture, general weakness, abdominal distension and/or unspecified neuropathy	*54*
	Dyslipidaemia	*43*
	Asthma, COPD (Chronic, Obstructive Pulmonary Disease), Emphysema, Pneumothorax or persistent COVID	*40*
	Heart failure, angina pectoris and/or any other diagnosis directly related to the cardiocirculatory system	*34*

It is relevant to remark on the fact that many patients were diagnosed with multiple diseases, explaining why the total number of patients per end-user profile doesn't fit within the total number of PAP completed overall (per person).

Regarding the health situation of the total end-users who received PAP within the partner's countries, it is the possible to observe the following numbers.



Graphic 2. Distribution (%) of groups of diseases diagnosed in end-users who received PAP.

Health situations related to overweight, and obesity were the main reason for providing PAP (26.49% of the total), following by physiatry diseases (17.00% of the total), mental health diseases (15.55%), cardiovascular diseases (11.32%), diabetes-related diseases (6.89%), respiratory diseases (3.69%), and cancer and other diseases (1.68%). The existence of

PAP with no diseases end-users was also reported (17.87% of the total), all of them in Belgium/Flanders.

R.5. The way it was done the identification of end-users to be involved in EUPAP was done? (i.e., how people were directed to the PAP)

The way it is was done the identification of end-users to be involved in EUPAP was the following.

BE	*All people living in Flanders and Brussels who do not reach the recommended level of physical activity as described in the Flemish recommendations (based upon the WHO recommendations) are welcome to use PAP. In Flanders and Brussels all medical doctors are targeted to discuss physical activity and PAP with their end-users. No special questionnaire or indicators (e.g., for hypertension, depression, etc.) are used to direct end-users to PAP.* In 12 specific zones it was implemented PAP with more potential prescribers. Not only GP's (as in the rest of Flanders and Brussels) but also other health care workers can work with PAP. (e.g., Dietist, physiotherapist, …).
IT	*Participants were referred by:* – *Hospital at discharge (10 patients)* – *General Practitioners (9 patients)* – *Medical Doctor after ambulatory consultancy (5 patients)* – *Ambulatory consultancy (3 patients)*
PT	*Every General Practitioner involved helped to identify the need for exercise in specific end-users with profiles previously defined (i.e., people with depression or people with Type II diabetes), and referred them to the "physical activity consultation" provided by the exercise specialist who would then follow the entire process with the support of the general practitioner (they are called "PAP-team").*
ES	*Healthcare professionals were told to select end-users who could most benefit from an individualised physical exercise program, and the same professionals referred end-users to a PAP physical educator.*

In the case of Portugal and Spain, the General Practitioners identified the need for exercise, and referred these particular end-users to exercise professionals. In the case of Italy, the reference was made mainly in the context of the Hospital at discharge and by General Practitioners, while Belgium has a territorial approach, where every person who doesn't reach the physical activity recommendations was eligible to participate in line with the work of local PAP-coaches.

R.6. Barriers and facilitators found in identifying end-users

The main barriers and facilitators found by partners in identifying end-users was the following.

	Barriers	Facilitators
BE	*In the 12 zones, an online survey was launched with 134 responders (i.e., prescribers) for this specific question. The results showed:* – *45% of the respondents have no difficulty recognising end-user.* – *30% of the prescribers do not know who can be referred to PAP.* – *13% have difficulty recognising end-users who are open to advise on physical activity.* – *8% find it difficult to estimate whether end-users move too little or stay seated too much.* – *4% is not sure whether it is appropriate to encourage end-users to be more physically active (e.g., specific illness).* – *About 13% of the respondents give another reason, such as insufficient knowledge of PAP (4%), or they provide the necessary advice and guidance themselves (3%).*	*In the 12 zones, an online survey was launched with 134 responders (i.e., prescribers) for this specific question. The results were:* – *For 62% of the respondents, the presence of certain diseases helps to recognise end-users.* – *47% of the prescribers indicate that the presence of a socially vulnerable situation in end-users helps them to recognise end-users.* – *A sedentary profile (45%) and signs of development of certain diseases (37%) also ensure that end-users are recognised.* – *19% indicate something else, such as more knowledge of the project (3%), a more in-depth conversation with the end-user (5%), or other specific physical complaints, such as fatigue, stress, back problems, etc. (4%) to help them identifying possible end-users.*
PT	*Many GPs from the same healthcare units where the PAP was being implemented don't refer eligible end-users, and thus, don't send them to the "physical activity consultation" making the end-user lose the opportunity of participating in the PAP therapeutic.*	*To have a pre-defined profile to follow-up with the PAP process that makes the decision of referring easy, i.e., alike every time an end-user is diagnosed with diabetes or depression.*
ES	*Lack of time on the part of health professionals in the consultation room.*	*Broad inclusion criteria.* *Simple communication.*

In Portugal and Spain, the participation of healthcare professionals and the engagement of general practitioners acts as a common barrier. In Belgium, according to a previous survey completed, about a half of the prescribers had difficulties in recognising potential end-users, and about 30% said they don't know who are suitable to be referred or who can be referred.

As facilitators, Spain identified the broad inclusion criteria, while Portugal identified the specific criteria used (only in consideration of end-users with Type II diabetes and depression). In Belgium, according to a survey done, more than a half of the prescribers

identified the presence of certain diseases acting as a facilitator to recognise end-users, while about a half indicated the presence of a socially vulnerable situation as another indicator to ease the identification of end-users.

E.1. Physical activity and sedentary habits of the participants

The measures used to evaluate physical activity and sedentary habits of the participants were the following.

	Measures used
BE	– *Use of IPAQ tool. Measures used:* – *number minutes/weekday sitting (start/end)* – *number of days/week walking (start/end)* – *number of minutes/week of walking (start/end)* – *intensity of walking (start/end) (low/moderate/vigorous)* – *number of days/week (moderate physical activity) (start/end)* – *number of minutes/day (moderate physical activity) (start/end)* – *number of days/week (vigorous physical activity) (start/end)* – *number of minutes/day /vigorous physical activity) (start/end)*
MT	– *Use of IPAQ tool. Measures used:* – *Age* – *Weight* – *number of days/week (vigorous physical activity)* – *number of minutes/week (vigorous physical activity)* – *number of days/week (moderate physical activity)* – *number of minutes/week (moderate physical activity)* – *number of days/week walking* – *number of minutes/week walking* – *number of days/week (moderate physical activity) + number of days/week walking* – *number of minutes/week (moderate physical activity) + number of minutes/week walking* – *number of minutes/week (moderate + vigorous physical activity)* – *number of minutes/week (moderate + vigorous physical activity) + number of minutes/week walking* – *MET-minutes/week (vigorous physical activity)* – *MET-minutes/week (moderate physical activity)* – *MET-minutes/week walking* – *MET-minutes/week total* – *Kcal/week (vigorous physical activity)* – *Kcal/week (moderate physical activity)* – *Kcal/week walking* – *Kcal/week total* – *Physical Activity Levels (low/moderate/high)* – *Minutes/week sitting time*
RO	– *Measures used:* – *Vigorous physical activity (minutes/per week)*

	– *Muscle strength* – *Sedentary time (hours/day)* – *Weight* – *Body mass index*
PT	– *Use of IPAQ tool. Measures used:* – *number of days/week (vigorous physical activity)* – *number of hours/day (vigorous physical activity)* – *number of minutes/day (vigorous physical activity)* – *number of days/week (moderate physical activity)* – *number of hours/day (moderate physical activity)* – *number of minutes/day (moderate physical activity)* – *number of hours/weekday sitting* – *number of minutes/weekday sitting* – *number of hours/weekend sitting* – *number of minutes/weekend sitting*
ES	– *Use of ClassPA tool. Measures used (based on MET values):* – *Sedentary* – *Minimally active* – *Active enough* – *Active* – *Very active*

Belgium, Malta and Portugal evaluated the physical activity and sedentary habits of the participants using measures included in the IPAQ tool. Spain used the ClassPA tool, Malta used specific indicators out of the scope of any tool, and Germany reported the identification of end-users who showed sedentary habits and who were physical inactive.

Even when considering the use of similar measures (within or without of specific tools), the measures used were very similar among all the partner countries who evaluated the physical activity and sedentary habits of participants.

E.2. Quality of fife

The quality of life was measured in the following partner countries using the following tools.

PT	ES
SF-12	*EQ-5D-5L*

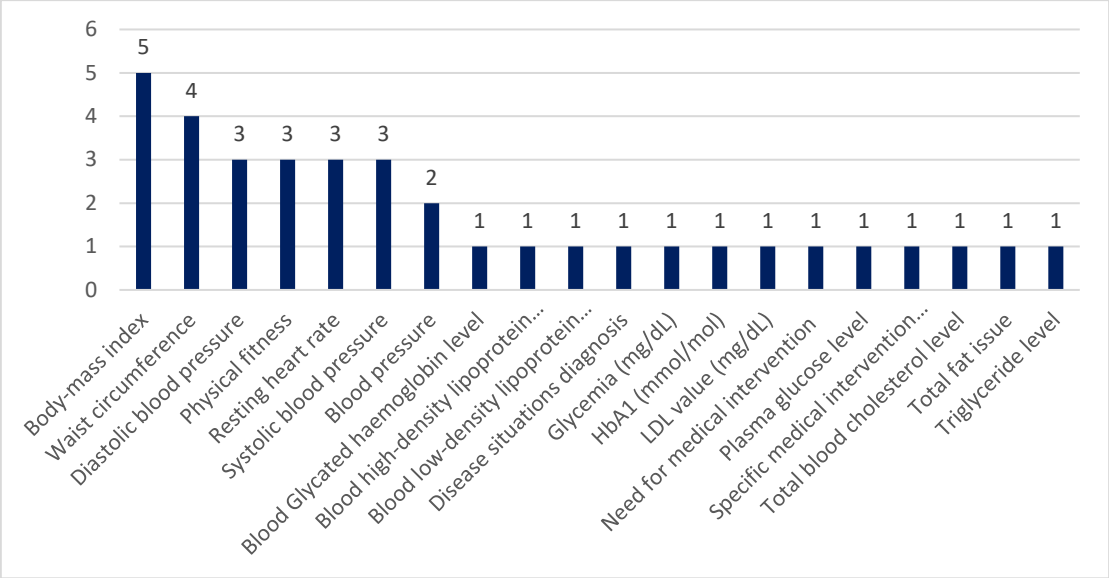
Portugal used the SF-12, while Spain used the EQ-5D-5L.

E.3. Disease related factors (i.e., blood pressure, body-mass index, waist circumference, physical fitness)

The measures used as disease related factors of the participants were the following.

	Measures used
IT	– *Disease situations diagnosis* – *Blood pressure* – *LDL value (mg/dL)* – *Glycemia (mg/dL)* – *HbA1 (mmol/mol)* – *Body-mass index* – *Need for medical intervention* – *Specific medical intervention (medication change, diagnostic procedures or other)*
LT	– *Blood pressure* – *Body-mass index* – *Physical fitness* – *Waist circumference* – *Total fat issue*
MT	– *Systolic blood pressure* – *Diastolic blood pressure* – *Resting heart rate* – *Body-mass index* – *Physical Fitness (heart rate of step test)* – *Waist circumference*
PT	– *Systolic blood pressure* – *Diastolic blood pressure* – *Resting heart rate* – *Body-mass index* – *Physical Fitness (heart rate of step test)* – *Waist circumference*
ES	– *Systolic blood pressure* – *Diastolic blood pressure* – *Resting heart rate* – *Body-mass index* – *Waist circumference* – *Total blood cholesterol level* – *Blood low-density lipoprotein cholesterol level* – *Blood high-density lipoprotein cholesterol level* – *Triglyceride level* – *Plasma glucose level* – *Blood Glycated haemoglobin level*

Based on these results, the measures that were most used by the partner countries as disease related factors were the following.



Graphic 3. Distribution (n) of disease related factors used by the partner countries.

The disease related factors most used by the partner country were: (1) body-mass index (utilised by five partner countries), (2) waist circumference (used by four partner countries), (3) diastolic blood pressure, physical fitness, resting heart rate and systolic blood pressures (implemented by three partner countries), and (4) blood pressure (used by two partner countries). A set of 13 other disease-related factors were considered by one partner-country.

E.4. Report of adverse events

The adverse events reported were the following.

IT	PT	ES
One acute coronary syndrome during exercise stress test	*None*	*None*

Among the countries using this indicator, it was reported 1 adverse event in Italy.

I.5. Total number of participants who received PA prescription with follow-up

The total number of participants who received PA prescription with at least one follow-up was the following.

BE	DE	IT	LT	MT	PT	RO	ES	Total
2,093	*175*	*18*	*15*	*11*	*27*	*37*[15] *(28+9)*	*530*	**2,906**

A total number of 3,113 end-users who received PAP had at least 1 follow-up (representing a 51.17%% of the total PA prescriptions completed). In partner countries, the number of PA prescriptions with follow-up was as such: 2,093 in Belgium (62% of the total prescriptions), 175 in Germany (10.22% of the total prescriptions), 37 in Romania (16.8% of the total prescriptions), 27 in Portugal (32.93% of the total prescriptions), 18 in Italy (66.67% of the total prescriptions), 15 in Lithuania (12.10% of the total prescriptions), 11 in Malta (84.62% of the total prescriptions), and 530 in Spain (72.01% of the total prescriptions).

