Stewardship-based intervention

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<td>WP No 3</td>
<td>Stewardship approach for efficient evidence utilization</td>
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Reference:

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Executive summary

This is the final report from Work Package (WP) 3 in the REsearch into POlicy to enhance Physical Activity (REPOPA) project of research funded by the European Commission (EC) FP7 program. WP3 builds on the experiences and initial indicators for evidence-informed policy making developed in REPOPA WP1 (Aro et al., 2015).

The aim was to investigate if the Stewardship approach - based on needs, context and stakeholder analysis, with the aim of strengthening the use of research evidence and other kinds of knowledge in close researcher-policy maker collaboration - increases the level of evidence-informed policy making in selected, real-world case studies. A particular focus point was testing of methods and techniques to identify and effectively engage specific stakeholders in the development of physical activity policy processes under investigation. The six selected policy case studies centred on Health Enhancing Physical Activity (HEPA) policies. Evidence-informed policy making in WP3 is understood as policy making informed by different sources of knowledge such as knowledge from research, knowledge from stakeholders, and knowledge of target groups’ needs and values.

Methods and frameworks: Each participating country team of Denmark, Italy and the Netherlands selected two policy cases based on a set of common criteria. In Denmark the interventions aimed at increasing cross-sector collaboration and strategic policy making. In the Netherlands, the interventions aimed at strengthening neighbourhood sports and physical activity planning and developing (PA) for those 65+. In Italy the interventions aimed at knowledge and research translation as well as information exchange related to Olympics of students and to healthy roads Pedibus activities. Intervention contents were tailored to the context meaning that they had a common goal of increasing evidence-informed policy making but different means of reaching it. Intervention contents varied from workshops to training sessions, networking, knowledge exchange and consultation. The intervention length varied from 6 to 18 months, depending on the policy process in question. The instruments to measure the intervention effect included a set of common questions on the use of research knowledge, stakeholder knowledge, needs and values of the policy target groups. The initial REPOPA indicators as an evaluation tool were included in the core instrument questions used in all intervention settings. In addition, process evaluation was carried out in all settings. The Stewardship approach was the guiding framework for the interventions; it enabled to tailor the interventions to the local needs and stakeholder interests. Knowledge-to-Action-Cycle guided the whole intervention preparation, implementation and evaluation, including sustainability. The Reach; Effectiveness; Adoption; Implementation; Maintenance (RE-AIM) evaluation framework by Glasgow et al. 1999 was adapted and used for evaluating the interventions.

Results and discussion: The Stewardship approach increased the level of evidence-informed policy making in selected, real-world case studies in three countries of Denmark, Italy and the Netherlands. Especially, there was an increase in the access, requests and use of research knowledge, in using stakeholder knowledge as well as needs and values of the policy target groups. There was also a decrease in barriers for using research knowledge in policy making. Even if the type and size of study did not allow quantitative analysis, there was a clear indication that different stakeholder groups became more aware, more active in searching for knowledge and in networking, and more open to values of others. It was a challenge to
provide sustainable results with not so intensive and often sporadic intervention activities placed in the busy normal working life of the participants; however, the initial results post-intervention and also the increased networking and appreciation of the local needs and values, provide a good starting point for further interventions, boosters, research and implementation programs. These kinds of needs-based interventions as well as collaborative policy making of policy makers and researchers seem to be effective ways to enhance evidence-informed policy making.

**European added value, next steps after the WP3 interventions and conclusion**

Interventions in real-life and real-time policy making are demanding; lessons from REPOPA in three countries of Denmark, Italy and the Netherlands can be transferred and adapted when needed to study and influence evidence-informed physical activity policy making in other countries across Europe; most likely the lessons can be useful for policy making beyond the field of physical activity, specifically in the policies requiring collaboration across sectors and stakeholders.

The WP3 intervention lessons will further be applied in the WP4 Delphi study, especially its national conferences to be run in the end 2015 and early 2016. Also, the results will feed into the REPOPA framework and indicator development, which started with the WP1 work and which will be finalized by the end of the project. The instruments (questionnaires) developed to measure the outcome of the interventions very likely would also serve as general tools outside intervention evaluations to measure the developments and trends in evidence-informed policy making.

**Key words:** health-enhancing physical activity, evidence-informed, policy making, Stewardship approach
List of abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>BMI</td>
<td>Body Mass Index</td>
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<tr>
<td>CBO</td>
<td>Dutch Institute for Healthcare Improvement</td>
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<tr>
<td>CNR</td>
<td>Consiglio Nazionale delle Ricerche (The National Research Council)</td>
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<tr>
<td>DK</td>
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<tr>
<td>DoW</td>
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<td>LHA</td>
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<td>sub-municipalities</td>
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<td>sub-municipality</td>
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<tr>
<td>NHS</td>
<td>National Health Service</td>
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<tr>
<td>NL</td>
<td>The Netherlands</td>
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<td>PA</td>
<td>Physical activity</td>
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<td>QALY</td>
<td>Quality Adjusted Life Year</td>
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<td>RCPH</td>
<td>Research Centre for Prevention and Health</td>
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<tr>
<td>RE-AIM</td>
<td>Reach; Effectiveness; Adoption; Implementation; Maintenance</td>
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<td>REPAA</td>
<td>REsearch into POlicy to enhance Physical Activity</td>
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<tr>
<td>SDS</td>
<td>Societá della Salute</td>
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</table>
# Table of Contents

1 Introduction ................................................................................................................................. 7

   1.1 REPOPA background and aims ............................................................................................. 7
   1.2 WP3 background .................................................................................................................... 7
       1.2.1 The Stewardship approach ............................................................................................ 9
       1.2.2 Knowledge-to-action framework .................................................................................. 10
   1.3 WP3 overall aim .................................................................................................................... 11

2 Overall methodology .................................................................................................................. 12

   2.1 Research ethics .................................................................................................................... 12
   2.2 Selection of policy cases ....................................................................................................... 12
   2.3 Mapping of context .............................................................................................................. 15
   2.4 Needs assessment and findings ........................................................................................... 18
       2.4.1 Needs assessment in Denmark ..................................................................................... 18
       2.4.2 Needs assessment in the Netherlands .......................................................................... 19
       2.4.3 Needs assessment in Italy ............................................................................................ 20
   2.5 Different types of interventions in the study ......................................................................... 21
       2.5.1 Interventions in Denmark ............................................................................................. 23
       2.5.2 Interventions in the Netherlands .................................................................................... 24
       2.5.3 Interventions in Italy .................................................................................................... 25
       2.5.4 Summary of the intervention format and activities ........................................................ 26
   2.6 Intervention participants and survey respondents ................................................................. 26
   2.7 Outcome measures – pre / post / post-post ......................................................................... 29
   2.8 Process evaluation ................................................................................................................. 31
   2.9 The RE-AIM framework ....................................................................................................... 31

3 Results ....................................................................................................................................... 33

   3.1 Intervention results per country – comparing needs, goals and achievements ....................... 33
       3.1.1 Denmark - country results summary .............................................................................. 33
       3.1.2 The Netherlands – country results summary ................................................................. 35
       3.1.3 Italy – country results summary ................................................................................... 36

4 Results across countries from pre-, post and post-post measurements ....................................... 37

   4.1 Use of research knowledge .................................................................................................. 38
   4.2 Use of stakeholder knowledge ............................................................................................ 39
   4.3 Use of target group knowledge ........................................................................................... 39

5 Results of process evaluation .................................................................................................... 40

6 Discussion .................................................................................................................................. 43

   6.1 Meeting the objectives of WP3 ............................................................................................ 43
   6.2 A summary of the main intervention results ......................................................................... 44
6.2.1 The central frameworks applied in interventions ................................................................. 44
6.2.2 Comparability of the results across countries ........................................................................ 45
6.3 Strengths and weaknesses ........................................................................................................ 45
   6.3.1 Generalizability ..................................................................................................................... 46
6.3.2 European added value ............................................................................................................ 46
6.3.3 Further steps in REPOPA plus more widely and suggestions ............................................... 46

7 Conclusions .................................................................................................................................. 48

8 References ..................................................................................................................................... 49

List of tables
Table 1 Criteria for selecting policy cases in all three countries ...................................................... 14
Table 2 Country context mapping based on the framework by (Brownson et al., 2009) .................. 17
Table 3 Overview of intervention characteristics and policy processes included .......................... 22
Table 4 Response rates of pre, post and post-post measurements in Denmark, the Netherlands and Italy . 29
Table 5 RE-AIM - Dimensions and explanations adapted from (Glasgow, Vogt, & Boles, 1999) .... 32

List of figures
Figure 1 Knowledge-to-action cycle (Straus & Holroyd-Leduc, 2008) .............................................. 11
Figure 2 Types of knowledge in Evidence-Informed Public Health ............................................... 30
1 Introduction

This is the final report from Work Package (WP) 3 in the REsearch into POlicy to enhance Physical Activity (REPOPA) project of research funded by the European Commission (EC) Framework Programme 7 (FP7). The report is a public document and serves as documentation to EC. The report is written by the participating country teams from Denmark (DK), The Netherlands (NL) and Italy (IT). The report starts out by introducing the background and the state-of-the-art of the research literature on the topic; then the aim of the study, frameworks and research methods used are presented. After that more detailed country-specific parts will follow. Then an attempt will be made to understand the results from the cross-country perspective. Finally, overall analysis and conclusions and considerations of future REPOPA activities as well as on the evidence-informed policy making topic in general will be given.

1.1 REPOPA background and aims

It is well known that integration of research evidence in policy making is important and that public health interventions should be based on the best available evidence, meaning that use of evidence can potentially improve prioritization, planning and implementation of public health interventions (Brownson, Fielding, & Maylahn, 2009). The use of evidence is expected to facilitate the implementation of the most appropriate and effective interventions in relation to cost-effectiveness and the interests of populations. However, integration of evidence in policy making is not straightforward and effective methods for this are needed (Brownson et al., 2009; Kohatsu, Robinson, & Torner, 2004; Li, Carter, & Rychetnik, 2014; Nutley, Walter, & Davies, 2007; Rychetnik & Wise, 2004).

The REPOPA project aims to integrate scientific research evidence and expert know-how with real world policy making processes to increase synergy and sustainability in promoting health and preventing disease among Europeans. The REPOPA Consortium brings together scientific researchers, experts, policy makers and other stakeholders from different disciplines, sectors and countries. The REPOPA Consortium consists of scientific excellence in health research, including physical activity (PA), and links to real life experience in policy making and expertise in knowledge translation in six countries in Europe and in Canada.

1.2 WP3 background

WP3 was built on the experiences and initial indicators for evidence-informed policy making developed in REPOPA WP1 (Aro et al., 2015) as well as on the scientific literature on similar interventions available before the start of the REPOPA project and more specifically, before the start of WP3. Below, however, we provide the scientific state-of-the-art at the time of submitting this report. This summarized state-of-the-art will allow the readers of the report to understand and interpret the findings of the REPOPA WP3 results and conclusions in the light of the current knowledge. There are no previous studies specifically on the use of the Stewardship approach to guide interventions in evidence-informed policy making. For this reason, our report covers more widely issues closely related to the REPOPA kind of interventions.
Multiple factors on individual and organizational level influence research evidence integration and utilization in healthy public policy making. Evidence-informed policy making appears to be the way forward in public health decision making to produce targeted policies. As we have summed up in REPOPA WP1 report evidence-informed policy making is a contingent, complex, system-like, non-linear and emergent process of producing, managing and implementing new knowledge into policies (Hämäläinen, Villa, & Consortium, 2013) The same report states that there are various ideas about what components evidence-informed policy making should consists of, how this can and should be done and what it should achieve (see also (Best & Holmes, 2010; Shine & Bartley, 2011). Within the context of this research, evidence-informed is defined as policy development and implementation which takes into account relevant research evidence but also accommodates many contextual needs, including the political, economic, and social realities and values of diverse stakeholders.

Most current research focuses on technical issues of barriers and facilitators for knowledge utilization, translation and integration for evidence use in policy decision making. In guiding efficient evidence use then policy making frameworks, strategies and tools have been developed and seem to have a facilitating effect on knowledge translation and evidence uptake. However, more testing of interventions in policy settings are sought after to measure impact (Hanney & González-Block, 2011; Oxman, Lavis, Lewin, & Fretheim, 2009; Peirson, Ciliska, Dobbins, & Mowat, 2012; Redman et al., 2015; Yost et al., 2014). Also the quality and purpose of the information and evidence used to inform policies should be identified and evaluated further on as well as who are the decision makers and what are their needs in the policy process (Zardo & Collie, 2015).

Social and personal relationships between policy makers and researchers for knowledge exchange and use have been found crucial (Contandriopoulos, Lemire, Denis, & Tremblay, 2010; Oliver, Innvar, Lorenc, Woodman, & Thomas, 2014 (a); Schneider, Campbell, Milat, Haynes, & Quinn, 2014; Shearer, Dion, & Lavis, 2014). Also capacity building is important to improve skills for evidence use in health policy making (Oliver et al., 2014 (a); Peirson et al., 2012; Schneider et al., 2014). Skills should be targeted specifically to accommodate different cultures and needs in specific policy making arenas depending on high or low research culture for knowledge translation. According to a randomized controlled trial, under high research culture conditions, tailored and targeted messages were significantly more effective in changing practice than knowledge brokering and access to online data, whereas under low research culture conditions, knowledge brokering improved practice change better than tailored messages and online access (Dobbins et al., 2009). Depending on the context, different strategies can be applied to improve skills in that particular culture.

A systematic review showed that more time is needed for taking up evidence in policy making and to enhance the skills of policy makers to better access, appraise and integrate relevant evidence into policies (Oliver et al., 2014 (a)). Structural organizational changes seem to improve behaviour change rather than education; further, organizations need to choose interventions based on theory and local assessment of needs and barriers (Stone et al., 2002). However, also power relations, values and experiences are important for ethical and effective evidence-informed policy making (Hämäläinen et al., 2013; Nuffield Council on Bioethics, 2007; Walton & Mengwasser, 2012).
With respect to the intervention type, Forsetlund et al. 2003 reported that a multifaceted intervention (workshops, newsletter, access to service and information and relevant databases) lead to a greater knowledge increase than access to general library service (Forsetlund, Talseth, Bradley, Nordheim, & Bjørndal, 2003). Although the internet seems to disseminate greater accessibility than pamphlets and CD-ROMs (DiNoia, Schwinn, Dastur, & Schinke, 2003), various encouraging strategies to accept free online evidence-based resources had very limited impact on the use of research evidence in practice and policy making in the health setting. This highlights the need to address effective ways of motivating participants to take part in evidence-based/evidence-informed practice (Buchan, Lourey, D’Este, & Sanson-Fisher, 2009).

Research from real world policy processes based on the political climate, culture and tradition for using research evidence is desperately lacking. There is a gap in knowledge on empirical, real world case studies in policy making, and in applying frameworks, tools and theories. Norms and values are also significant for research uptake; and more information is needed on how to tackle the actual political environment and how to connect with policy makers (Liverani, Hawkins, & Parkhurst, 2013; Oliver, Lorenc, & Innvær, 2014 (b)).

Overall, according to a recent systematic review of the effectiveness of knowledge translation strategies (LaRocca, Yost, Dobbins, Ciliska, & Butt, 2012), no single strategy was effective in all contexts. It is important to consider the characteristics of the knowledge being transferred, providers, participants and organizations involved when planning an effective strategy along with highlighting the importance of leadership in knowledge exchange (LaRocca et al., 2012; Stetler, Ritchie, Rycroft-Malone, Schultz, & Charns, 2009). One way to perform such a tailored knowledge integration process is by using elements from The Stewardship approach.

1.2.1 The Stewardship approach

The Stewardship approach is an ethical public health approach targeting at reducing inequalities, recognizing vulnerable groups, creating healthy environments and justice. In terms of public health policy development, it furthermore takes up the perspective that policies need to do more than provide information; they should actively help people to easily live healthy lives. Therefore, it encompasses factors such as age, gender, ethnic background or socio-economic status while at the same time regarding the population as whole (Nuffield Council on Bioethics, 2007).