I.6. Total number of PAP's with follow-up per end-user profile (according to the profiles defined in the feasibility study)

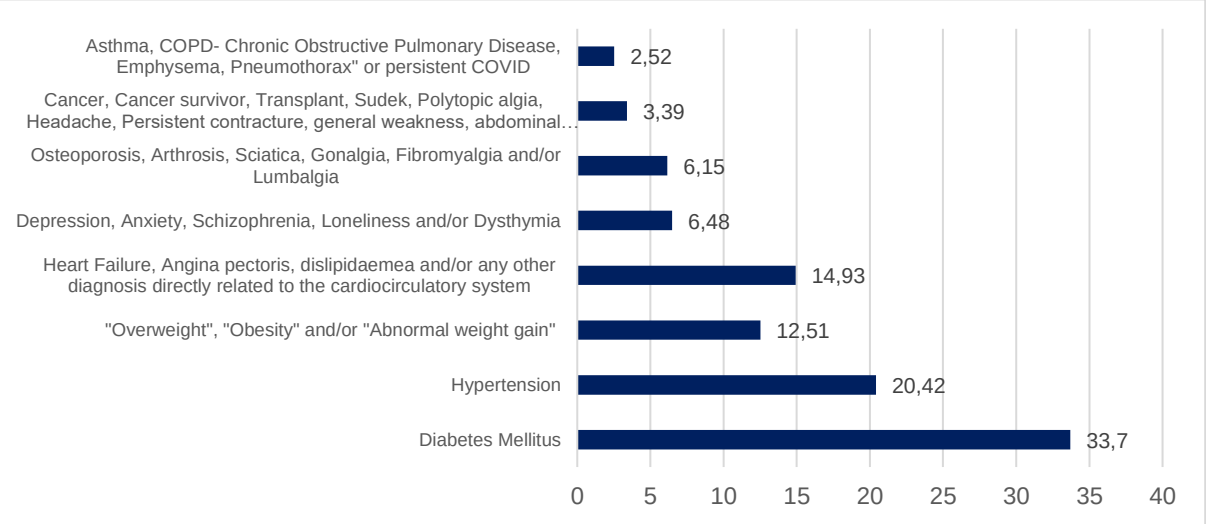
The total number of participants who received PA prescription with at least one follow-up per end-user profile was the following.

MT	*11*	*Diabetes type II*	*6*
		Obesity	*4*
		Obesity and diabetes mellitus	*1*
PT	*27*	*Diabetes type II*	*13*
		Depression	*14*
RO[16]	*37 (28+9)*	*Overweight and obesity*	*24 (10+4)*
		Hypertension	*19 (15+4)*
		Diabetes	*10 (6+4)*
		Osteoporosis	*4 (4+0)*
		Anxiety	*5 (3+2)*
		Cancer	*4 (2+2)*
		Depression	*3 (1+2)*
ES	*530*	*Diabetes Mellitus*	*285*

[15] 28 follow-ups done by the General practitioners and 9 follow-ups done by the community nurses. Again, it is relevant to remark that in Romania, the prescription made by community nurses was an alternative founded within the system, but they can only provide counselling and not prescription.
[16] In Romania, the counting considers those prescriptions done by the general practitioners (81) and the counselling done by the community nurses (139).

		Hypertension	*166*
		Dyslipidaemia	*104*
		"Overweight", "Obesity" and/or "Abnormal weight gain"	*85*
		Osteoporosis, Arthrosis, Sciatica, Gonalgia, Fibromyalgia and/or Lumbalgia	*52*
		Depression, Anxiety, Schizophrenia, Loneliness and/or Dysthymia	*37*
		Heart Failure, Angina pectoris and/or any other diagnosis directly related to the cardiocirculatory system	*32*
		Asthma, COPD- Chronic Obstructive Pulmonary Disease, Emphysema, Pneumothorax" or persistent COVID	*23*
		Cancer, Cancer survivor, Transplant, Sudek, Polytopic algia, Headache, Persistent contracture, general weakness, abdominal distension and/or unspecified neuropathy	*26*

It is relevant to note that many patients were diagnosed with multiple diseases, thus why the total number per end-user profiles does not align with the total number of PAP completed (per person).



Graphic 4. Distribution (%) of groups of diseases diagnosed in end-users who received PAP with at least one follow-up.

While patients with overweight were those who most received PAP (26.49%), the follow-up was carried out mostly in patients with diabetes (33.7%, even when considering that 6.89% of those received PAP). The results show differences between the distribution of disease factors for those who receive PAP and for those who receive at least one follow-up touchpoint (e.g., 15.55% of the PAP were done for people with some form of mental disease, but only 6.46% of the follow-ups completed were for people with the same conditions; 17% of the PAP were carried out for people with osteoporosis and similar diseases, but only 20.42% of this overall group received follow-ups of any kind).

The number of participants per end-user profile who received at least one follow-up is in line with the end-users' profiles of the participants who received PAP.

I.7. Dropout rate (prior to follow-up)

The dropout rate (prior to follow-up) was the following.

BE	*PAP-coaches report dropouts. 285 dropout reports were made.* *PAP-coaches also indicated when the participant was perceived as not requiring coaching, but first conversation with the patients was had nonetheless. This was reported 63 times.* *These two items explain 348 (285+63) from the 1,283 (3,376-,2093) participants that were registered as having an intake conversation but unaccompanied by any follow-up conversation. A possible explanation for this gap is a lack of consistent reporting from the PAP-coaches; perhaps they didn't report all of their follow-up conversations and/or the dropout reports.*
IT	*Three dropouts (two due to medical condition and one move to another city).*
MT	Two dropouts reported (both diabetes mellitus)
PT	*There wasn't any dropped out reported, at least, of yet. People are still involved in the process because it did not yet finish (to close the process in Portugal you have a follow-up at Month 1, Month 3 and Month 6 with a final evaluation). All the 27 end-users are still active in some moment of the follow-up.*
ES	*169 dropouts reported.*

In Belgium 348 dropouts have been reported (out of the 1,283 participants that were registered as having an intake conversation), while in Spain 169 dropouts were reported. In Italy, there were three dropouts, and in Malta, a mere two. In Portugal, no dropouts were reported, as people are still actively involved in the process (also considering that the follow-up was scheduled to take place after the end of the data collection period).

3.4. Meetings with stakeholders

The indicators regarding the meetings with stakeholders topic used by EUPAP partners during the implementation are presented in the table 8.

Table 8. List of indicators used by every partner regarding the meetings with stakeholders topic (green refers to indicators used and red refers to indicators not used).

		BE	DE	IT	LT	MT	PT	RO	ES
Implementation	I.1. Number of meetings with national stakeholders								
	I.2. Number of meetings with healthcare settings								
	I.3. Number of meetings with local-community stakeholders (of each healthcare setting)								

The results of the partners regarding every indicator used are presented in the following pages.

I.1. Number of meetings with national stakeholders

The number of meetings with national stakeholders by project partners was the following.

DE	LT	PT	ES
17	*5*	*6*	*15*

Germany had 17 meetings with national stakeholders, Spain had 15, while Portugal had six, and Lithuania had five. These meetings included the attendance and participation of national stakeholders such as health agencies, professional unions, municipalities unions, etc., and served to inform key stakeholders about the PAP while engaging them in the implementation process.

I.2. Number of meetings with healthcare settings

The number of meetings with healthcare settings by project partners was the following.

DE	MT	PT	ES
10	*7*	*6*	*17*

Spain had 17 meeting with healthcare settings (more than one per healthcare centre where PAP was implemented during the period observed); Germany had ten meetings (with the inclusion of individual physicians); Malta had seven meetings in the places where PAP was administered, and Portugal had six (with each of the healthcare settings where the implementation was done).

I.3. Number of meetings with local-community stakeholders (of each healthcare setting)

The number of meetings with local-community stakeholders by project partners was the following.

ES
13

pain was the only partner country in considering this indicator in the final version of the list of indicators, having reached 13 meetings with local, community stakeholders, which translated to more than one meeting per healthcare setting where PAP was implemented during this period.

3.5. Views on PAP implementation

The indicators regarding the view on PAP implementation topic used by EUPAP partners during the implementation are presented in the table 9.

Table 9. List of indicators used by every partner regarding the view on PAP implementation (green refers to indicators used and red refers to indicators not used).

		BE	DE	IT	LT	MT	PT	RO	ES
Adoption	A.15. Did the healthcare settings changed their routines after experiencing PAP (i.e., regarding the inclusion of PAP workflow)								
	A.16. Did the prescribers changed their routines after experiencing PAP (i.e., regarding the inclusion of PAP workflow)								
	A.17. Did the end-users changed their routines after experiencing PAP (i.e., regarding physical activity habit and sedentary behaviour)								
Implementat	I.8. Swedish-PAP model implementation fidelity (i.e., considering the application of each of its 5 core-elements all together)								
	I.9. Use of EUPAP tools (i.e., did they improve the quality of the intervention)								
Maintenance	M.1. Number of healthcare settings who will continue to work with the EUPAP procedure in the future (i.e., including PAP process in their workflow)								
	M.2. Total number of professionals who will adopt the EUPAP procedure in the future (i.e., including PAP process in their workflow)								
	M.3. Number of professionals who will adopt the EUPAP procedure in the future (per professional profile)								

The results of the partners regarding every indicator used are presented in the following pages.

A.15. Did the healthcare settings changed their routines after experiencing PAP (i.e., regarding the inclusion of PAP workflow)

The changes in healthcare settings routines after experiencing PAP were identified the following way.

IT	*Italy was already a prescribing centre, but modified its internal routine to extend their activity to other end-users*
PT	*The creation and implementation of the 'consultation on physical activity' to provide PAP demanded clinical and managerial changes within every healthcare setting involved in the implementation once, in every setting, end-users must be referred in first place by a local GP to participate in the PAP consultation and this represents a new internal process. Nevertheless, as the Portuguese pilot will still working after EUPAP ending, it cannot be assured yet if the new routines will be made regularly after the implementation/pilot process.*
ES	*During the period in which PAP is active, the participating centres have changed their routines. But they say that if the physical educators leave the centres, the centres will no longer have anyone to refer to.*

I In Italy, there were changes made regarding the routines in order to extend the intervention to other end-users. In the case of Portugal and Spain, while the PAP has been working, the routines have been changed, once they confirm the participation of an external human resource (i.e., exercise specialist). Although, it is not clear that these routines would change if it doesn't' become a systematic service provided by the healthcare system.

A.16. Did the prescribers changed their routines after experiencing PAP (i.e., regarding the inclusion of PAP workflow)

The changes in prescribers' routines after experiencing PAP were identified the following way.

BE	*A survey was conducted online in a limited number of pilot regions, healthcare professionals (other than MDs) could also prescribe physical activity.* *31% of the prescribers indicated talking more about physical activity with their end-users since they knew there was PAP active in their area.* *55% of the prescribers did not use PAP in their daily routine, and 30% did so on a sporadic basis. 9% used it when end-users asked about it themselves, and 6% often used Physical Activity on Prescription.* *Most of the prescribers indicated forgetting PAP in practice (35%), or not knowing it (well enough) (34%). Furthermore, 19% indicated that end-users were difficult to motivate. 13% didn't discuss physical activity regularly with their end-users, and 10% didn't see a link*

	between the problems end-users come up with and PAP. Time to prescribe, or fear about physical activity in unfit end-users acted as reasons by only about 3% of the prescribers. 28% indicated another reason, such as giving advice or coaching themselves (13%), or having few or no potential end-users (5%).
DE	*In the survey applied among the prescribers who experienced further education of PAP, it was possible to evaluate some of the physician's implementation process in more detail. Most of the prescribers reported a change in their routines after receiving PAP expertise. This information confirms the feedback got from physicians when providing additional support with materials and tools for the PAP realization, which was appreciated and considered as helpful.*
IT	*In Italy, the change of routines was more focused on personal preferences and motivational techniques.*
PT	*One of the difficulties experienced was how to involve other GPs from the health unit where PAP is being implemented to refer their end-users to the 'consultation on physical activity'. We believe the prescribers directly involved in this new routine will change their approach, but there still a lot of work to do in order to involve the rest of the GPs and other health-allied professionals that have been outside of the process, even considering that they are working in the same healthcare unit where PAP is being implemented.*
ES	*Some have seen that it is not only possible to walk or go to the gym, but that there are also many other exercises that should be made "mandatory" for certain diseases.* *Apart from broadening of the vision of some of them, they all said that if the centre does not give them the resources to refer their end-users, they will stop doing it.*

In the case of Belgium and Germany, and according to the results of the surveys used to identify these data, prescribers reported a change in their routines. Italy also reported a change in routines by the prescribers involved in the process within their setting. In Portugal, those prescribers involved in the PAP had changed their routines through the inclusion of a new feature and a new professional link (made between general practitioners and exercise specialists), although, these changes were not systematic as they were dependent of the involvement of individual general practitioners' involvement. In the same way, in the case of Spain, the change of routines is dependent on the continuation of the exercise specialist's involvement, and is considered a work in progress.

A.17. Did the end-users changed their routines after experiencing PAP (i.e., regarding physical activity habit and sedentary behaviour)

The changes in end-users' routines after experiencing PAP were identified the following way.

BE	*A survey was conducted online in a limited number of pilot regions, where healthcare professionals (besides MDs) could also prescribe physical activity.* *83% of the respondents indicated bring more physically active than before PAP. 12% indicated not moving anymore.* *With a first glance at the IPAQ, it can be seen that the amount of PA has increased.*
GE	*According to their estimation, it was asked physicians to what percentage of the end-users that they advised were able to implement the recommendations made during the counselling session. While 36% of the prescribers said that less than 25% of their end-users were able to implement changes, the majority of physicians (55%) indicated that between 25-50% of the people advised followed the PAP. Less than 10% of the prescribers stated that between 50-75% of the end-users were able to fully implement the recommendations.*
IT	*Even if it's not possible to include exercise, the focus was on reducing sedentary behaviours.*
ES	*All of the people interviewed said yes.*

In all four countries who used this indicator reported a positive trend in terms of physical activity. The prescription had impact in the routines of end-users who followed the PAP. Regarding the effectiveness of the intervention, the results also confirm that impact and the general behavioural changed.

I.8. Swedish-PAP model implementation fidelity (i.e., considering the application of each of its 5 core-elements all together)

The fidelity of the implementation regarding the Swedish-PAP model was identified the following way.

BE	*An online survey was conducted in a limited number of pilot regions, where healthcare professionals (other than MDs) could also prescribe physical activity. This survey was sent to healthcare professionals. 34% of the respondents indicated that they were physiotherapists, 16% General Practitioners, 16% psychologists, 10% social workers, 6% pharmacist, 6% dieticians and 3% nurses. In total, the survey counted for 156 respondents, of which 121 completed the entire survey.* *Of the prescribers who were aware of making a written prescription (48%), 67% were satisfied with this. 31% of the prescribers were neither satisfied nor dissatisfied. 5% were not satisfied.* *Half of the prescribers were familiar with the personal approach and customisation of the coach. Of these, 59% were satisfied with this approach. 32% were neither satisfied nor dissatisfied and 8% were not satisfied. 61% were satisfied with the follow-up by the coach and 37% were neither satisfied nor dissatisfied.* *45% of prescribers were not aware that there was a local supportive network, and 34% indicated that they were not aware if such a network was active in their own region. Of the prescribers who were aware, 15% were satisfied with that local network. 76% answered rather neutrally.*

	Only 10% of the prescribers ere familiar with FYSS. Of those who knew it, 83% were satisfied with the work. The other respondents were neither satisfied nor dissatisfied.
GE	*Most of the physicians were only using parts of the Swedish-PAP method. Reasons could be that prescribers named time constraints as one of the main barriers to providing PA counselling. Another barrier was listed as the lack of accounting possibilities, with the combination of both possibly hampering the prescribers' capabilities in consideration with the 5-core elements coming all together during medical practice.*
IT	*Yes, absolutely. Each one of the 5-core components was included in the process.*
MT	The four physiotherapists who prescribed PAP to their end-users said that implementation of the Swedish-PAP was carried out with fidelity.
PT	*Yes, absolutely. A "physical activity consultation" occurred where a GP and an exercise physiology would work together in creating a person-centred exercise prescription. The prescription made was evidence-based (with the support of the Portuguese version of the FYSS-short), and there was a follow-up (in Portugal, the follow-up is made in 3 different moments before ending the therapeutic process: after 1 month, after 3 months, and after 6 months). A supporting environment of a community-based network (different in every setting, but mostly done through the link between the local healthcare setting and a local university or the local municipality and their facilities).*
ES	*Yes, absolutely. Each one of the 5-core components was included in the process.*

The countries who used this indicator reported a major use of the 5-core elements in their implementation. During the process of monitoring, issues like the establishment of a link between the local stakeholders or the follow-up process (which wasn't finished in many countries that only started their implementation in 2023 – not giving enough time to close the therapeutic process) were mentioned.

I.9. Use of EUPAP tools (i.e., did they improve the quality of the intervention)* (*to be crossed with WP3)

The use of EUPAP tools was reported the following way.

GE	*Partly, individualised tools were created and forwarded upon request after the need for more information regarding local sport and physical activity options had been expressed by the physicians. Additionally, short information letters (based on the FYSS book) providing information on evidence-based effects of physical activity and recommendations for various diseases and diagnoses had been disseminated throughout the prescribers' network, and were offered to individual stakeholder for use within their physician network.*
IT	*FYSS-short was made available to every prescriber.*
MT	The PAP form was modified and designed, translated into Maltese and printed and distributed to the prescribers to use when prescribing PAP to their end-users. The FYSS short was disseminated to the prescribers as a soft copy in its entirety and the parts related to the conditions addressed in Malta's implementation (Diabetes Mellitus and Overweight and Obesity) were also delivered as a hard copy. The Physical Activity Diary and end-user information leaflet were adapted from the Swedish version and designed, translated into

	Maltese, printed and distributed to the prescribers to give to the end-users. Malta also created an informative resource to aid General Practitioners in PAP prescription. The short International Physical Activity Questionnaire (IPAQ short) was used to assess physical activity. An already validated Maltese translation was also used
PT	*The Portuguese version of the FYSS-short was made available to every prescriber involved in the process together with the prescription form. In this case, GPs were free to use or adapt the prescription form the way that they felt most comfortable with.*

Countries using this indicator reported the dissemination and adaptation of EUPAP tools through their healthcare settings and prescribers, namely the prescription form and the FYSS-short in national languages.

M.1. Number of healthcare settings who will continue to work with the EUPAP procedure in the future (i.e., including PAP process in their workflow)

The number of healthcare settings who assumed to continue to work with EUPAP in the future was the following.

BE	*In the beginning of 2022, 51 healthcare zones filled in a questionnaire. In this questionnaire they answered the question: "Will you continue to work with PAP in your healthcare zone?" 43 answered 'yes' and eight answered with 'I don't know'. None of the respondents indicated 'no'.* *On the 10th of November 2022 the Flemish government decided to prolong PAP until the end of 2025. The decision to let all healthcare workers use PAP is to be expected in the first half of 2023, after an evaluation of the current pilot zones.*
PT	*The PAP process is still ongoing through the Portuguese pilot, so it is not possible to answer this question accurately. Although, besides the six already working, it is expected to reach the implementation of the Portuguese-pilot in a total of 15 healthcare settings that are about to start. After the Portuguese pilot ends in 2024, its cost-efficiency will be evaluated for the National Healthcare system, and then a decision will be made regarding the implementation of a specific national-wide PAP programme or not.*
ES	*One confirmation.* *Note: 11 intend to continue but depends on whether funding is secured.*

The countries who used this indicator already have a PAP system in place (Belgium/Flanders), under active and intentional development (Spain/Catalonia) or in process of system-building (Portugal). In the case of Spain in Portugal, the continuation of the PAP depends on funding and its introduction into the system as a systematic approach, what is dependent on governmental decision-making.

M.2. Total number of professionals who will adopt the EUPAP procedure in the future (i.e., including PAP process in their workflow)

The number of professionals who assumed to continue to work with EUPAP in the future was the following.

BE	*80% of the questioned prescribers will continue using Physical Activity on Prescription in the future (n=122). Most prescribers who indicated not proceeding further did not give any specific reason for not continuing. A relevant remark is that physiotherapists were those who most completed the survey (34%). Physical Activity on Prescription is often seen as 'competition' for their own profession´ within this particular healthcare professional group.*
GE	*Within the project period, it was possible to incorporate the PAP principles in the further education curriculum of the Medical Chamber of Hessia. Regarding this, a continuous education of physicians was provided. Due to the difficulties with the data collection, a total number of professionals cannot be given.*
IT	*At the moment sports medicine staff working as prescriber are limited to six persons, but it can be involved other professionals for "lower intensity" level of care in the near future.*
MT	Five professionals said they would adopt the EUPAP procedure in the future while 5 professionals said they might adopt the EUPAP procedure in the future.
RO	*The general practitioners involved in EUPAP who answer to a survey sent reported its satisfaction with the PAP approach but also reported its use only when patients ask for it. Nevertheless, they have been talking more about physical activity, but found it hard to motivate end-users in changing their unhealthy habits.*

In general, considering the partner countries who used this indicator, the prescribers who were general practitioners most reported the lack of time as a barrier to proceed with PAP in the future (e.g., Romania). Although, the majority were willing to use PAP in the (e.g., Belgium/Flanders and Romania). Other professionals also seemed to be keen to the inclusion of PAP in their routines in the future (e.g., Malta and Belgium/Flanders). Efforts are being made to increase the knowledge of professionals (e.g., Germany), and to widen the professional network involved in the PAP process (e.g., Italy).

M.3. Number of professionals who will adopt the EUPAP procedure in the future (per professional profile)

The number of professionals per profile who assumed to continue to work with EUPAP in the future was the following.

MT	*Five Physiotherapists said that they would adopt the EUPAP procedure in the future, while five physiotherapists said that they might adopt the EUPAP procedure in the future.*

PT	*The participation of the exercise specialist in future actions related to PAP depends on the full integration and implementation of their role and profile within the Portuguese health system. Nevertheless, they will always be able to work autonomously in their work settings through the local community networks created in the scope of the PAP process.*

In Malta, half of the physiotherapist involved reported to be willing to adopt while the other half reported they might adopt EUPAP in the future. In the case of Portugal, the counselling of physical activity by general practitioners is already in place, but the PAP is done with the support of exercise specialists. The future depends on their involvement in the system through a systematic PAP approach that needed to be decided by upper governmental structures.

CONCLUSIONS AND FINAL REMARKS

After observing the results obtained and described regarding each indicator used by every partner country, it is possible to remark on the following aspects of the PAP implementation:

- A pandemic is always unexpected. In the case of EUPAP, COVID-19 implied a 1-year extension of the project and a larger heterogeneity in terms of implementation. This means that instead of having 15 months for implementation as was originally planned in the project proposal, each country had to find a suitable window according to their possibilities and COVID-19 restrictions in their countries, and in accordance with their National Health Services to start the implementation.
- Planning of the implementation started from a top-down approach, to reach homogeneity of the implementation in all countries, but finished in a mix of bottom-up with top-down. This showed the need for a more flexible approach when implementing new services within the health care sectors, especially in the middle of a pandemic.
- Not all of the partners' countries were able to implement the entirety of the 5-core elements at once, but all countries managed to do so at the end. There may have been challenges to implement all of the 5-core elements at once, especially when considering how the implementation was performed in countries or settings with no former or weak support structures for physical activity in health care. As such, a step-by-step approach may be the most adequate approach, considering the time for raising awareness and appropriate training.
- The definition of a list of indicators, from which every partner chosen and used those in line with their own reality and possibilities. This resulted in a customised implementation approach to the reality of every partner country, and at the same time, assisted in making it internally consistent (every indicator of the list had a cluster of partners implementing it).
- Every partner country found their own solutions to implement the PAP and its 5-core elements. This was clear namely in the (a) national/local trainings provided, (b) healthcare settings and networks created, (c) professionals involved, and (d) participant end-users.

- In terms of training, a total 4,471 people were trained locally in the scope of EUPAP (considering the inclusion of more than 19 professional profiles) in a total of 144 trainings provided. Among these trainings, 155 people were trained to be directly involved in the PAP within their own country-setting. Some trainings were made open to different sectors of the general public, and others were restricted only for the people who were willing to be involved. Both virtual and presential approaches were used.
- Regarding the recruitment of staff to be involved in the PAP, countries that used this indicator showed common results: staff involved were already working in the system, the participation was on volunteer basis, and invitations were sent to healthcare settings but also to individual staff. In some countries (Portugal and Spain) there was the need to involve additional staff from outside the health services (e.g., exercise specialists), in particular exercise specialists, to implement the PAP (and, at the same time, link the local healthcare setting with the community).
- Barriers found in the implementation remark the lack of time that the health professionals had to add new professional procedures, staff turnover in some communities require regular process or procedural restarts, and the recruitment of professionals who worked outside of the health system and had to do it as volunteers (namely, the exercise specialists in Spain and Portugal). The referring of other health professionals to the existing PAP in the local services was also an issue discovered by the generality of the partner countries.
- Facilitators found reference to the relevance of having an established network of stakeholders who are aware about the fact that the impact of physical activity on health is no longer a myth and constituted by professionals with previous experience in the field and enthusiastic about the topic.
- Two levels of implementation were observed. In one level, in settings where a PAP system was already in place or under development, the PAP-S was issued to leverage the quality of the local model, while in another level, where PAP was implemented for the first, it was done according to the possibilities offered by the local healthcare and health professionals system.
- Each partner country worked according to their own systems regarding the role of the “prescriber”. In almost all of the participating countries, the profile of general practitioner or medical doctor from other specialist fields is essential to proceed with the prescription. Nevertheless, some countries and particular regions (Belgium/Flanders, Spain/Catalonia and Portugal) included the exercise specialists

as having a new role in working closely to the primary health care sector. In other cases, physiotherapists assume an autonomous role in the process (e.g., Malta), while community nurses supported general practitioners providing physical activity counselling (e.g., Romania).

- A total number of 6,229 end-users received PAP in the eight countries where the implementation was applied. Different end-users' profiles were considered. In some partner countries, the decision was to be as open as possible to involve more people in the process, while in others the decision was to be focused more so on certain specific profiles to ensure at least these ones are referred to on the PAP. Most of the end-users who received PAP were people with obesity and overweight.
- The measures used by the different partner countries to evaluate physical activity and sedentary habits, quality of life and disease related factors were done using different tools but consistent in terms of the measures taken.
- 2,906 end-users received at least one follow-up, which represents about a half of the people who received PAP. As in some countries, the PAP is still active after the data-collection ending, this number can be higher.
- Some dropout was reported, especially in Belgium, who has a PAP system already in place. Nevertheless, as in most of the countries, the whole therapeutic program was not finished before the end of data-collection (in those countries where the window of implementation was smaller), and it is not possible to affirm when a dropout exists, because the therapeutic process is still ongoing (between follow-ups).
- Partner countries involved in the PAP implementation mainly decided to have meetings with the local implementation settings and with relevant national stakeholders to inform them about the project and its future possibilities.
- The routines of the healthcare settings and the professionals and other staff involved in the PAP implementation changed during the process. Although, the change of routines in the future depends on the systematic implementation of the PAP in their own systems. Regarding the end-users who were prescribed with PA, it can be said that they change their routines during the therapeutic process- although, it is not clear if this will be a long-term behavioural change after ending the process.
- Partner countries involved adapted to their languages and local realities and disseminated the EUPAP tools built in the scope of work package 5.