The Stewardship approach is sensitive to the duty to respect needs and values of all parties and stakeholders involved, by considering the least intrusive way of achieving policy goals, also taking into account the criteria of effectiveness and proportionality. The concept of mandate and the need for policy justification is the consideration of open and transparent participatory process; however, it is not designed to only follow public votes, especially where issues require complex scientific evidence (Nuffield Council on Bioethics, 2007). Several sub-functions in the Stewardship approach exist to ensure responsibilities and avoid conceptual overlap between them. These sub-functions mean to:

- Ensure a fit between policy objectives and organizational structure and culture
- Ensure tools for implementation (and availability for all parties, more efficient)
- Build coalitions and partnerships
• Ensure accountability
• Generate intelligence (evidence-informed decision making) 
  (Federici, Filippetti, & Oleari, 2012; La Torre et al., 2012).

The Stewardship approach describes a value concept and respects adjusting interventions to the needs, values and priorities of the intervention recipients when dealing with evidence-informed health policy making. Here, the Steward (which could be the state, the head of a project or the key person that runs a policy making process) represents an authority to balance leadership and involvement. To reach policy goals by selecting the least intrusive method the Stewardship procedure is characterized along transparency, comprehensiveness, power and decision decentralization combined with mapping of competencies especially where evidence-informed decisions are needed (Federici et al., 2012; La Torre et al., 2012; Nuffield Council on Bioethics, 2007).

In physical activity policy making, the Stewardship approach would expect responsibility for action from the (local) government, which would provide structures, policies and services for communities and people, enabling them to be physically active but leaving the final decision for people themselves; this would be done based on respecting needs and values of all relevant stakeholders, including academia with its research knowledge, policy makers and also policy target groups, including those marginalized.

The core elements from the Stewardship approach as described above formed the basis for designing tailor-made interventions to increase integration of research evidence in WP3. A special focus was the close relations between researchers and policy makers. In addition to this, the Knowledge-to-Action framework contributed to understand the complex process of integration of evidence in policy making (Figure 1).

1.2.2 Knowledge-to-action framework

The Knowledge-to Action framework (Straus & Holroyd-Leduc, 2008) as a decision support tool involves all relevant participants who are targets for knowledge integration (e.g. policy makers, researchers, practitioners). As indicated in figure 1 below the centre of the action cycle is the knowledge creation, represented by a funnel. When knowledge moves through the funnel, a refining process takes place in order to transform it to a more useful end product for different settings. Especially, this is done by knowledge creation and tailored knowledge procedures.

Overall, the Knowledge-to-Action framework focuses on the processes needed to implement knowledge in policy making settings. In particular, this covers the circular identification of problems, the assessment of knowledge integrations determinants, selection, tailoring, implementing as well as evaluating interventions and determining strategies for a sustained new development and use of knowledge (Straus & Holroyd-Leduc, 2008). In WP3 the framework was used to identify current and future phases of policy making and knowledge integration processes. This was used to design the tailor-made interventions.
1.3 WP3 overall aim

The background of WP3 described above leads to the overall aim of REPOPA WP3 according to the Description of Work (DoW): *To study if the stewardship approach - based on needs, context and stakeholder analysis, with the aim of strengthening the use of research evidence with other kinds of evidence in close academia-policy maker collaboration - increases the level of evidence-informed policy making in selected, real-world case study events. A particular focus point will be the testing of methods and techniques to identify and effectively engage specific stakeholders in the development of physical activity policy processes under investigation.*

The selected policy case studies centred on Health Enhancing Physical Activity (HEPA) policies. Evidence-informed policy making in WP3 is understood as policy making informed by different sources of knowledge such as knowledge from research, knowledge from stakeholders, and knowledge of target groups.
2 Overall methodology

A research protocol to guide the three-country interventions was developed in collaboration with the WP3 partners consisting of the teams from Denmark, the Netherlands, and Italy. The research protocol described the scientific know-how and theoretical frameworks and concepts, objectives, methods, e.g. the selection criteria for policies, and the research process ahead. Also the measurement instruments were developed together especially for common questions across countries and interventions. Further, according to the DoW, the Reach; Effectiveness; Adoption; Implementation; Maintenance (RE-AIM) evaluation framework criteria were developed to evaluate translatability and public health impact of the interventions on individual and organisational level.

2.1 Research ethics

Before the intervention start, each country sought for ethical clearance (or provided documents showing it was not necessary for this kind of research) in their respective countries (Edwards et al., 2013). In line with the EC contract, the ethics documents were submitted to EC before the intervention start. In each intervention setting, informed consent forms were filled in, and the data have been analysed anonymously. When the interview data were recorded, permission for the recording was obtained. The research in general followed the ethics guidelines specially developed and accepted by the REPOPA Consortium.

2.2 Selection of policy cases

Each participating country team selected two policy cases based on a set of common WP3 criteria. The following paragraphs describe the selection processes in all three countries and give an overview of the needed (“must have”) and optimal policy criteria considered (table 1). The agreed policy selection criteria were met by all intervention policies.

Denmark

The selection of the two Danish case municipalities was based on them being in the planning stage of the policy processes matching the REPOPA criteria; the selection was also pragmatic since it was based on previous collaboration between University of Southern Denmark and the municipalities, which guaranteed easy access. The two chosen policy cases were:

- **Policy case 1**: Development of a strategy that promotes intersectoral collaboration to integrate physical activity in all new initiatives in Kolding municipality
- **Policy case 2**: Development of a physical activity strategy focusing on social inequality in Varde municipality

Kolding is a university city and working together with universities and other external partners is well-known territory for the municipality. The background for developing a strategy for physical activity is closely related to the Health Policy and Health Plan of the municipality. According to the Health Plan, the intention
was to develop an intersectoral strategy for physical activity in connection to the project ‘Movement on all levels’ (Kolding Municipality, 2011).

Also Varde municipality has a high level of experience in collaborating with research units. Before REPOPA’s involvement, the municipality had participated in other research projects in the area of health and physical activity. The existing health policy (enacted in 2008) was based on seven objectives: physical activity, healthy food, better sanitation, mental health, rehabilitation, non-smoking and equality in health. However, during revision in 2013 there was the intention to develop improved and concrete implementation plans for each of the seven objectives. The strategy development for physical activity was the first of seven objectives to be worked on and it should act as a template for the other objectives. The goal was to develop an action-oriented strategy aimed at enhancing physical activity in citizens’ everyday life (Varde Municipality, 2014).

**The Netherlands**

Utrecht municipality was chosen due to its leading position, willingness to collaborate, availability of good examples in intersectoral collaboration as well as its ambition to promote physical activity with an example of the European Youth Olympic Festival. From public health perspective, sustainability and health are closely connected within the three P’s: People, Planet and Profit, which are included in the public health policy 2011-2014 in Utrecht. The policy also aims to reduce health inequalities in neighbourhoods via a healthy neighbourhood approach (Gemeente Utrecht, 2011). Connecting sports and health care are part of the Sport policy document 2011-2016 *(In Utrecht your talent will be at heart!)*; with ‘Participation to ability,’ Utrecht has formulated strategies to target vulnerable groups such as the elderly and the chronically ill.

The phase for recruiting municipal policymakers to collaborate within the REPOPA project ran from December 2012 until March 2013. Relevant contacts in Utrecht were contacted by e-mail and LinkedIn groups. Interested parties received further information and two introductory meetings were set up. Recruitment was challenging because the involvement had to be discussed in details. Moreover, recruitment was challenged by a range of new laws and regulations about to be implemented on local level. Those developments seem to put a great burden on the time of policy makers which could be spent on innovation or health policy development. Despite these barriers, in total two policy cases in Utrecht were chosen:

- **Policy case 1**: Connecting Sports and Health Care & Welfare in Utrecht West;
- **Policy case 2**: Physical activity (PA) policy for senior citizens (65+) in Utrecht.

**Italy**

The criteria for the participating municipalities in Italy were based on territory (where selected physical activity policies took place) as well as on the fact that each of these policies included several administrative levels (multi-regional, regional, city, municipality). In particular, the Municipality of Rome XII worked with a network of different stakeholders (politicians, schools, associations and others) in the development and implementation of sport policies in schools. In the Valdarno Inferiore, a similar framework was present.
These networks produced a multi-level setting that was particularly interesting for applying the Stewardship approach since it allowed involving and producing changes on multiple levels. In both of these cases, the responsible people expressed their interest to participate.

Other criteria were the levels of research use, variety of target groups, variety of intervention proposals and the possibility to foster new scientific contents in a policy that was already in place (through successful interventions). The two policy cases chosen were:

- **Policy case 1**: Olympics for students in schools in Municipio Roma XII
- **Policy case 2**: Strade della Salute (SdS)/Healthy Roads in Valdarno Inferiore.

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<thead>
<tr>
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<tr>
<td>Local or regional setting</td>
<td>X</td>
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<tr>
<td>Policy responsible stakeholders have willingness to participate</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>At least one vulnerable group targeted</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Intersectoral approach identified</td>
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* Criteria met by country policies; **most desirable.

Table 1 Criteria for selecting policy cases in all three countries
2.3 Mapping of context

The intervention context was mapped based on (Brownson et al., 2009). The country context is described below (table 2) in terms of political system and community characteristics, including relevant health characteristics for the respective case municipalities.

<table>
<thead>
<tr>
<th>Context mapping – Denmark</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Political system</strong></td>
</tr>
<tr>
<td>- 5,6 million inhabitants; 5 regions, 98 municipalities; constitutional monarchy;</td>
</tr>
<tr>
<td>- Modern welfare state with decentralized system administration;</td>
</tr>
<tr>
<td>- Levels of governance: National, regional and local level; Central level provides guidance and policies; Main assigned responsibility for health care, psychiatry and service delivery on regional level; Increased assigned responsibility for health promotion on local level; The Danish Health and Medicines Authority deliver support and recommendations in health promotion; The Ministry of Health supports implementation on regional and local level.</td>
</tr>
<tr>
<td>- Focus on making the healthy choice to be the easy choice for individuals</td>
</tr>
<tr>
<td><strong>Municipalities characteristics:</strong></td>
</tr>
<tr>
<td>- Autonomous authorities with elected councils; control of the local executive structure</td>
</tr>
<tr>
<td>- Exclusive power and independent taxation source; high degree of decision-making freedom</td>
</tr>
<tr>
<td>- Both intervention municipalities are located in the Region of Southern Denmark.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Kolding - Community characteristics</th>
<th>Varde - Community characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>7th largest city in Denmark, 190,000 inhabitants; regular collaborations with universities; 5 administrations: Senior citizens, City and Development, Social Services and Health, Children and Education and Central administration;</td>
<td>Varde is a geographical large municipality though a sparsely populated city, 50,000 inhabitants (large natural/plantation areas) 4 administrations: Children and Youth, Planning, Culture and Technical services, Social services, Health and Employment, Central administration;</td>
</tr>
<tr>
<td><strong>Characteristics &amp; SES indicators:</strong></td>
<td><strong>Characteristics &amp; SES indicators:</strong></td>
</tr>
<tr>
<td>- Urbanization 1: 88%; SES index 2: 0,92</td>
<td>- Urbanization 1: 71,5%; SES index 2: 0,82</td>
</tr>
<tr>
<td>- Population 65+: 16,6%</td>
<td>- Population 65+: 18,6%</td>
</tr>
<tr>
<td>- Citizens with non-western origin: 5,4%</td>
<td>- Citizens with non-western origin: 2,7</td>
</tr>
<tr>
<td>- Citizens on publ. support: 17-64 yrs: 2,5/100</td>
<td>- Citizens on publ. support: 17-64 yrs: 1,8/100</td>
</tr>
<tr>
<td>- Citizens with short education as highest educational level: 41,5%</td>
<td>- Citizens with short education as highest educational level: 42%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relevant health indicators:</th>
<th>Relevant health indicators:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Prop. of citizens doing moderate/heavy physical activity in spare time: 27,3%</td>
<td>- Prop. of citizens doing moderate/heavy physical activity in spare time: 26,6%</td>
</tr>
<tr>
<td>- 16% of citizens have still sitting spare time activities; 70% of those want to be more active</td>
<td>- 14% of citizens have still sitting spare time activities; 63% of those want to be more active</td>
</tr>
<tr>
<td>- 67% of citizens are regularly physical active</td>
<td>- 71% of citizens are regularly physical active</td>
</tr>
<tr>
<td>- Body Mass Index (BMI) &gt; 30: 10%</td>
<td>- BMI &gt; 30: 10%</td>
</tr>
</tbody>
</table>

1 Urbanization: Proportion of population living in urbanized areas with more than 200 inhabitants  
2 SES-index: a value < 1 means the municipality has lower expenditure requirements relative to the average.  
Sources: (Ministry of Social Affairs and the Interior, 2012; Region South Denmark, 2006a, 2006b, 2010)
## Context mapping – The Netherlands

### Political system
- 16.7 million inhabitants; most populous country in Europe; constitutional monarchy; and a parliamentary democracy;
- Twelve provinces with 408 municipalities plus three BES islands in the Caribbean;
- Levels of governance: national, provincial and municipal;
- Part of the tasks are transferred from central to local level which affect health- and PA policies on national and local (municipal) level, decentralized system; being healthy is viewed upon as being the responsibility of every Dutch citizen; the government chooses to have limited legislative interference (focus on information dissemination, accessible facilities for people to make the healthy choice easy);
- Focus of prevention and health promotion in policies: overweight, diabetes, alcohol abuse, depression, smoking. The national policy ‘Health Nearby’ has an PA focus;
- Health related priorities in national policies have to be considered in local policy plans; (Municipalities) characteristics/responsibilities after the new health reform:
  - Responsibility for support, assistance and home care;
  - Criteria on national level for access to residential care will be more strict;
  - From 2015 funds released from secondary medical care for extra district nurses
  - Responsibility for youth care tasks (before Ministry of Health, welfare and Sport);
  - More autonomy on decisions of how to implement decentralised provisions;
  - Currently, figuring out how to adapt to the new laws and requirements.
- Both Dutch interventions are located in the municipality of Utrecht.

### Utrecht - Community characteristics
- 4th most populous Dutch city; 318,000 inhabitants;
- Strong focus on sustainability within public health (‘People, Planet, Profit’);
- Good health is seen in the broader health perspective, using the model of Whitehead and Dahlgren, good health includes accessible health care, clean air, a safe environment to be active etc.
- Topic of Utrecht’s public health policy is ‘feel healthy, be healthy and stay healthy;
- The (personal) wellbeing of citizens is at a high level (88% is satisfied with his or her life) and citizens are satisfied with health services in their neighbourhood (82%)
- Despite most citizens are satisfied with their life, the Quality Adjusted Life Year (QALY) varies greatly between Utrecht’s districts

### Characteristics & SES indicators:
- Diverse ethnicity: 69% Dutch, 10% western, 21% non-western
- Life expectancy: 79 years (slightly lower than national average)
- Average life expectancy in QALY’s: North East Utrecht (71,8), Utrecht West (68,5), Overvecht (59,7)
- Population 65+: 10%, Proportion of citizens with minimum income or on social support: 38%

### Relevant health indicators:
- Half of citizens have one/more chronic disease(s)
- People without chronic disease in the Netherlands who reach the PA standard: 60,9%
- People with one/more chronic disease in the Netherlands: who reach the PA standard 54,6%
- 31% of citizens in Utrecht do not meet PA norm, this should be reduced to 25% in 2016
- 60% of 80+ citizens do not meet PA norm
- Proportion of inactive citizens in home care: 76%, in residential care: 89%
- 17% of the citizens in Utrecht West over the age of 55 experience barriers in carrying out their daily activities as well as barriers in doing housekeeping
- 45% of the citizens in Utrecht West between 19-54 years old have 1 or more chronic diseases

### Sources:
- Alay, 2010; Bouwman, Schreurs, Koopmans, & Vleems, 2010; Gemeente Utrecht, 2011; GG & GD, 2010; TNO, 2013
### Context mapping – Italy

**Political system**
- 60.6 million inhabitants (2011); high population density (201 citizens/km²);
- 20 regions, 9 metropolitan cities, 101 provinces, > 8000 municipalities;
- Parliamentary Republic; mainly centralized system, though the regions also have competences in health policies and five regions have special autonomous status;
- Levels of governance: national, provincial and municipal;
- Large-scale internal migration from the rural South to the more industrialized North;
- The state role in health has gradually transformed from a function of an organizer of services to that of guarantor of fairness in the implementation of the right to health;
- Local Health Authorities (LHA); public institution with legal personality and corporate autonomy that operates under the National Health Service (NHS);
- Ministry of Health is the main responsible for health promotion. Local departments and regional and local levels have responsibilities, municipalities have competences for administering and promoting sport and PA for all their citizens. Some programs are shared between different bodies and at different levels, e.g. ‘Gaining Health’.