As a final remark, it is important to highlight the relevance of internal and external networks (among professionals in the system and various stakeholders in the community) through whom the PAP, and its 5-core elements, is made possible through a high-quality approach.

A final note: the European Physical Activity on Prescription Model is inspired by the Swedish model but depends on the reality and characteristics of each country and setting. Thus, the European model is not a “one-size fits all” approach, but rather represents a customised PAP approach, where the 5-core elements of the Swedish method shall be considered and further developed.

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APPENDIXES

Implementation results:

- Belgium (Flanders Institute for Healthy Living)
- Germany (Goethe University Frankfurt)
- Italy (Social-Health Local Unit N 2 Marca Trevigiana)
- Lithuania (Viešoji įstaiga Centro Poliklinika)
- Malta (Ministry for Health)
- Portugal (Directorate-General of Health)
- Romania (National Institute of Public Health)
- Spain (INEFC – University of Lleida)

Flanders Institute for Healthy Living

Vlaams Instituut Gezond Leven vzw

Flanders - Belgium

VLAAMS INSTITUUT GEZOND LEVEN

Introduction

Flanders Institute for Healthy Living is an expertise centre for health promotion.

In Flanders, a method of PAP was being implemented since 2017. Thanks to EUPAP it was possible to add elements from PAP-S and learn from partner countries. The implementation of PAP wasn't carried out in the entirety of the Flanders region, so, there were regions that didn't start working with PAP. They were able to implement the improved PAP from the beginning. The regions that already started with EUPAP before receiving the adapted tools, materials and information about the method and the process of implementation.

In Flanders, a PAP project can only be organised if an organisation in the primary healthcare zones (at the local level) files a request. This request is a structured file. The request outlines the following: (1) specific local partners must be involved & must fill in a commitment statement, (2) many important tasks are described and must be agreed on amongst the partners, (3) some required criteria are: quality of local network, demands of the healthcare zones, skills of the coaches, involvement of GP's, accessibility for low SES groups, quality of the project, etc. When approved, the local networks can start with the local implementation of PAP in their region. They receive extra information, such as promotional materials, training, etc.

The Medical Doctors (MD) can use PAP and refer an end-user to the PAP-coach. This PAP-coach goes on with the prescription from the GP. The PAP-coach follows-up the end-user and reports back to the MD. The Flemish government pays the largest part of the fee for the PAP-coach. End-user living in low socio-economic situations pays less than other end-users. The number of contacts between PAP-coaches and end-users differs depending on the need of the end-users, but must be spread over a year in less than 7 hours. Some responsibilities for the local networks are: providing a neutral location for coaching, increasing accessibility of physical activity initiatives, informing MD's, etc.

Partly thanks to EUPAP there are 12 pilot regions where other healthcare workers (i.e., dieticians, pharmacists, GPs, physiotherapists, nurses, psychologists and social workers) can use PAP as well.

Training

Indicators used	Results	
A.12. Total number of professionals trained (i.e., independently of the profile)	*2,519*	
A.13. Number of professionals trained (per profession)	*General Practitioners*	*966*[17]
	Medical doctors	*116*
	Undifferentiated (dietician, pharmacist, GP, physiotherapist, nurse, psychologist and social worker)	*695*
	PAP coach	*274*[18]
	Local-PAP conductors	*126*
	Nurses	*206*
	Physiotherapist	*55*
	Social workers	*49*
	Local Supporting Organisation (LOGO)	*26*
	Dietician	*3*
	Psychologist	*3*
I.4. Number of trainings provided (i.e., total number of trainings provided)	*Number of trainings*	*97*

[17] 799 general practitioners were trained before the start of EUPAP they were informed about the improvements of PAP since EUPAP.
[18] 140 PAP-coaches were trained before the start of EUPAP they were informed about the improvements of PAP since EUPAP.

Healthcare settings

Indicators used	Results	
A.1. Number of healthcare settings in the region/area/institution of implementation	*All primary healthcare providers in Flanders and Brussels are targeted for EUPAP implementation, that includes 319 cities in 60 different health zones with a population of over 5 270 000 inhabitants. Primary health care is mostly provided by independent health care workers. More and more health care workers are starting to work together with other health care workers in smaller groups (2-20 health care workers). In 57 health care zones they are implementing PAP. This covers 250 of the 319 municipalities in Flanders and Brussels (not all health care zones are implementing PAP in their whole region.)*	*In 12 zones we have implemented PAP with more potential prescribers. Not only GP's (as in the rest of Flanders and Brussels) but also other health care workers can work with PAP. (e.g., dietitian, physiotherapist, …)*
A.4. The way it was done the recruitment of staff (i.e., how to be involved in the EUPAP)	*Since 2016, healthcare zones can file a request to start a local implementation of PAP. This request is found in a very structured file (created and assessed by the Flemish Institute of Healthy Living). In the request:* – *Specific local partners (the most important partners to form a locally embedded network) must be involved & must fill in a commitment statement (local government, health sector, welfare sector, organizations that could contribute to physical activity, organizations that support low SES groups and a health promotion organization)*	*All participating healthcare zones were asked if they wanted to implement PAP with more prescribers. 12 of 60 zones were interested.*

	– *Many important tasks are described (by the Flemish Institute of Healthy Living) and must be agreed on amongst the partners.* – *Required criteria are: quality of local network, demands of the healthcare zones, skills of the coaches, involvement of GP's, accessibility for low SES groups, quality of the project…* *With different Flemish organisations (reaching other sectors that need to be involved), it was communicated toward local organisations in order to inform and motivate them to participate. Furthermore, there is a regional organisation that helps local organisations with all kinds of health promotion actions and policies. This organisation helps the local organisations with the implementation of PAP at the local level.*	

A.5. Barriers and facilitators found in recruiting staff	***Barriers***
	– *COVID-19 was a big barrier to implementation, because once it implementation was conducted, some of the serious waves of the outbreak were ongoing in Europe.*
	  – *General Practitioners had a brief period where all non-urgent care was not allowed to be administered.*
	  – *Lots of information was being directed to General Practitioners regarding COVID-19.*
	  – *Time of local organisations to dedicate to other health matters beside COVID-19 decreased during pandemic.*
	– *Lack of time in local organisations, even without COVID-19 (e.g., other projects, few staff, …).*
	– *Most General Practitioners are independent workers, and there is no financial incentive for them to motivate their patients to be more physically active.*
	– *PAP-coaches are recommended to recruit General Practitioners.*
	– *General Practitioners are very busy and hard to reach (even without the onset of the COVID-19 pandemic in consideration).*
	– *Change of staff/staff turnover in some local networks made it difficult to continue the regular workflow, and new professionals often have a smaller network then those who they are substituting.*	

	Facilitators: – *An established network. Both at the Flemish and the local level there is a large network from different sectors that supports PAP.* – *PAP-coaches enthusiastic. PAP-coaches are recommended to recruit General Practitioners. The General Practitioners can be recruited on a personal level and motivated by a coach that helps General Practitioners help get their end-users more active.* – *Financial contribution for PAP-coaches exists. PAP-coaching is affordable for the end-user because the Flemish government pays for the largest portion of the intervention. This is an important aspect for the General Practitioners to participate.* – *Lack of physical activity and the consequences are clear.* – *Good results showing participants increasing their physical activity-levels in earlier studies in Flanders and Sweden.*	
A.6. Number of professionals staffed by the healthcare settings (i.e., all profiles that can be directly and indirectly involved in the PAP)	*Approximately 11,000 professionals*	
A.7. Number of prescribers staffed by the healthcare settings (i.e., number of existent prescribers in the healthcare setting)	*Approximately 6,000 general practitioners*	*Approximately 11000 professionals* *+/- 1600 GP's* *+/- 3450 Medical doctors (other than GP)* *+/- 650 pharmacists* *+/- 270 dietician* *+/- 1650 physiotherapists* *+/- 1300 social workers* *+/- 600 psychologists* *+/- 1400 nurses*
A.9. Number of prescribers staffed by the healthcare settings invited to participate (i.e., number of prescribers that will be involved in EUPAP)	*It was tried to involve every GP*	*It was tried to involve every health care worker*

End-users

Indicators used	Results
R.1. End-user diagnosis and other conditions according to each country (e.g., demographic characterization of the end-users)	– *3376 end-users* – *Average of 50,55 years old* – *1085 Male (32,14%) and 2291 Female (67,86%)* – *Self-employed (36,74%), incapacitated (22,5%), retired (19,86%), unknown (7,34%), jobseeker (3,6%), student (4,43%) and housewife/houseman (2,53%)*
R.2. Total number of potential end-users (i.e., people who were in a consultation)	*Depending on the threshold between the 1816332 (according to WHO definition for health promoting physical activity (non-work related) or moderate work-related physical activity) - 4674905 (According to definition '% of Flemish people (18+) doing at least 150'/week moderate physical activity + minimum 2 days a week of strength training') citizens do not reach the recommended level of physical activity.*
R.3. Total number of end-users who received PA prescription (i.e., people that start the PAP process)	*From 01/01/2021 until 31/01/2022 there are 3376 participants (after cleaning the data because of 'strange' data) who at least had 1 conversation (intake) with a PAP-coach.*
R.4. Total number of PAP's per end-user profile (i.e., according to the profiles defined in the feasibility study / e.g., people with diabetes)	*Indicated on the online prescription (other ways of prescription can also be used). More than one item can be crossed in one referral/prescription.* – *Overweight/obese (1771, 32%)* – *No disease (1408, 35%)* – *Burn-out/stress (478, 12%)* – *Low back pain (444, 11%)* – *Diabetes mellitus type 2 (358, 9%)* – *Hypertension (351, 9%)* – *Osteoarthritis (moderate) (327, 8%)* – *Depression (308, 8%)* – *Sleeping problems (291, 7%)* – *Anxiety disorder (248, 6%)* – *Asthma (134, 3%)* – *COPD (111, 3%)*

	– *Elderly at risk of falling (66, 2%)* – *Osteoporosis (60, 1%)* – *Cardiac arrhythmias (58, 1%)* – *Arthritis (52, 1%)* – *Fibromyalgia (49, 1%)* – *Diabetes mellitus type 1 (45, 1%)* – *Chronic fatigue syndrome (37, 1%)* – *Heart failure (36, 1%)* – *Cancer (33, 1%)* – *Cerebrovascular accident (29, 1%)* – *Dementia (12, 0%)*
R.5. The way it was done the identification of end-users to be involved in EUPAP is being/was done? (i.e., how people were directed to the PAP)	*All people living in Flanders and Brussels who do not reach the recommended level of physical activity as described in the Flemish recommendations (based upon the WHO recommendations) are welcome to use PAP. In Flanders and Brussels all medical doctors are targeted to discuss physical activity and PAP with their end-users. No special questionnaire or indicators (e.g., for hypertension, depression, etc.) are used to direct end-users to PAP.* *In 12 specific zones was implemented PAP with more potential prescribers. Not only GP's (as in the rest of Flanders and Brussels) but also other health care workers can work with PAP. (e.g., Dietist, physiotherapist, …)*
R.6. Barriers and facilitators found in identifying end-users	***Barriers*** *In the 12 zones, an online survey was launched with 134 responders (i.e., prescribers) for this specific question. The results showed:* – *45% of the respondents have no difficulty recognising end-user.* – *30% of the prescribers do not know who can be referred to PAP.* – *13% have difficulty recognising end-users who are open to advise on physical activity.* – *8% find it difficult to estimate whether end-users move too little or stay seated too much.* – *4% is not sure whether it is appropriate to encourage end-users to be more physically active (e.g., specific illness).* – *About 13% of the respondents give another reason, such as insufficient knowledge of PAP (4%), or they provide the necessary advice and guidance themselves (3%).* ***Facilitators*** *In the 12 zones, an online survey was launched with 134 responders (i.e., prescribers) for this specific question. The results were:*

	– *For 62% of the respondents, the presence of certain diseases helps to recognise end-users.* – *47% of the prescribers indicate that the presence of a socially vulnerable situation in end-users helps them to recognise end-users.* – *A sedentary profile (45%) and signs of development of certain diseases (37%) also ensure that end-users are recognised.* – *19% indicate something else, such as more knowledge of the project (3%), a more in-depth conversation with the end-user (5%), or other specific physical complaints, such as fatigue, stress, back problems, etc. (4%) to help them identifying possible end-users.*

E.1. Physical activity and sedentary habits of the participants	– *Use of IPAQ tool.*
	– *Measures used:*
	  – *number minutes/weekday sitting (start/end)*
	  – *number of days/week walking (start/end)*
	  – *number of minutes/week of walking (start/end)*
	  – *intensity of walking (start/end) (low/moderate/vigorous)*
	  – *number of days/week (moderate physical activity) (start/end)*
	  – *number of minutes/day (moderate physical activity) (start/end)*
	  – *number of days/week (vigorous physical activity) (start/end)*
	  – *number of minutes/day /vigorous physical activity) (start/end)*

I.5. Total number of participants who received PA prescription with follow-up	*2,093 participants received at least 1 follow-up conversation after the first conversation. In Flanders and Brussels, it is common that participants have more than one follow-up. They are entitled to 7 hours of coaching. But mostly use less than 7 hours of coaching.* *Remark in the last month there were 169 intake conversations, 31 participants received a follow-up conversation in October 2022. It could be suspected that during the month November a large group will receive a follow-up.*
I.7. Dropout rate (prior to follow-up)	*PAP-coaches report dropouts. 285 dropout reports were made.* *PAP-coaches also indicated when the participant was perceived as not requiring coaching, but first conversation with the patients was had nonetheless. This was reported 63 times.* *These two items explain 348 (285+63) from the 1,283 (3,376-,2093) participants that were registered as having an intake conversation but unaccompanied by any follow-up conversation. A possible explanation for this gap is a lack of consistent reporting from the PAP-coaches; perhaps they didn't report all of their follow-up conversations and/or the dropout reports.*

Views on PAP implementation

Indicators used	Results
A.16. Did the prescribers changed their routines after experiencing PAP (i.e., regarding the inclusion of PAP workflow)	*A survey was conducted online in a limited number of pilot regions, healthcare professionals (other than MDs) could also prescribe physical activity.* *31% of the prescribers indicated talking more about physical activity with their end-users since they knew there was PAP active in their area.* *55% of the prescribers did not use PAP in their daily routine, and 30% did so on a sporadic basis. 9% used it when end-users asked about it themselves, and 6% often used Physical Activity on Prescription.* *Most of the prescribers indicated forgetting PAP in practice (35%), or not knowing it (well enough) (34%). Furthermore, 19% indicated that end-users were difficult to motivate. 13% didn't discuss physical activity regularly with their end-users, and 10% didn't see a link between the problems end-users come up with and PAP. Time to prescribe, or fear about physical activity in unfit end-users acted as reasons by only about 3% of the prescribers. 28% indicated another reason, such as giving advice or coaching themselves (13%), or having few or no potential end-users (5%).*
A.17. Did the end-users changed their routines after experiencing PAP (i.e., regarding physical activity habit and sedentary behaviour)	*A survey was conducted online in a limited number of pilot regions, where healthcare professionals (besides MDs) could also prescribe physical activity.* *83% of the respondents indicated bring more physically active than before PAP. 12% indicated not moving anymore.* *With a first glance at the IPAQ, it can be seen that the amount of PA has increased.*
I.8. Swedish-PAP model implementation fidelity (i.e., considering the application of each of its 5 core-elements all together)	*An online survey was conducted in a limited number of pilot regions, where healthcare professionals (other than MDs) could also prescribe physical activity. This survey was sent to healthcare professionals. 34% of the respondents indicated that they were physiotherapists, 16% General Practitioners, 16% psychologists, 10% social workers, 6% pharmacist, 6% dieticians and 3% nurses. In total, the survey counted for 156 respondents, of which 121 completed the entire survey.* *Of the prescribers who were aware of making a written prescription (48%), 67% were satisfied with this. 31% of the prescribers were neither satisfied nor dissatisfied. 5% were not satisfied.*

	Half of the prescribers were familiar with the personal approach and customisation of the coach. Of these, 59% were satisfied with this approach. 32% were neither satisfied nor dissatisfied and 8% were not satisfied. 61% were satisfied with the follow-up by the coach and 37% were neither satisfied nor dissatisfied. *45% of prescribers were not aware that there was a local supportive network, and 34% indicated that they were not aware if such a network was active in their own region. Of the prescribers who were aware, 15% were satisfied with that local network. 76% answered rather neutrally.* *Only 10% of the prescribers ere familiar with FYSS. Of those who knew it, 83% were satisfied with the work. The other respondents were neither satisfied nor dissatisfied.*
M.1. Number of healthcare settings who will continue to work with the EUPAP procedure in the future (i.e., including PAP process in their workflow)	*In the beginning of 2022, 51 healthcare zones filled in a questionnaire. In this questionnaire they answered the question: "Will you continue to work with PAP in your healthcare zone?" 43 answered 'yes' and eight answered with 'I don't know'. None of the respondents indicated 'no'.* *On the 10th of November 2022 the Flemish government decided to prolong PAP until the end of 2025. The decision to let all healthcare workers use PAP is to be expected in the first half of 2023, after an evaluation of the current pilot zones.*
M.2. Total number of professionals who will adopt the EUPAP procedure in the future (i.e., including PAP process in their workflow)	*80% of the questioned prescribers will continue using Physical Activity on Prescription in the future (n=122). Most prescribers who indicated not proceeding further did not give any specific reason for not continuing. A relevant remark is that physiotherapists were those who most completed the survey (34%). Physical Activity on Prescription is often seen as 'competition' for their own profession´ within this particular healthcare professional group.*

Goethe University Frankfurt

Johan Wolfgang Goethe-Universität Frankfurt AM Main

Germany

GOETHE UNIVERSITÄT FRANKFURT AM MAIN

Introduction

The Department of Preventive and Sports Medicine at Goethe University Frankfurt does government and third-party funded scientific research. It has been involved as a project leader or as an associated partner in national and international projects covering various aspects of health enhancing physical activity and structured exercise. The Department of Preventive and Sports Medicine is one of the leading research groups on physical activity and cancer, physical activity and back pain in Germany. Further research includes physical activity promotion in specific target groups, especially in socially disadvantaged populations. The Department of Sports Medicine was involved in the development of the nation-wide German "Sport for Health" quality seal.

Its aim is to further develop evidence-based physical activity counselling in the health sector in order to strengthen the role of physical activity in prevention and treatment. Therefore, the approach within the regional implementation includes the increase of awareness of the importance of physical activity as a measure for the prevention and treatment of disease among policy-makers, current and future health and sports professionals by developing supportive networks and opportunities for sharing experiences, training professionals in the core components of the Swedish FaR Methodology and implementing regional or local level activities for contextualize practice transfer with the objective of developing sustainability measures.

Training

Indicators used	Results	
A.12. Total number of professionals trained (i.e., independently of the profile)	*735*	
A.13. Number of professionals trained (per profession)	*Physicians*	*384*
	Physiotherapy students	*250*
	Sports Science students	*83*
	Undifferentiated (Medical students/Sports science students)	*12*
	Medical students	*6*
I.4. Number of trainings provided (i.e., total number of trainings provided)	*16*	

Healthcare settings

Indicators used	Results
A.1. Number of healthcare settings in the region/area/institution of implementation	*There are about 12500 GP`s and specialists in Hessia Federal State*
A.3. Number of healthcare settings involved (e.g., that will participate in the EUPAP)	*49*
A.4. The way it was done the recruitment of staff (i.e., how to be involved in the EUPAP)	*Generally, prescribers (physicians) were mainly recruited through the network-partner Medical Chamber of Hessia, the organising body for further medical education in the federal state of Hessia. Additional recruitment efforts have been conducted on various occasions through informal callings in network meetings, other educational programs for physicians, conferences, and through a variety of stakeholders involved in the process such as the German Society for Sports Medicine and Prevention, German Olympic Sports Federation, German College of General Practitioners and Family Physicians and the Sports Federation of Hessia.*
A.5. Barriers and facilitators found in recruiting staff	***Barriers*** – *The COVID-19 pandemic obviously played a large role as a main barrier in recruiting prescribers. Throughout the project, restrictions regarding COVID-19 led to a number of difficulties – from a shortened time period of implementation to more general challenges in terms of communication with and among health professionals and with stakeholders and postponed or cancelled events.* – *There was also a reserved will of interaction from the physicians as the prescribers, as stated in the meetings done. Consequently, the outcome of data-collection and feedback communication were highly affected by the small numbers of answers received through questionnaires and other ways of communication.* ***Facilitators*** – *The very well operating network of stakeholders and organisations involved in the process of the project implementation.*

A.7. Number of prescribers staffed by the healthcare settings (i.e., number of existent prescribers in the healthcare setting)	*21*

End-users

Indicators used	Results
R.2. Total number of potential end-users (i.e., people who were in a consultation)	*10,100*
R.3. Total number of end-users who received PA prescription (i.e., people that start the PAP process)	*1,712*
I.5. Total number of participants who received PA prescription with follow-up	*172 received at least one follow-up*

Meetings with stakeholders

Indicators used	Results
I.1. Number of meetings with national stakeholders	*17*
I.2. Number of meetings with healthcare settings	*10*
I.3. Number of meetings with local-community stakeholders (of each healthcare setting)	*0*

Views on PAP implementation

Indicators used	Results
A.16. Did the prescribers changed their routines after experiencing PAP (i.e., regarding the inclusion of PAP workflow)	*In the survey applied among the prescribers who experienced further education of PAP, it was possible to evaluate some of the physician's implementation process in more detail. Most of the prescribers reported a change in their routines after receiving PAP expertise. This information confirms the feedback got from physicians when providing additional support with materials and tools for the PAP realization, which was appreciated and considered as helpful.*
A.17. Did the end-users changed their routines after experiencing PAP (i.e., regarding physical activity habit and sedentary behaviour)	*According to their estimation, it was asked physicians to what percentage of the end-users that they advised were able to implement the recommendations made during the counselling session. While 36% of the prescribers said that less than 25% of their end-users were able to implement changes, the majority of physicians (55%) indicated that between 25-50% of the people advised followed the PAP. Less than 10% of the prescribers stated that between 50-75% of the end-users were able to fully implement the recommendations.*
I.8. Swedish-PAP model implementation fidelity (i.e., considering the application of each of its 5 core-elements all together)	*Most of the physicians were only using parts of the Swedish-PAP method. Reasons could be that prescribers named time constraints as one of the main barriers to providing PA counselling. Another barrier was listed as the lack of accounting possibilities, with the combination of both possibly hampering the prescribers' capabilities in consideration with the 5-core elements coming all together during medical practice.*
I.9. Use of EUPAP tools (i.e., did they improve the quality of the intervention)	*Partly, individualised tools were created and forwarded upon request after the need for more information regarding local sport and physical activity options had been expressed by the physicians. Additionally, short information letters (based on the FYSS book) providing information on evidence-based effects of physical activity and recommendations for various diseases and diagnoses had been disseminated throughout the prescribers' network, and were offered to individual stakeholder for use within their physician network.*
M.2. Total number of professionals who will adopt the EUPAP procedure in the future (i.e., including PAP process in their workflow)	*Within the project period, it was possible to incorporate the PAP principles in the further education curriculum of the Medical Chamber of Hessia. Regarding this, a continuous education of physicians was provided. Due to the difficulties with the data collection, a total number of professionals cannot be given.*

Social-Health Local Unit N 2 Marca Trevigiana

Azienda Unità Locale Socio Sanitaria N 2 Marca Trevigiana

Italy

Introduction

At the exercise and sports medicine of the Treviso prevention department, there is an up-and-running program regarding exercise prescription for end-users suffering from chronic conditions who are referred by their general practitioners or by hospital and end-user specialists. End-users are evaluated, with a complete cardiovascular risk stratification, pharmacological therapy is optimized, and a personalized prescription of an exercise program is provided at the end. Among the options for carrying out the prescribed exercise, there is a network of health gyms, with exercise specialists who are adequately trained to work with chronic end-users, and who are in constant contact with the sports medicine staff. End-users are then reviewed at follow-up with variable frequency and, where indicated, the prescribed therapy and exercise are adjusted. Considering the EUPAP project, the aim was to create a path dedicated to non-revascularized coronary heart disease end-users, based on the collaboration between the emergency medicine department and the sports medicine unit of the AULSS2 (Treviso district), aimed at the individualised prescription of physical exercise for therapeutic purposes (recommended in class 1A for ischemic heart disease), and the correction of modifiable cardiovascular risk factors. In addition, it was applied a specific method with a dedicated counselling to chronic end-users habitually referred to the sports medicine unit in order to increase the adherence to exercise prescription for end-users who choose not to subscribe to a health gym.

Training

Indicators used	Results	
A.12. Total number of professionals trained (i.e., independently of the profile)	*47*	
A.13. Number of professionals trained (per profession)	*Medical Doctors*	*41*
	Nurses	*4*
	Exercise specialist	*2*
A.14. Number of trained professionals directly involved in the PAP process (i.e., have participated in the EUPAP)	*46*	
I.4. Number of trainings provided (i.e., total number of trainings provided)	*8*	

Healthcare settings

Indicators used	Results
A.7. Number of prescribers staffed by the healthcare settings (i.e., number of existent prescribers in the healthcare setting)	*6*
A.9. Number of prescribers staffed by the healthcare settings invited to participate (i.e., number of prescribers that will be involved in EUPAP)	*4*
A.10. Number of professionals involved from outside the healthcare settings (through local stakeholders) (e.g., exercise scientists, community professionals, coaches, officers, ...)	*14*

End-users

Indicators used	Results

R.1. End-user diagnosis and other conditions according to each country (e.g., demographic characterization of the end-users)	– *27 end-users*
	– *Average of 59,89 years old*
	– *20 Male (74,07%) and 7 Female (25,93%)*
	– *Referred by:*
	  – *Hospital at discharge (10)*
	  – *GP's (9)*
	  – *MD after ambulatory consultancy (5)*
	  – *Ambulatory consultancy (3)*

R.3. Total number of end-users who received PA prescription (i.e., people that start the PAP process)	*27*
R.4. Total number of PAP's per end-user profile (i.e., according to the profiles defined in the feasibility study / e.g., people with diabetes)	*All the 27 end-users showed a multiple disease situation:* – *Hypertension (22)* – *Hypercholesterolemia (16)* – *Coronary artery disease (14)* – *Obesity (11)* – *Obstructive sleep apnea syndrome (3)* – *Diabetes (3)* – *Other (2)* – *Valvular heart disease (2)* – *Myocardial bridging (2)* – *Pre-diabetes (1)* – *Aortic aneurism (1)* – *Atrial fibrillation (1)* – *Chronic obstructive pulmonary disease (1)* – *Gonarthrosis (2)* – *Liver disease (1)*