**Municipalities characteristics/responsibilities**
- Local city councils are responsible for the health condition of the population.
- The primary task of LHA’s is to ensure the essential levels of assistance provided by the national health plan, delivery of benefits and services, assistance provided by the municipalities in the local implementation plans, as well as the socio-medical highly integrated health, management of health and social services;
- One Italian intervention takes place in a sub-municipality (Municipio) in Rome. The other intervention is anchored in a network of four municipalities in Tuscany.

<table>
<thead>
<tr>
<th><strong>Municipio Roma XII – community characteristics</strong></th>
<th><strong>Società della Salute (SDS), Valdarno Inferiore, Tuscany – community characteristics</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Roma XII is one of 15 sub-municipalities (municipi) in Rome; 142.983 inhabitants (5% of Rome)</td>
<td>SDS Valdarno Inferiore, an Association for health promotion is composed by 4 Municipalities (Santa Croce, San Miniato, Castelfranco di Sotto, Montopoli) and their local health authorities; scattered industrial and business area, residential area is centred, inefficient public transportation</td>
</tr>
<tr>
<td>Municipi are dependent on the central administration of Rome, but have their own elected president and council; Municipalities may cover health issues indirectly in cross-sector policies addressed to schools;</td>
<td>Characteristics and SES indicators of the area:</td>
</tr>
<tr>
<td>- Population density: 19,4 people/ha</td>
<td>- Population density: 339 people/km²;</td>
</tr>
<tr>
<td>- Population: 142.983 (of which 10% foreigners)</td>
<td>- Age 0-14 years: 8.969</td>
</tr>
<tr>
<td>- Age 0-18 years: 15,79%</td>
<td>- Age 15-30 years: 11.788</td>
</tr>
<tr>
<td>- Age 19-64 years: 59.60%</td>
<td>- Age &gt; 30 years: 46.237</td>
</tr>
<tr>
<td>- Age &gt; 65 years: 26.41%</td>
<td>Relevant health indicators:</td>
</tr>
<tr>
<td>- Economic dependence index ratio: 59,1</td>
<td>Percentages of adolescent overweight/obese:</td>
</tr>
<tr>
<td>(ratio between 15-64 yrs and &lt;15 and &gt;65)</td>
<td>41%/8,5%</td>
</tr>
<tr>
<td>Relevant health indicators:</td>
<td>Sedentarily is in general population 21%, 34% of general population declare intense and prescribed PA, 45% moderate PA.</td>
</tr>
<tr>
<td>29 % of the population is overweight, 8% obese, those with lower education have more often overweight; income is not related to overweight; 37,4% of the population is physically inactive, 33,1% partially active. Those with lower socioeconomic status and women are more often inactive.</td>
<td><strong>Sources:</strong> (Ministry of Health, 2013)</td>
</tr>
</tbody>
</table>

Table 2 Country context mapping based on the framework by (Brownson et al., 2009)
Thus the three countries include southern European Italy with big population, western European the Netherlands with high population density and Nordic county of Denmark with small population. All countries have three level administrative structures of state, region/province and municipality. Health governance is also divided between the levels so that the state guides and the regions and the municipalities have high independence in implementing the actions. Compared to Denmark and the Netherlands (where health promotion and prevention is organized relatively decentralized) local health authorities in Italy are rather centralized.

2.4 Needs assessment and findings

2.4.1 Needs assessment in Denmark
The needs assessment was carried out by initial meetings with stakeholders from both municipalities, with a part of the pre-measurement questionnaire (Kolding n=19, Varde n=11) and qualitative interviews (Kolding n=8, Varde n=5).

**Kolding municipality**
The development of an intersectoral physical activity strategy had its roots in the municipal Health Plan 2011-2014. By the time REPOPA joined, the strategy had been postponed for some time. Hence, the process regarding the strategy could build on prior experiences of the departments who had worked on it before. The assessment indicated a high degree of support for the idea of a common strategy for physical activity. Participants (n=19) also mentioned the need for a more systematic and structured implementation, to create ownership and to move physical activity onto the agenda of all administrations. Only one third of the respondents (6/19) indicated to be satisfied with the present level of intersectoral collaboration. In particular, there was a need for more communication across municipal sectors. The most important need was to take advantage of the relatively high level of knowledge use in policy making related to physical activity within each sector and spread it throughout the organization. The intention was to develop a concrete internal tool to promote intersectoral collaboration on physical activity activities. However, the content and characteristics of this tool were not clear from the beginning of the process. Based on the overall WP3 aim and the needs assessment, the goals of the intervention in Kolding were:

- To promote intersectoral collaboration on physical activity activities;
- To facilitate the development of a tool to promote intersectoral collaboration;
- To facilitate common ownership of the strategy to increase sustainability.

**Varde municipality**
In Varde municipality there was room for improvement in relation to intersectoral collaboration. Only 4 out of 11 participants were to a high degree satisfied with the intersectoral collaboration. In particular, the lack of communication and coordination between sectors were perceived as barriers. However, the participants were in general positive towards the development of a strategy for physical activity, and they perceived the health agenda as important. Based on the overall WP3 aim and the inputs from the needs assessment from the participants and principal organizers (from initial meetings), the goals of the interventions in Varde municipality were:
• To have a systematic process – regarding knowledge use and intersectoral collaboration;
• To increase the level of knowledge use and spread of knowledge across sectors;
• To create common ownership of the strategy.

2.4.2 Needs assessment in the Netherlands
The needs of the stakeholders were assessed through 10 stakeholder interviews (5 for each policy), a network meeting and pre-measurement questions. Needs were assessed within three different groups: policy makers and main stakeholders who are the leading bodies in the field of physical activity and policy making in Utrecht as well as other (local) stakeholders from the sectors of sports, (residential) care and welfare.

Connecting Sports and Health Care & Welfare in Utrecht West
In general it appeared that among citizens, and in specific among the chronically ill, there was a good quantity of sports activities available in the neighbourhood. However, chronically ill often used the physical activity offer of physiotherapists based on their insurance coverage and stopped exercising as soon as their guidance and coverage stopped. Those chronically ill often did not find their way to the regular sports activities in the neighbourhood. It appeared that patients did not learn how to manage their health and lifestyle (citizen level). On the other hand, the physical activity professionals from the different sectors (sports, welfare and care) did not refer to each other. Based on the overall WP3 aim and the needs assessment the following goals were formulated:

• Building a structural network between sectors in Utrecht West (long term goal);
• Developing knowledge among citizens (long term goal);
• Developing a sustainable network of partners (intermediate goal);
• Strengthening the current networks (short term goal);
• Strengthening the knowledge on health literacy among involved professionals in the network (short term goal).

Physical activity policy for senior citizens (65+) in Utrecht
Two prior developments influenced the needs assessment process. A national plan should inspire policy makers to make strategies for physical activity in health care facilities for the elderly until 2015. At the same time another law restricted access to these homes. Especially the latter development had an impact on the needs of the stakeholders on local level, which is reflected in the following two statements: “How can we keep track of the elderly who have to live on their own in the future, instead of in a residential care facility” and “We have to work together with all the parties in a community!”. Moreover, based on the needs assessment, it was obvious that intersectoral collaboration, involvement of vulnerable groups and other interested in policy making process, evaluation of existing programs, evidence-informed policy making stakeholders definition as well as capacity to work in different context, were lacking. Based on the overall WP3 aim and the needs assessment the following goals were formulated:
• Developing an action plan aimed at the situation and context to meet legal requirements to have a PA policy (intermediate/long term goal);
• Delivering practical knowledge on the building blocks, conditions and changes which determine successful senior PA-policies within the residential- and health care institution (intermediate/long term goal);
• To give the municipality Utrecht and the main stakeholders insight in what PA activities for 65+ citizens are available in Utrecht (short term goal);
• Knowledge about existing PA programmes for senior citizens (65+) will be shared (short term goal);
• To give insight in the role of the municipality could have in this area and partners in the field of PA for 65+ (short term goal);
• Get to know each other and each other’s expertise and build a basis for collaboration (building a network); (short term goal).

2.4.3 Needs assessment in Italy

Municipio XII in Rome

The interviews with people working in Municipio XII in Rome confirmed that there existed no infrastructure for the use of research evidence in the organization. Most of the knowledge used for policy development came from stakeholder inputs such as physical activity teachers or school principals. Parents of students were not involved; the relationship with them was filtered by teachers.

The needs assessment showed that policy makers did not have time to find, access and use research evidence and administrative staff lacked the necessary skills to study the available evidence. Additionally, the needs assessment also revealed beliefs that even though researchers were often believed not to be aware of the real contexts; their results were nevertheless regarded as very important for the policy makers. The respondents also pointed out that it would be very interesting to discuss further how to nurture the relationship between policy makers and researchers. Barriers for using research knowledge and stakeholder knowledge in policy making were: 1) the lack of collaboration between researchers and decision makers (e.g. because laws do not always allow remunerated consultancy); and 2) the lack of opportunity to share lessons learned and past experiences. Hence relationships with universities were often happening on a casual and informal level. These elements suggested that an initiative for improving and strengthening networks and sharing experiences between researchers and policy makers at different levels was needed. Based on overall WP3 aim and the needs assessment, the following goals were formulated:

• To foster communication, exchange of knowledge and experiences between different stakeholders;
• To raise policy makers’ awareness on cross-sectoral multi-stakeholder approaches;
• To integrate knowledge, opinions and values between research evidence and policy stakeholders of politicians, researchers, doctors and communicators in policy making;
• To investigate models of science-society interaction.
**SdS Valdarno Inferiore - Healthy Roads, Tuscany**

The needs assessment for the second policy case in Italy consisted of formative research effort through document analysis. The reports of the Healthy Roads project did not mention scientific references or quotations. The used tacit knowledge was based on knowledge on existing risks from air pollution, car accidents and physical inactivity. The evidence of health problems caused by air pollution and physical inactivity as well as health benefits from physical activity was mentioned as the motivation for action.

In the important document for territorial planning, ‘Regulations for bio-eco sustainable housing’, we found references related to epidemiological research, studies on climate change and WHO publications referring to the interdisciplinary sector involved in urban planning. Physical activity was mentioned together with other determinants of the quality of life. There were no references to policy makers’ need for the use and/or creation of research evidence in the analysed documents. However, the documents mentioned possible future studies and statistical research to evaluate the work done and the improvements in public health. The results from interviews (n=10) done to implement REPOPA WP 1 were used to build an articulated work program that evolved during the Stewardship intervention. The intervention was defined through an intense exchange of information and opinions among the “REPOPA WP3 Tuscany team”. Based on the overall WP3 aim and the needs assessment the following goals were formulated:

- A seminar to learn how to prepare technical scientific reports for different stakeholders: decision-makers, the general public, media;
- To build a consortium with the council of the municipality in Carosino and local health authorities for further collaboration. The twinning is aimed at promoting Pedibus activities, through information exchange, and site visits.
- *Additional context-specific goal*: Definition of indicators for the measurement of changes in health before and after the policies implemented, in particular intervention 1, Pedibus.

**2.5 Different types of interventions in the study**

The interventions for the policy cases were tailored based on information derived from the former steps in the process: context mapping of national context and community contexts, needs assessment, stakeholder assessment, the current situation (including the policy phase) and the local policy context. Thus the interventions had the same goal but different aims and means following the principles of standardization by function and not by form (Hawe, Shiell, & Riley, 2004). The common goal was to increase integration of research evidence in practical policy making. The interventions can be described as information interventions, learning interventions, and organizational interventions (Straus, Tetroe, & Graham, 2009). Table 3 below gives an overview of intervention characteristics of all six cases.
<table>
<thead>
<tr>
<th>Intervention characteristics</th>
<th>Kolding (DK)</th>
<th>Varde (DK)</th>
<th>Connecting sports in Utrecht West (NL)</th>
<th>PA for senior citizens Utrecht (NL)</th>
<th>Municipio Roma XII (IT)</th>
<th>Tuscany (IT)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy included</strong></td>
<td>Development of a strategy for physical activity</td>
<td>Development of a strategy for physical activity</td>
<td>Strengthening the Neighbourhood Sports and PA Plan of Utrecht West</td>
<td>Development of a strategy for PA for senior citizens (65+) in Utrecht</td>
<td>Student Olympics of schools of the territory of Municipio XII</td>
<td>Healthy Roads</td>
</tr>
<tr>
<td><strong>Main theme/s</strong></td>
<td>Focus on physical activity and intersectoral collaboration</td>
<td>Focus on physical activity policy strategy</td>
<td>Intersectoral common knowledge development on PA-situation, -needs, -tasks and -common language.</td>
<td>Increased level of knowledge on situation, needs and stakeholder on PA for senior citizens (65+)</td>
<td>Intersectoral network building</td>
<td>Improve and strengthen contacts and experience sharing among researchers and policy makers at different levels.</td>
</tr>
<tr>
<td><strong>Policy phase</strong></td>
<td>Initiation phase of a new policy</td>
<td>Initiation phase of a new policy</td>
<td>Monitoring &amp; evaluation of current policy until tackling assessed barriers</td>
<td>Problem definition and agenda setting</td>
<td>Initiation phase of activities; knowledge creation, problem identification</td>
<td>Implementation and evaluation</td>
</tr>
<tr>
<td><strong>Intervention format</strong></td>
<td>Workshops, meetings</td>
<td>Workshops, meetings</td>
<td>Multi component: knowledge transfer capacity building (Health Literacy), community setting development, strengthening a network (intersectoral action)</td>
<td>Multi component: knowledge transfer, community setting development, strengthening a network (intersectoral action), policy development</td>
<td>Delphi-like consultation procedure</td>
<td>Participatory research</td>
</tr>
</tbody>
</table>

Table 3 Overview of intervention characteristics and policy processes included
2.5.1 Interventions in Denmark

Before the actual interventions, a three-month pilot study was carried out in Odense municipality in spring 2013. This pilot can be characterized as an *information intervention* where REPOPA provided the working group with oral and written feedback on existing knowledge on implementation plans of a health strategy.

**Kolding Municipality**

The intervention was primarily based on four workshops with the intersectoral working group settled to develop a tool for the intersectoral physical activity strategy that could also be used after the intervention. Each workshop lasted 4-5 hours, was preceded by a planning meeting and followed by debriefing. For each workshop, a logical model was developed to explicate the assumptions behind the interventions to answer the questions: how are the different steps in the interventions expected to work, and how does this relate to the final expected outcome of the intervention process? Theory of Change (ToC) methodology was used to plan and carry through the workshops and optimize the participatory processes (Vogel, 2012).

The main part of the intervention in Kolding can be characterized as an *organizational and learning intervention* (Straus et al., 2009). The REPOPA team worked as process facilitators and discussion partners throughout the process. In the process it became evident that the ‘tool’ would be in the format of an intersectoral internal network - based on the working group. The intervention can also be characterized as an *information intervention* as a range of knowledge products were produced and made available for the municipality: 1) a report of models for intersectoral collaboration was presented at the third workshop based on a literature review (in the construction of possible models, the review was combined with information from the interviews from the needs analysis, to adapt to the local context); 2) a report of six focus group interviews with senior citizens aiming at getting knowledge on the factors affecting physical activity in the everyday life of elderly between 65-74 years (compiled by two Master of Science students).

**Varde Municipality**

The intervention in Varde municipality was planned with a focus on close collaboration with the stakeholders – in this case with the principal organizers - and on tailoring the intervention process to the specific context and needs. Four meetings of the working group were organized in which REPOPA participated. Except for the first meeting, which lasted three hours, the working group meetings lasted 1½ hours and had high participation rate and active discussion. Moreover, the principal organizers (together with REPOPA) and the other members worked on the strategy between workshops via face-to-face and online briefing meetings. The strategy for physical activity was approved in summer 2014. The active involvement of REPOPA ended after the last working group meeting in April 2014.