	– *stroke (2)* – *Previous Sars-Cov-2 pneumonia (1)* – *Supraventricular arrhythmias (1)* – *Subarachnoid haemorrhage (1)*
R.5. The way it was done the identification of end-users to be involved in EUPAP is being/was done? (i.e., how people were directed to the PAP)	*Participants were referred by:* – *Hospital at discharge (10 patients)* – *General Practitioners (9 patients)* – *Medical Doctor after ambulatory consultancy (5 patients)* – *Ambulatory consultancy (3 patients)*
E.3. Disease related factors (i.e., blood pressure, body-mass index, waist circumference, physical fitness)	*Measures used:* – *Disease situations diagnosis* – *Blood pressure* – *LDL value (mg/dL)* – *Glycemia (mg/dL)* – *HbA1 (mmol/mol)* – *BMI* – *Need for medical intervention* – *Specific medical intervention (medication change, diagnostic procedures or other)*
E.4. Report of adverse events	*1 acute coronary syndrome during exercise stress test*
I.5. Total number of participants who received PA prescription with follow-up	*18*
I.7. Dropout rate (prior to follow-up)	*Three dropouts (two due to medical condition and one move to another city).*

Views on PAP implementation

Indicators used	Results
A.15. Did the healthcare settings changed their routines after experiencing PAP (i.e., regarding the inclusion of PAP workflow)	*Italy was already a prescribing centre, but modified its internal routine to extend their activity to other end-users*
A.16. Did the prescribers changed their routines after experiencing PAP (i.e., regarding the inclusion of PAP workflow)	*The change of routines was more focused on personal preferences and motivational techniques.*
A.17. Did the end-users changed their routines after experiencing PAP (i.e., regarding physical activity habit and sedentary behaviour)	*Yes, absolutely. Each one of the 5-core components was included in the process.*
I.8. Swedish-PAP model implementation fidelity (i.e., considering the application of each of its 5 core-elements all together)	*Yes, absolutely. Each one of the 5-core components was included in the process.*
I.9. Use of EUPAP tools (i.e., did they improve the quality of the intervention)	*FYSS-short was made available to every prescriber.*
M.2. Total number of professionals who will adopt the EUPAP procedure in the future (i.e., including PAP process in their workflow)	*At the moment sports medicine staff working as prescriber are limited to six persons, but it can be involved other professionals for "lower intensity" level of care in the near future.*

Viešoji įstaiga Polyclinic Centre

Viešoji įstaiga Centro Poliklinika

Lithuania

Introduction

Public institution Centro Poliklinika is one of Lithuania's largest outend-user personal healthcare institutions, and one of the partners in the EUPAP project. Prior to the EUPAP project, Lithuania did not have a country-based physical activity on prescription programmes in health services for the prevention and treatment of chronic diseases. Therefore, the EUPAP project served as a pilot project for the introduction of this service. Family doctors, dieticians, nurses, and physiotherapists of Centro Poliklinika have been involved in EUPAP project activities. Healthcare specialists as well as personnel involved in the project coordination have been trained in the PAP-S method, and all project material for implementation of PAP have been translated and adapted into the local context.

A Physical Activity on Prescription (PAP) consulting room where a PAP-prescriber received end-users in Public institution Centro Poliklinika was opened for end-users on 25 September 2021. A broad spectrum of diseases had been addressed during the EUPAP implementation, for example: anxiety, chronic back and neck pain, coronary artery disease, depression, diabetes mellitus I and II, chronic heart failure, hypertension, lipid disorders, metabolic syndrome, migraine, osteoarthritis, osteoporosis, overweight and obesity. All the steps in the process (registering end-users, consultations, issuing prescriptions) were recorded in the information system of the Centro Poliklinika, as well as in the national personal healthcare information system. In addition to a prescription for physical activity, the end-user's body mass (body muscle, body fat) was also monitored during the initial visits, as well as at the repeated follow-up appointments with the end-user. This was used as an indicator for any changes in the end-user's health status. The team of Centro Poliklinika have presented the objectives of EUPAP to the Ministry of Health. During the meeting, the description of how the program was adapted to the local setting and how the implementation process had been conducted. There is an interest in PAP in Lithuania, and the Ministry of Health is aiming to integrate EUPAP in existing healthcare programs in the country.

Training

Indicators used	Results	
A.12. Total number of professionals trained (i.e., independently of the profile)	*10*	
A.13. Number of professionals trained (per profession)	*Medical Doctors Dietitian*	*2*
	Management	*3*
	General Practitioners	*2*
	Physiotherapist	*1*
	Nurse	*1*
	Occupational therapist	*1*
A.14. Number of trained professionals directly involved in the PAP process (i.e., have participated in the EUPAP)	*10*	
I.4. Number of trainings provided (i.e., total number of trainings provided)	*9*	

Healthcare settings

Indicators used	Results		
A.7. Number of prescribers staffed by the healthcare settings (i.e., number of existent prescribers in the healthcare setting)	*537*		
A.9. Number of prescribers staffed by the healthcare settings invited to participate (i.e., number of prescribers that will be involved in EUPAP)	*10*	*General Practitioners*	*2*
		Medical Doctors (Dietitians)	*2*
		Physiotherapists	*1*

End-users

Indicators used	Results
R.2. Total number of potential end-users (i.e., people who were in a consultation)	*147*
R.3. Total number of end-users who received PA prescription (i.e., people that start the PAP process)	*124*
E.3. Disease related factors (i.e., blood pressure, body-mass index, waist circumference, physical fitness)	*Measures used:* – *Blood pressure* – *Body-mass index* – *Physical fitness* – *Waist conference* – *Total fat issue*
I.5. Total number of participants who received PA prescription with follow-up	*15*

Meetings with stakeholders

Indicators used	Results
I.1. Number of meetings with national stakeholders	*5*

Ministry for Health

Malta

GOVERNMENT OF MALTA
OFFICE OF THE DEPUTY PRIME MINISTER
MINISTRY FOR HEALTH

Co-funded by the Health Programme of the European Union

Introduction

The Health Promotion and Disease Prevention Directorate is a government entity which falls within the Ministry for Health with the aim to protect, promote and support the health and wellbeing of the Maltese population. The Directorate is composed of the Health Promotion Department and the Infectious Disease Prevention and Control Unit (IDCU). The aim is in preventing and controlling chronic non-communicable diseases such as cancer, diabetes and heart disease; supporting the adoption of a healthier lifestyle; promoting good physical and mental health; addressing unhealthy diet, physical inactivity, tobacco use and alcohol misuse; providing information to support informed decision making; encouraging and supporting the population by creating environments beneficial to health; providing professional advice on sexual health; preventing and controlling the spread of infectious diseases that are caused by bacteria, viruses, parasites or fungi; and providing leadership in response to public health threats.

Prior to the EUPAP project, Malta did not have country-based physical activity on prescription programmes in health services for the prevention and treatment of chronic diseases. Therefore, the EUPAP project served as a pilot project for the introduction of this service. Diabetes Type 2 and overweight and obesity were targeted in Malta for this project. During the EUPAP project, General Practitioners (GPs) and Physiotherapists (PTs) from both the private and public sector were approached to participate in the project. Training was carried out both online and face-to-face due to the COVID-19 pandemic. Since there was no PAP dedicated service in place, it was decided that the prescribers would prescribe PAP to their current end-users who were attending for other conditions and who also suffered from Diabetes Type 2 and/or overweight and obesity. Resources including an information leaflet both for the prescribers and the end-users, an activity diary, physical activity prescription forms and the short International Physical Activity Questionnaire (IPAQ) were designed, printed and distributed to the prescribers to use during the EUPAP project. When the resources were distributed, a short refresher training course was provided to the prescribers. The prescribers were contacted regularly throughout the project, to further motivate them. At the end of the project, the data was collected from the prescribers and compiled into a data sheet. Towards the end of the implementation, meetings were set up with a senior clinician at the national hospital and the Physiotherapy Lead to start discussions towards sustainability of the project.

Co-funded by the Health Programme of the European Union

Training

Indicators used	Results	
A.12. Total number of professionals trained (i.e., independently of the profile)	*44*	
A.13. Number of professionals trained (per profession)	*Physiotherapists*	*35*
	General Practitioners	*9*
A.14. Number of trained professionals directly involved in the PAP process (i.e., have participated in the EUPAP)	*12*	
I.4. Number of trainings provided (i.e., total number of trainings provided)	*7*	

Healthcare settings

Indicators used	Results	
A.2. Number of healthcare settings invited to participate	*2 (GPs in private clinics and Physiotherapists in the Public sector)*	
A.3. Number of healthcare settings involved (e.g., that will participate in the EUPAP)	*2*	
A.4. The way it was done the recruitment of staff (i.e., how to be involved in the EUPAP)	*General Practitioners: invitational email through their associations* *PTs - via email through the Physiotherapy Lead*	
A.7. Number of prescribers staffed by the healthcare settings (i.e., number of existent prescribers in the healthcare setting)	*General Practitioners*	*1*
	Physiotherapists	*17*
A.9. Number of prescribers staffed by the healthcare settings invited to participate (i.e., number of prescribers that will be involved in EUPAP)	*General Practitioners*	*1 (1 dropped out)*
	Physiotherapists	*17 (5 dropped out)*
A.11. Demographic characterization of the professionals staffed (e.g., age, gender, academic background, profession situation, years of experience)	*Measures used:* – *Professional profile (12 physiotherapists)* – *Academic background (6 postgraduate master's degree, 5 undergraduate bachelor's degree, 1 postgraduate diploma)* – *Age (average 32,58) and sex (3 male, 9 female)* – *Years of experience (average of 10,42 years)* – *Job situation (6 work full time in the public and private sector, 5 work full time in the public sector, 1 works reduced hours in the public sector)* – *Employer (9 Ministry for Health, 2 Foundation for Medical Services, 1 Health Department Steward Healthcare)*	

End-users

Indicators used	Results	
R.1. End-user diagnosis and other conditions according to each country (e.g., demographic characterization of the end-users)	– *13 end-users* – *Average of 52,77 years old* – *5 Male (38,46%) and 8 Female (61,54%)*	
R.3. Total number of end-users who received PA prescription (i.e., people that start the PAP process)	*13*	
R.4. Total number of PAP's per end-user profile (i.e., according to the profiles defined in the feasibility study / e.g., people with diabetes)	*Obesity*	*8*
	Diabetes Mellitus	*4*
	Obesity and Diabetes Mellitus	*1*

E.1. Physical activity and sedentary habits of the participants	– *Use of an IPAQ-based tool.*
	– *Measures used:*
	  – *Age*
	  – *Weight*
	  – *number of days/week (vigorous physical activity)*
	  – *number of minutes/week (vigorous physical activity)*
	  – *number of days/week (moderate physical activity)*
	  – *number of minutes/week (moderate physical activity)*
	  – *number of days/week walking*
	  – *number of minutes/week walking*
	  – *number of days/week (moderate physical activity) + number of days/week walking*
	  – *number of minutes/week (moderate physical activity) + number of minutes/week walking*
	  – *number of minutes/week (moderate + vigorous physical activity)*	

	– *number of minutes/week (moderate + vigorous physical activity) + number of minutes/week walking* – *MET-minutes/week (vigorous physical activity)* – *MET-minutes/week (moderate physical activity)* – *MET-minutes/week walking* – *MET-minutes/week total* – *Kcal/week (vigorous physical activity)* – *Kcal/week (moderate physical activity)* – *Kcal/week walking* – *Kcal/week total* – *Physical Activity Levels (low/moderate/high)* – *Minutes/week sitting time*	
E.3. Disease related factors (i.e., blood pressure, body-mass index, waist circumference, physical fitness)	*Measures used:* – *Blood pressure* – *Blood pressure follow-up* – *Height/metres* – *Weight/kg* – *Weight/kg follow-up* – *Body-mass index* – *Body-mass index follow-up* – *Physical fitness* – *Physical fitness follow-up* – *Waist conference* – *Waist conference follow-up*	
I.5. Total number of participants who received PA prescription with follow-up	*11*	
I.6. Total number of PAP's with follow-up per end-user profile (according to the profiles defined in the feasibility study)	*Obesity*	*4*
	Diabetes Mellitus	*6*
	Obesity and Diabetes Mellitus	*1*
I.7. Dropout rate (prior to follow-up)	*2 (both diabetes mellitus)*	

Meetings with stakeholders

Indicators used	Results
I.2. Number of meetings with healthcare settings	*7*

Views on PAP implementation

Indicators used	Results
I.8. Swedish-PAP model implementation fidelity (i.e., considering the application of each of its 5 core-elements all together)	*The four physiotherapists who prescribed PAP to their end-users said that implementation of the Swedish-PAP was carried out with fidelity.*
I.9. Use of EUPAP tools (i.e., did they improve the quality of the intervention)	*The PAP form was modified and designed, translated into Maltese and printed and distributed to the prescribers to use when prescribing PAP to their end-users. The FYSS short was disseminated to the prescribers as a soft copy in its entirety and the parts related to the conditions addressed in Malta's implementation (Diabetes Mellitus and Overweight and Obesity) were also delivered as a hard copy. The Physical Activity Diary and end-user information leaflet were adapted from the Swedish version and designed, translated into Maltese, printed and distributed to the prescribers to give to the end-users. Malta also created an informative resource to aid General Practitioners in PAP prescription. The short International Physical Activity Questionnaire (IPAQ short) was used to assess physical activity. An already validated Maltese translation was also used.*
M.2. Total number of professionals who will adopt the EUPAP procedure in the future (i.e., including PAP process in their workflow)	*Five professionals said they would adopt the EUPAP procedure in the future while 5 professionals said they might adopt the EUPAP procedure in the future.*
M.3. Number of professionals who will adopt the EUPAP procedure in the future (per professional profile)	*Five Physiotherapists said that they would adopt the EUPAP procedure in the future, while five physiotherapists said that they might adopt the EUPAP procedure in the future.*

Directorate of Health – Ministry of Health

Direção-Geral da Saúde – Ministério da Saúde

Portugal

Introduction

The General-Directorate of Health, an organisation within the national Ministry of Health is leading the transfer and adaptation of the Swedish PAP in the country's national health system, namely in the primary health-care settings.