The oral and written feedback on draft themes and initiatives in the strategy, which were provided by the REPOPA team, can be characterized as an *information intervention*. The aim was to give the participants a more qualified basis for working with the strategy by collecting, summarizing and transferring knowledge on selected themes related to physical activity. However, there were also elements of what can be characterized as an *organizational intervention*, e.g. discussions on how to facilitate the collaboration across sectors in implementing the strategy as well as discussions with project leaders on how to structure the process.
2.5.2 Interventions in the Netherlands

The aims, targeted results and activities within the interventions in REPOPA were agreed upon with the municipal policy maker and main stakeholders and were set within a collaboration agreement with the municipality. The agreed process steps were translated to long and short time goals for REPOPA. Given the timeframe, the REPOPA activities contributed to the short term goals. REPOPA activities were part of a more comprehensive approach to ensure sustainability and are part of broader long term and intermediate goals.

Connecting sports in Utrecht West

The entrance of REPOPA activities within the evidence-informed policy making process was not at the beginning of the policy cycle; it was at the point the current policy was monitored/evaluated in terms of barriers which should be addressed such as referral, use of physical activity activities, lack of trust, and lack of insight of the different roles. The activities ended with a tailored intervention.

The following activities for the period December 2012 - June 2014 in Utrecht were chosen and developed in close collaboration with the key stakeholders: 1) a network meeting with stakeholders from sport, welfare and care in the neighbourhood; 2) an inventory of needs of these stakeholders; 3) an information email on physical activity facilities and the neighbourhood sports coach-tasks; 4) provision of a format for a collaboration agreement; and 5) two health literacy training/workshops for professionals. Of the 21 invited stakeholders 15 participated in the activities. The intervention can be characterized as information, learning and organisational intervention. REPOPA’s roles were strengthening/boosting the organisation, being a discussion partner for the policy advisors, facilitate and provide information to get insight in the current needs and situation, facilitate and provide training and information based on these needs.

Physical activity for senior citizens (65+) in Utrecht

There is not yet a specific policy on physical activity for elderly in Utrecht. The entry point of the REPOPA-activities in the Knowledge-to-Action cycle was assessing the current situation, problems, needs, local context, and barriers to (evidence-based) knowledge use; this was done to be able to assess if a new specific physical activity policy should be developed targeted at senior citizens (65+).

To be able to assess this information as input for a policy, several steps were made within the policy process from December 2012- June 2014: 1) needs assessment via interviews with stakeholders from National Institute for Sports and physical activity (n=1), (residential) care (n=2), sport associations (n=1), and a representative organization for sports clubs (n=1); 2) a first, half- a-day, network meeting in Utrecht with existing contacts within residential health care, sports organisations and welfare, 3) summary/reporting of results of this meeting, 4) a policy brief on physical activity for senior citizens in Utrecht was written. In total, 30 stakeholders participated in the network activities. The intervention can be characterized as an information, learning and organisational intervention. REPOPA’s roles were to facilitate and provide information to get insight into the current needs and situation, to facilitate and guide the first network meeting, being a discussion partner and to provide the basis for a policy document in the form of a policy brief.
2.5.3 Interventions in Italy

**Municipio Roma XII**

The intervention in Rome was an *information intervention* based on Delphi-like discussion group on the knowledge and research translation in policy making. The discussion group involved stakeholders from the local entity Municipio Roma XII and from other entities of all Italy which are also described in the next chapter under intervention participants. The Delphi panel was consulted by means of a 2-step structured online questionnaire. In the first step, the panellists were asked to express their degree of agreement on four claims: 1) the production; 2) use of research knowledge for policy making; 3) the participation of citizens; and 4) the minority points of view. These topics were defined based on the results from WP1 interviews with Italian policy makers. Participants were also asked to elaborate on their answers and to propose concrete actions to implement.

The questionnaire also included three open questions on 1) the main difficulties of considering scientific results in the various stages of policy making processes; 2) on the evaluation of a scientific advice; and 3) on the positive and negative experiences observed in science-policy relationships. In the second step of the Delphi a list of six proposals was provided to foster the relationships among research and policy making, asking the panellists to express their degree of desirability and feasibility of these proposals. All the 18 panellists answered both the 1st step and the 2nd step questionnaires (Valente, Castellani, Larsen, & Aro, 2015).

**SdS Valdarno Inferiore**

The intervention in Tuscany was based on the WP1 analysis of the Healthy Road Policy, followed by a needs assessment elaborated by four researchers and five local stakeholders representing municipalities and health authorities. Four formal meetings were held between April 2013 and February 2014; six meetings of sub-groups for specific issues: three to discuss a research protocol for physical indicators to evaluate Pedibus Policy; one to set up questionnaires and a set of inform consent sheets; one for the discussion of ethical aspects; one for the planning of training activities. Email and document exchange were intense as well as Skype meetings with most of the members of the group.

The Stewardship intervention in Tuscany started with the proposal to establish a REPOPA WP3 team, which, during four meetings, established to perform three activities: to define and measure indicators for health changes related to Pedibus; a one-day seminar; a twinning of Public Administrations aiming at promoting Pedibus activities by site visit and information exchange (from March 2013 to March 2014). The first activity was a participatory research, specific to this context, including a group of primary school children to use ARM BAND SenseWear with the aim to measure bio-monitoring levels of ozone pollution (with the involvement of school personnel, teachers, parents, Local Health Authority); six meetings were organized in San Miniato from June 2013 to April 2015; ARM BAND SenseWear being medical devices, a Regional procedure of ethical approval was initiated; that was longer than initially foreseen; the pilot phase of the research begun in April 2015, and the activities will go on funded by IFC-CNR. The one-day seminar was held in Empoli on March 12th 2014, after three preparatory meetings. The twinning activities from June 2013 to April 2014 consisted in 20 emails sent and received, three skype meetings, two meetings in San Miniato, and produced an information package on Pedibus.
2.5.4 Summary of the intervention format and activities

The Danish interventions were primarily based on meetings and workshops including presentations, group work and discussions. The elements in both cases can be characterized as both information, organization and learning intervention. Participants were recruited from all municipal administrations and departments and from different organizational levels. REPOPA’s roles were process facilitator, discussion partner as well as information provider. Compared to the process in Kolding municipality, the REPOPA-team played a more limited role in the meetings in Varde municipality. The outcomes were an intersectoral physical activity strategy for several target groups in Varde and a tool in form of an internal intersectoral network in Kolding.

The Dutch interventions included needs assessments, network meetings including discussions, workshops, information exchange and a policy brief. Both interventions can be characterised as information, learning and organisational interventions. Participants were recruited on the policy advisor level at the departments of Sports and at the association responsible for the municipal physical activity policy tasks. Because of the decentralization of policy tasks to community and municipality level, for both cases local executing professional and volunteering parties are recruited, working in sport, health, welfare and care. REPOPA’s roles were facilitating and providing information, capacity building (learning) and building intersectoral networks. As a result the network of Connecting Sports in Utrecht West was strengthened (policy case 1), the first intersectoral meeting on physical activity for senior citizens has been set up as well as a policy brief on physical activity for senior citizens (policy case 2).

The Italian interventions were based on information exchange, with both face-to-face and virtual meetings. REPOPA researchers acted as facilitators, fostering the process of mutual learning and producing new knowledge. The main features of the Italian interventions have been to involve network of people both internal and external to the policy making organisation, in order to influence as much as possible the entire policy making process and the different actors involved in it.

2.6 Intervention participants and survey respondents

Denmark

In Kolding municipality 19 stakeholders were invited by the two municipal contact persons (who also participated themselves). The participants were: stakeholders working in administrative positions from both senior management and coordination level from all administrations: 1) City and Development; 2) Social Services and Health; 3) Children and Education; 4) Senior Citizens as well as the 5) central administration. Each of these administrations has sub-units with more specific work areas. The pre-measurement was sent to 21 stakeholders\(^1\), 19 of whom responded (table 4). Post-measurement response rate was 63% and at post-post it was 58%. The working group members who participated in the pre-measurement and in the last working group meeting were sent a quantitative process evaluation questionnaire (n=14); all except one answered. Finally we conducted an oral session at the end of workshop III & IV to get process feedback from the participants.

\(^1\) N = 19 working group members and two stakeholders who did not participate in the workshops but who still were a part of the policy process
Stakeholders in Varde municipality for the working group (n=11) were appointed by the steering committee responsible for the intersectoral health policy in the municipality. There was a focus on including representatives of all four administrations: 1) Children and Youth; 2) Planning, culture and technical services; 3) Social services, Health and Employment as well as 4) the central administration. Each of these administrations has sub-units with more specific work areas. All 11 working group members participated in the pre-measurement, 73% participated at post-measurement and 64% at post-post 64% (table 4).