The mission of the General-Directorate of Health (GDH) is to regulate, guide and coordinate activities focused on the promotion of the health and the prevention of disease, defining technical conditions for an adequate provision of healthcare. It is responsible for planning and monitoring the national policy for quality in the health system, as well to ensure the implementation of the National Health Plan, which includes twelve Priority Programmes, being the National Programme for the Promotion of Physical Activity (PNPAF) - the most recent one. The GDH is also responsible for the coordination of the Ministry of Health's international relations.

Following the creation of the PNPAF in 2016, the Order no. 8932/2017 was published on 10th of October 2017. This order stated the development and carrying-out of a national pilot-project focused on the promotion of physical activity in primary healthcare settings of the National Health System (NHS). This pilot included three main actions: (1) Reinforce the integration of the promotion of physical activity in NHS (namely through informing, counselling, and prescribing), (2) improve the knowledge of the health professionals working in the NHS through the provision of education and training activities, and (3) Articulate the primary healthcare settings with the community in terms of resources that promote physical activity and exercise.

Training

Indicators used	Results	
A.12. Total number of professionals trained (i.e., independently of the profile)	*634* *(54 participated in a specific 2-days training focused on the process of implementation and 580 participated in an online workshop open to stakeholders and professionals in the field (https://www.youtube.com/watch?v=0UYMPheKbkk&t=4079s&ab_channel=PNPAF%7CDGS)*	
A.13. Number of professionals trained (per profession)	*General Practitioners*	*25*
	Exercise specialists	*29*
	Undifferentiated (participants in the open online workshop)	*580*
A.14. Number of trained professionals directly involved in the PAP process (i.e., have participated in the EUPAP)	*54*	
I.4. Number of trainings provided (i.e., total number of trainings provided)	*2*	

Healthcare settings

Indicators used	Results
A.1. Number of healthcare settings in the region/area/institution of implementation	*6010* *(2707 in the North region, 871 in the Centre region, 1725 in Lisbon and Tagus Valley region, 405 in Alentejo region and 302 in Algarve region)*
A.3. Number of healthcare settings involved (e.g., that will participate in the EUPAP)	*6* *(3 in the North region, 1 in the Centre region and 2 in Lisbon and Tagus Valley region)*
A.4. The way it was done the recruitment of staff (i.e., how to be involved in the EUPAP)	*Healthcare units were chosen based on the existence of a General Practitioner with a post-graduation degree in sports medicine. With the support of the Portuguese Association of Sports Medicine, their members were invited to be involved in the process of implementation. The healthcare units where they work became those where the implementation happened.* *The requirement for exercise specialists to be involved was to hold a Bachelor's degree in sports science with a specialisation in exercise and health/clinical exercise They were recruited through agreements made according to the specificity of each local setting where the healthcare units are based, either through local Universities (a total of four: three in the North region, and the one in the Centre region), through local Municipalities (one in Lisbon), or through an individual involvement that participated in the WP6 EUPAP training (one in Lisbon) and who is a part of the Portuguese Directorate-General of Health (DGS-PT) team. Thus, the exercise specialists involved in the implementation come from outside the system supporting this way that the establishment of a network with the local community and local organisations to proceed with the PAP outside of the healthcare setting. None of the prescribers nor the exercise specialists received any type of financial compensation.*
A.5. Barriers and facilitators found in recruiting staff	***Barriers*** – *When the Portuguese-pilot implementation started in early 2020, COVID-19 paused the implementation and progression overall. This situation implied a lot of coordinated efforts of healthcare units and human resources that were already engaged in the project. When restarting the implementation again in March 2022, only half of the settings and the human resources were still available for collaboration, and additional, new partners had to be involved.*

	– *Some General Practitioners showed interest in being involved, but they didn't fill the sports medicine postgraduate requirement. This is something that should be considered in the future to get healthcare units more active, but aS the Portuguese implementation is also a pilot to test the effectiveness of the process and possible future inclusion in the National healthcare system, there was no possibility to change the requirement.* – *Regarding the participation exercise specialists, there was an issue in terms of qualification, because not everyone had experience in working with end-users involving clinical diagnosis. This was especially evident amongst those who came from the municipalities, alike what happened with the General Practitioners who made impossible to establish PAP in more healthcare units. In the case of the exercise specialists who came from the universities, they have been involved in the project throughout their Master's degree academic internships. When their internship finished they were to leave the project and were replaced by another person who was starting the same internship.* – *Moreover, since the exercise specialists represent human resources from outside of the national healthcare system, their involvement is voluntary, without any reimbursement (and in the case of the exercise specialists coming from universities, their involvement is part of their internship). In the case of the exercise specialists coming from the municipalities, their participation was a part of their regular work schedule and responsibilities within the municipality). Previous studies made by DGS showed that if an MD/GP prescribes exercise to inactive and sedentary people, there is a bigger probability to engage these people in physical activity. This is one of the main reasons for the creation of the Portuguese pilot in 2017 and the involvement in EUPAP.* – *Previous studies made by DGS-PT showed that if a Medical Doctor or a general practitioner prescribes exercise to inactive and sedentary people, there is a higher probability to engage this population in physical activity. This is one of the main reasons for the creation of the Portuguese pilot in 2017 and the involvement in EUPAP.* ***Barriers*** – *The individual experience of the General Practitioners involved in the topic. Most of them were already developing their PAP procedures in their health-care settings.* – *The previous experience and models of Flanders (Belgium), Catalonia (Spain) and Sweden were an inspiration to structure the Portuguese-pilot, and the EUPAP was a great opportunity to learn from.*
A.9. Number of prescribers staffed by the healthcare settings invited to participate (i.e. number of	*8 general practitioners* *(4 Healthcare units with 1 GP, and 2 Healthcare units with 2 GP's)*

prescribers that will be involved in EUPAP)	
A.10. Number of professionals involved from outside the healthcare settings (through local stakeholders) (e.g., exercise scientists, community professionals, coaches, officers, ...)	*9 exercise specialists* *(3 Healthcare units with 1 exercise specialist, and 3 Healthcare units with 2 exercise specialists)*

End-users

Indicators used	Results	
R.1. End-user diagnosis and other conditions according to each country (e.g., demographic characterization of the end-users)	– *82 eligible end-users (34 in the North region, 29 in the Centre region and 19 in Lisbon and Tagus Valley region)* – *40 with diabetes type II (16 in the North region, 13 in the Centre region and 11 in Lisbon and Tagus Valley region)* – *42 with depression (18 in the North region, 16 in the Centre region and 8 in Lisbon and Tagus Valley region)* – *Average of 55,42 years old* – *50 female (60,98%) and 32 male (39,02%)*	
R.3. Total number of end-users who received PA prescription (i.e. people that start the PAP process)	*82* *(34 in the North region, 29 in the Centre region and 19 in Lisbon and Tagus Valley region)*	
R.4. Total number of PAP's per end-user profile (i.e., according to the profiles defined in the feasibility study / e.g., people with diabetes)	*Diabetes type II*	*40* *(16 in the North region, 13 in the Centre region and 11 in Lisbon and Tagus Valley region)*
	Depression	*42* *(18 in the North region, 16 in the Centre region and 8 in Lisbon and Tagus Valley region)*
R.5. The way it was done the identification of end-users to be involved in EUPAP is being/was done? (i.e., how people were directed to the PAP)	*Every General Practitioner involved helped to identify the need for exercise in specific end-users with profiles previously defined (i.e., people with depression or people with Type II diabetes), and referred them to the "physical activity consultation" provided by the exercise specialist who would then follow the entire process with the support of the general practitioner (they are called "PAP-team").*	
R.6. Barriers and facilitators found in identifying end-users	***Barriers*** – *Many GPs from the same healthcare units where the PAP was being implemented don't refer eligible end-users, and thus, don't send them to the "physical activity consultation" making the end-user lose the opportunity of participating in the PAP therapeutic.*	

	Facilitators – *To have a pre-defined profile to follow-up with the PAP process that makes the decision of referring easy, i.e., alike every time an end-user is diagnosed with diabetes or depression.*	
E.1. Physical activity and sedentary habits of the participants	– *Use of IPAQ tool.* – *Measures used:* – *number of days/week (vigorous physical activity)* – *number of hours/day (vigorous physical activity)* – *number of minutes/day (vigorous physical activity)* – *number of days/week (moderate physical activity)* – *number of hours/day (moderate physical activity)* – *number of minutes/day (moderate physical activity)* – *number of hours/weekday sitting* – *number of minutes/weekday sitting* – *number of hours/weekend sitting* – *number of minutes/weekend sitting*	
E.2. Quality of life	– *SF-12*	
E.3. Disease related factors (i.e., blood pressure, body-mass index, waist circumference, physical fitness)	*Measures used:* – *Systolic blood pressure* – *Diastolic blood pressure* – *Resting heart rate* – *Body-mass index* – *Physical Fitness (heart rate of step test)* – *Waist circumference*	
E.4. Report of adverse events	*None*	
I.5. Total number of participants who received PA prescription with follow-up	*27* *(7 in the North region, 9 in the Centre region and 11 in Lisbon and Tagus Valley region)*	
I.6. Total number of PAP's with follow-up per end-user profile	*Diabetes type II*	*13* *(4 in the North region, 3 in the Centre region and 6 in Lisbon and Tagus Valley region)*

(according to the profiles defined in the feasibility study)	*Depression*	*14* *(3 in the North region, 6 in the Centre region and 5 in Lisbon and Tagus Valley region)*
I.7. Dropout rate (prior to follow-up)	*There wasn't any dropped out reported, at least, of yet. People are still involved in the process because it did not yet finish (to close the process in Portugal you have a follow-up at Month 1, Month 3 and Month 6 with a final evaluation). All the 27 end-users are still active in some moment of the follow-up.*	

Meetings with stakeholders

Indicators used	Results
I.1. Number of meetings with national stakeholders	*6*
I.2. Number of meetings with healthcare settings	*6*

Previous meetings were done onsite before COVID-19 and before EUPAP starts in some of the places (particularly the Regional Health Unit's and National Associations of GP's, Exercise specialists and sports medicine MD). The communication with the health care units involved in the PAP implementation is done on a weekly basis, through e-mail and phone, as a way to monitor the starting and development of the PAP implementation process.

Views on PAP implementation

Indicators used	Results
A.15. Did the healthcare settings changed their routines after experiencing PAP (i.e., regarding the inclusion of PAP workflow)	*The creation and implementation of the 'consultation on physical activity' to provide PAP demanded clinical and managerial changes within every healthcare setting involved in the implementation once, in every setting, end-users must be referred in first place by a local GP to participate in the PAP consultation and this represents a new internal process. Nevertheless, as the Portuguese pilot will still working after EUPAP ending, it cannot be assured yet if the new routines will be made regularly after the implementation/pilot process.*
A.16. Did the prescribers changed their routines after experiencing PAP (i.e., regarding the inclusion of PAP workflow)	*One of the difficulties experienced was how to involve other GPs from the health unit where PAP is being implemented to refer their end-users to the 'consultation on physical activity'. We believe the prescribers directly involved in this new routine will change their approach, but there still a lot of work to do in order to involve the rest of the GPs and other health-allied professionals that have been outside of the process, even considering that they are working in the same healthcare unit where PAP is being implemented.*
I.8. Swedish-PAP model implementation fidelity (i.e., considering the application of each of its 5 core-elements all together)	*Yes, absolutely. A "physical activity consultation" occurred where a GP and an exercise physiology would work together in creating a person-centred exercise prescription. The prescription made was evidence-based (with the support of the Portuguese version of the FYSS-short), and there was a follow-up (in Portugal, the follow-up is made in 3 different moments before ending the therapeutic process: after 1 month, after 3 months, and after 6 months). A supporting environment of a community-based network (different in every setting, but mostly done through the link between the local healthcare setting and a local university or the local municipality and their facilities).*
I.9. Use of EUPAP tools (i.e., did they improve the quality of the intervention)	*The Portuguese version of the FYSS-short was made available to every prescriber involved in the process together with the prescription form. In this case, GPs were free to use or adapt the prescription form the way that they felt most comfortable with.*
M.1. Number of healthcare settings who will continue to work with the EUPAP procedure in the future (i.e., including PAP process in their workflow)	*The PAP process is still ongoing through the Portuguese pilot, so it is not possible to answer this question accurately. Although, besides the six already working, it is expected to reach the implementation of the Portuguese-pilot in a total of 15 healthcare settings that are about to start. After the Portuguese pilot ends in 2024, its cost-efficiency will be evaluated for the National Healthcare system, and then a decision will be made regarding the implementation of a specific national-wide PAP programme or not.*

M.2. Total number of professionals who will adopt the EUPAP procedure in the future (i.e., including PAP process in their workflow)	*Those GP's that are directly in the PAP process implementation (at least, 6) will adopt PAP procedures because they were doing some kind of exercise prescription to their end-users (all of them are specialized in sports medicine and are aware about the relevance of physical activity). Although, once the Portuguese pilot is still ongoing, we are not able to answer this question accurately.*
M.3. Number of professionals who will adopt the EUPAP procedure in the future (per professional profile)	*The participation of the exercise specialist in future actions related to PAP depends on the full integration and implementation of their role and profile within the Portuguese health system. Nevertheless, they will always be able to work autonomously in their work settings through the local community networks created in the scope of the PAP process.*

National Institute of Public Health

Institutul National de Sanatate Publica

Romania

Introduction

The National Institute of Public Health (NIPH) under the Ministry of Health is the coordinating institution for the first piloting of the Physical Activity on Prescription (PAP) in Romania. The Institute provides technical assistance, including the provision of data, expertise and training, on public health and related matters to the Ministry of Health and its local structures, the county Public Health Directorates. The National Centre for Health Status Evaluation and Health Promotion (NCHSEHP) under the NIPH is responsible for the surveillance of population health and well-being, of lifestyle factors, and coordinates the National Programme for Health Status Evaluation, Health Promotion and Health Education.

Taking into consideration the high burden of the non-communicable diseases prevalent in the country, Romania joined the EUPAP project to pilot the Swedish best practice model for physical activity on prescription. With focus on the following important diagnoses for the implementation process: diabetes; osteoporosis; high blood pressure (hypertension); overweight and obesity; anxiety; depression and cancer, the aim was to evaluate end-users and to offer an individualised prescription/counselling of physical activity for preventive/therapeutic purposes. General Practitioners (2 from Sibiu and 2 from Arad) had received training to become prescribers in the EUPAP project, and also, 20 community nurses were employed to pilot PA counselling accordingly to the Swedish method.

Training

Indicators used	Results	
A.12. Total number of professionals trained (i.e., independently of the profile)	*24*	
A.13. Number of professionals trained (per profession)	*General Practitioners*	*4*
	Community nurses	*20*
A.14. Number of trained professionals directly involved in the PAP process (i.e., have participated in the EUPAP)	*24*	
I.4. Number of trainings provided (i.e., total number of trainings provided)	*1*	

Healthcare settings

Indicators used	Results
A.2. Number of healthcare settings invited to participate	*4*
A.3. Number of healthcare settings involved (e.g., that will participate in the EUPAP)	*4*
A.9. Number of prescribers staffed by the healthcare settings invited to participate (i.e., number of prescribers that will be involved in EUPAP)	*4*
A.11. Demographic characterization of the professionals staffed (e.g., age, gender, academic background, profession situation, years of experience)	– *General practitioners* – *Family medicine background* – *Average age of 47 years old* – *All the four with more than 10 years of experience* – *Work with a full-time contract*

End-users

Indicators used	Results	
R.3. Total number of end-users who received PA prescription (i.e., people that start the PAP process)	*General Practitioners*	*81*
	Community Nurses	*139*
R.4. Total number of PAP's per end-user profile (i.e., according to the profiles defined in the feasibility study / e.g., people with diabetes)	*Overweight and obesity*	*29 (+29)*
	Hypertension	*23 (+81)*
	Diabetes	*14 (+14)*
	Osteoporosis	*5 (+5)*
	Anxiety	*5 (+5)*
	Cancer	*3 (+3)*
	Depression	*2 (+2)*
E.1. Physical activity and sedentary habits of the participants	*Measures used:* – *Vigorous physical activity (minutes/per week)* – *Muscle strength* – *Sedentary time (hours/day)* – *Weight* – *Body mass index*	
I.5. Total number of participants who received PA prescription with follow-up	*From general Practitioners*	*28*
	From community nurses (counselling)	*9*
I.6. Total number of PAP's with follow-up per end-user profile (according to the profiles defined in the feasibility study)	*Overweight and obesity*	*10 (+4)*
	Hypertension	*15 (+4)*

	Diabetes	*6 (+4)*
	Osteoporosis	*4 (+0)*
	Anxiety	*3 (+2)*
	Cancer	*2 (+2)*
	Depression	*1 (+2)*

Views on PAP implementation

Indicators used	Results
M.2. Total number of professionals who will adopt the EUPAP procedure in the future (i.e., including PAP process in their workflow)	*The general practitioners involved in EUPAP who answer to a survey sent reported its satisfaction with the PAP approach but also reported its use only when patients ask for it. Nevertheless, they have been talking more about physical activity, but found it hard to motivate end-users in changing their unhealthy habits.*

National Institute of Physical Educational of Catalonia

Institut Nacional d'Educació Física de Catalunya

Spain – Catalonia

INEFC Institut Nacional d'Educació Física de Catalunya

Generalitat de Catalunya

Introduction

The National Institute of Physical Education in Catalonia (INEFC) in Lleida is leading the practise transfer of the Swedish PAP into the Catalan context, that is, the primary health-care settings.

INEFC is the tertiary education and research organisation in the field of physical activity and sports, managed by the Catalan Government by its Secretary of Sport and Physical Activity. With 40 years of experience in education and research, INEFC has participated in local, regional, national and international projects with physical activity on prescription.

The main reason for the institute to join the EUPAP Project was to bridge the gap between theory (academia) and practice (labour market). To do so, a Catalan network of selected stakeholders has been established, and regular communication with other Spanish stakeholders is ongoing.

INEFC is working close to the Catalan Secretariat of Public Health, the Catalan Health Institute among other public and private bodies with the aim of supporting the implementation of EUPAP in the scope of the Physical Activity and Healthy Diet Global Plan.

Training

Indicators used	Results	
A.12. Total number of professionals trained (i.e., independently of the profile)	*458*	
A.13. Number of professionals trained (per profession)	*Exercise specialists*	*7*
	Volunteers at sports NGO's	*1*
	BSc Sports Science students	*459*
A.14. Number of trained professionals directly involved in the PAP process (i.e., have participated in the EUPAP)	*1*	
I.4. Number of trainings provided (i.e., total number of trainings provided)	*4*	

Healthcare settings

Indicators used	Results
A.1. Number of healthcare settings in the region/area/institution of implementation	*23*
A.2. Number of healthcare settings invited to participate	*12 healthcare centres* *16 medical offices (small local health centres)*
A.3. Number of healthcare settings involved (e.g., that will participate in the EUPAP)	*11 healthcare centres* *19 medical offices (small local health centres)*
A.4. The way it was done the recruitment of staff (i.e., how to be involved in the EUPAP)	*The physical educators were responsible for contacting the Primary Care Centre. First via e-mail presenting the program and requesting a face-to-face meeting with the management of the Primary Care Centre and the community health referent. At this meeting, the project was explained in detail and the Centre was invited to participate. If so, a date was agreed upon for a training session for the entire Primary Care Centre team. None of the prescribers received any type of financial compensation for their involvement.*
A.5. Barriers and facilitators found in recruiting staff	***Barriers*** – *The main problem with staff recruitment was the limited time that health professionals had in their offices. Some saw the referral to a physical educator as extra work with consideration of their regular scope.* – *Another problem was that physical educators have had to become self-employed in order to bill.* ***Facilitators*** – *Catalonia health centres had antecedents with CAMINEM programme ("let's walk together") and some professionals already knew the structure, rigour and professionalism with which the CAMINEM program was carried out.* – *In Catalonia, specific training in physical exercise for people with pathologies is offered with a Master's degree. The personnel hired have been people with these studies and deemed as trustworthy.*

A.6. Number of professionals staffed by the healthcare settings (i.e., all profiles that can be directly and indirectly involved in the PAP)	*583 – In the 11 healthcare centres*	
A.7. Number of prescribers staffed by the healthcare settings (i.e., number of existent prescribers in the healthcare setting)	*94*	
A.8. Number of professionals staffed by the healthcare settings invited to participate (e.g., number of different professionals directly and indirectly that will be involved in the PAP)	*583*	
A.9. Number of prescribers staffed by the healthcare settings invited to participate (i.e., number of prescribers that will be involved in EUPAP)	*Medical Doctors*	*40*
	Nurses	*51*
	Exercise Specialist	*7*
	Social workers	*1*
	Dietitians	*1*
	Community welfare referents	*1*
A.10. Number of professionals involved from outside the healthcare settings (through local stakeholders) (e.g., exercise scientists, community professionals, coaches, officers, ...)	*37*	

End-users

Indicators used	Results	
R.1. End-user diagnosis and other conditions according to each country (e.g., demographic characterization of the end-users)	*The referral was based on medical criteria.* *We accepted anyone who could benefit from an individualized physical exercise program but prioritized those with a chronic non-communicable disease.* *We accepted only those over 18 years of age.*	
R.3. Total number of end-users who received PA prescription (i.e., people that start the PAP process)	*736*	
R.4. Total number of PAP's per end-user profile (i.e., according to the profiles defined in the feasibility study / e.g., people with diabetes)	*Diabetes Mellitus*	*381*
	Hypertension	*238*
	Dyslipidaemia	*136*
	"Overweight", "Obesity" and/or "Abnormal weight gain"	*107*
	Osteoporosis, Arthrosis, Sciatica, Gonalgia, Fibromyalgia and/or Lumbalgia	*80*
	Depression, Anxiety, Schizophrenia, Loneliness and/or Dysthymia	*54*
	Heart Failure, Angina pectoris and/or any other diagnosis directly related to the cardiocirculatory system	*43*
	Asthma, COPD- Chronic Obstructive Pulmonary Disease, Emphysema, Pneumothorax" or persistent COVID	*40*
	Cancer, Cancer survivor, Transplant, Sudek, Polytopic algia, Headache, Persistent contracture, general weakness, abdominal distension and/or unspecified neuropathy	*34*

R.5. The way it was done the identification of end-users to be involved in EUPAP is being/was done? (i.e., how people were directed to the PAP)	*Healthcare professionals were told to select end-users who could most benefit from an individualised physical exercise program, and the same professionals referred end-users to a PAP physical educator.*	
R.6. Barriers and facilitators found in identifying end-users	***Barrier:*** – *Lack of time on the part of health professionals in the consultation room.* ***Facilitator:*** – *Broad inclusion criteria.* – *Simple communication.*	
E.1. Physical activity and sedentary habits of the participants	*ClassAF*	
E.2. Quality of life	*EQ-5D-5L*	
E.3. Disease related factors (i.e., blood pressure, body-mass index, waist circumference, physical fitness)	*Measures used:* – *Systolic blood pressure* – *Diastolic blood pressure* – *Resting heart rate* – *Body-mass index* – *Waist circumference* – *Total blood cholesterol level* – *Blood low-density lipoprotein cholesterol level* – *Blood high-density lipoprotein cholesterol level* – *Triglyceride level* – *Plasma glucose level* – *Blood Glycated haemoglobin level*	
E.4. Report of adverse events	*None*	
I.5. Total number of participants who received PA prescription with follow-up	*530*	
I.6. Total number of PAP's with follow-up per end-user profile (according to the profiles defined in the feasibility study)	*Diabetes Mellitus*	*107*
	Hypertension	*285*

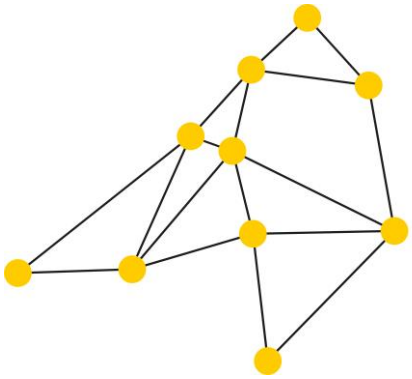
	Dyslipidaemia	*166*
	"Overweight", "Obesity" and/or "Abnormal weight gain"	*104*
	Osteoporosis, Arthrosis, Sciatica, Gonalgia, Fibromyalgia and/or Lumbalgia	*85*
	Depression, Anxiety, Schizophrenia, Loneliness and/or Dysthymia	*52*
	Heart Failure, Angina pectoris and/or any other diagnosis directly related to the cardiocirculatory system	*37*
	Asthma, COPD- Chronic Obstructive Pulmonary Disease, Emphysema, Pneumothorax" or persistent COVID	*32*
	Cancer, Cancer survivor, Transplant, Sudek, Polytopic algia, Headache, Persistent contracture, general weakness, abdominal distension and/or unspecified neuropathy	*23*
I.7. Dropout rate (prior to follow-up)	*169 dropouts reported.*	

Meetings with stakeholders

Indicators used	Results
I.1. Number of meetings with national stakeholders	*15*
I.2. Number of meetings with healthcare settings	*17*
I.3. Number of meetings with local-community stakeholders (of each healthcare setting)	*13*

Views on PAP implementation

Indicators used	Results
A.15. Did the healthcare settings changed their routines after experiencing PAP (i.e., regarding the inclusion of PAP workflow)	*During the period in which PAP is active, the participating centres have changed their routines. But they say that if the physical educators leave the centres, the centres will no longer have anyone to refer to.*
A.16. Did the prescribers changed their routines after experiencing PAP (i.e., regarding the inclusion of PAP workflow)	*Some have seen that it is not only possible to walk or go to the gym, but that there are also many other exercises that should be made "mandatory" for certain diseases.* *Apart from broadening of the vision of some of them, they all said that if the centre does not give them the resources to refer their end-users, they will stop doing it.*
A.17. Did the end-users changed their routines after experiencing PAP (i.e., regarding physical activity habit and sedentary behaviour)	*All of the people interviewed said yes.*
I.8. Swedish-PAP model implementation fidelity (i.e., considering the application of each of its 5 core-elements all together)	Yes, absolutely. *Each one of the 5-core components was included in the process.*
M.1. Number of healthcare settings who will continue to work with the EUPAP procedure in the future (i.e., including PAP process in their workflow)	*One confirmation.* *Note: 11 intend to continue but depends on whether funding is secured.*



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