The process evaluation in Varde municipality was primarily based on minutes of the meetings as well as short sessions with oral feedback from the participants. It was decided not to conduct a process evaluation during the process in Varde municipality, primarily because of the relative short timeframe, but also because the role of the REPOPA-team at the meetings had been less active than in Kolding municipality. However, some process related questions were added to the post-measurement questionnaire.

In Kolding municipality some of the invited senior management stakeholders did not participate in the workshops due to other work obligations. The working group participation in Kolding municipality stayed constant throughout the intervention. The dropout between pre and post-post measurement was probably due to the long time span of the project but also because of participants changing jobs. Some participants stated that the workshops/interventions happened too long ago to answer the questions in detail.

**The Netherlands**

Previous contacts plus LinkedIn groups were used to recruit the policy makers in the municipality. The stakeholders who should participate in the intervention were assessed and invited in close collaboration with the policy maker Sports stimulation and a main physical activity-stakeholder in Utrecht. In total 21 stakeholders were invited for policy case1; 52% responded and 15 stakeholders participated in the activities with 93% responding the post-measurement and 80% at post-post measurement (table 4). The respondents came were the municipal department team: Sports and Society and the sectors Care, Welfare, Sports. Their functions varied from policy makers and national stakeholders to local executing stakeholders on care, welfare and PA/sports providers. A broader group was invited for the health literacy training (n=52) (only done in the Dutch intervention in REPOPA); these included employees of the 21 stakeholders as well.

For policy case 2; 52 stakeholders were invited, 29% responded on the pre-measurement; 30 stakeholders participated in the activities and 23% responded on the post-measurement, and 13% at post-post (table 4). For the process evaluation 33% (n=10) gave their responses. The intervention participants came from sectors such as Sports/physical activity, Care, Welfare and Public Health. Like in policy case 1, their functions varied from policy makers and local and national stakeholders to care provider, with a focus on physical activity for senior citizens.

Received reasons for dropout were: the difficulty of the survey for the local professionals, the length of the survey, the level of the survey too abstract for the local professional, lack of time to respond and holidays; further, part of the respondents did not perceive themselves as stakeholders in the policy process. At post-post survey responses were received that it was too long ago to give a proper answer on the survey.
Italy
The intervention in the Municipio XII in Rome was a Delphi-like discussion procedure on the knowledge and research translation in policy making. In fact, the needs assessment in the Municipio Roma XII identified the major exigency of sharing of knowledge and research translation in policy making. Consequently, the aim of the intervention was to connect and foster communication between Municipio Roma XII and other relevant stakeholders in Italy. Considering the declared lack of time of all relevant stakeholders, a Delphi-like procedure was chosen to allow a synchronous discussion. The Delphi-like procedure involved three stakeholders from the local entity Municipio XII, together with 15 other Italian stakeholders. Altogether 18 participants (public health doctors, researchers, politicians and journalists) were invited and participated (9 men and 8 women). The Delphi panel was consulted by means of a 2-step structured questionnaire, administered via the web. The participants of Municipio XII were involved in the pre, post and post-measurements. After the intervention, one participant moved to another policy context and did not participate in the post-post measurement. The number of respondents focusing the changes in the policy making organization was three for the pre and post-measurement and two for the post-post measurement.

The main criteria for the selection of the panel have been the high level of competence and the multiplicity of roles. The six selected public health doctors have or have had in past some policy making roles at national or local level. The five selected researchers work or have worked on science-policy relationships, each of them with responsibilities of decision making in this sector. The four selected politicians have or have had relevant policy roles at national, regional or local level. The three selected journalists have competences on the topic of science communication and science policies, and one of them works in the press office of a local government.

For SdS /Healthy Roads a “REPOPA WP3 Tuscany Team was created”. The group was composed of 10 people, from IFC-CNR (research body), SdS Valdarno Inferiore, Empoli Health Service, Municipality administrative staff, an expert in bioethics and philosophy from the Munich University. The group was later composed of the same number of people, though the expert in bioethics and philosophy was no longer involved. Wider consultations were developed through interviews, email communications, meetings, in particular with teachers and school directors, administrative staff, policy representatives, citizen associations involved in environmental protection, including Doctors for the Environment. Each member of the group referred to the group coordinator regarding the results of consultation, proposal and intention to be further involved.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Number of invited participants</th>
<th>Number of responses</th>
<th>Response rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DK - Kolding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>21</td>
<td>19</td>
<td>90%</td>
</tr>
<tr>
<td>Post</td>
<td>19</td>
<td>12</td>
<td>63%</td>
</tr>
<tr>
<td>Post-post</td>
<td>19</td>
<td>11</td>
<td>58%</td>
</tr>
<tr>
<td>DK - Varde</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>11</td>
<td>11</td>
<td>100%</td>
</tr>
<tr>
<td>Post</td>
<td>11</td>
<td>8</td>
<td>73%</td>
</tr>
<tr>
<td>Post-post</td>
<td>11</td>
<td>7</td>
<td>64%</td>
</tr>
<tr>
<td>NL - Connecting sports</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>21</td>
<td>11</td>
<td>52%</td>
</tr>
</tbody>
</table>
In total the six interventions in three countries had 64 responses at pre-measurement, 48 at the post-measurement and 40 at post-post measurement. In a summary, the sectors relevant for evidence-informed policy making in physical activity were rather well represented in all interventions.

2.7 Outcome measures – pre / post / post-post

The questionnaires to measure the effectiveness of the interventions were developed based on the framework by Brownson and colleagues shown below in figure 2 (Brownson et al., 2009) identifying three different sources of evidence and knowledge that should be included in evidence-informed policy making. ToS of Knowledge Use (Knott & Wildawsky, 1980) was used as inspiration to identify levels of knowledge use. Initial REPOPA indicators were used as guidance. The following categories of the topics in the common questionnaires were developed and used for the variables included in the core questions common for all participating countries and interventions:

- **Use of knowledge from research in the organization:** search for knowledge of research and the influence of these on final decisions, request from politicians for research knowledge, existence of procedures guaranteeing the use of research knowledge;

- **Use of knowledge from stakeholders:** search for knowledge of relevant internal and external stakeholders and the influence of these on final decisions, procedures for guaranteeing this search, search for previous similar political initiatives and their influence on final decisions, importance of political agendas for policy and strategy development in the organization;

- **Use of knowledge of target groups:** access to the target group characteristics and the influence of these on final decisions, access to the needs and values of target groups, procedures guaranteeing use of knowledge on needs and values, influence of target group needs and values on final decisions;

- **Barriers and facilitators** in using knowledge from research, stakeholders and target groups;

- **Other questions** such as questions on the translation of knowledge to local needs, and on the relationship between the various types of knowledge and the prioritisation of these.
As for the scale of the core questions listed above, the extent of each knowledge source searched/used as well as the level of influence of that knowledge on final policy decisions were asked. An example of the core questions is: ‘to what extent does your organization use research knowledge in policy development: to very high extent, high extent, neither high nor low extent, low extent and very low extent?’ In addition, a list of facilitators and barriers for each source of knowledge was given with an option ‘other, please specify’.

Common questionnaires were developed to measure possible impacts of the interventions in the three countries each with two interventions. The measurements were done before intervention start, at the end of the interventions and 12 months after the end of interventions. The country teams agreed to translate the English master questions into their respective languages; in total 27 questions were defined as core questions, which were developed to be used for cross-country comparison and combined analysis of the data from the three countries and six interventions. Danish and Italian teams did the translation of their country versions based on the core questions. For translation reasons, the Dutch team diverted from the commonly chosen answer categories and also from some question formats; the team chose to use the frequency scales instead of intensity scale in the core questionnaire. Additional context-specific questions were developed for each of the three settings depending on the specifics of the interventions. These covered topics such as intersectoral collaboration in Denmark, health literacy in the Netherlands and science-policy interaction in Italy.

For the Danish case studies, the online survey software tool SurveyXact was used for online questionnaire administration and data gathering. In the Netherlands, the online survey software Qualtrics was used for data gathering. CBO ran the interventions and the pre-, post- and post –post measurements were carried out by Tranzo, a scientific centre for care and welfare at Tilburg University. In Italy, data collection was done face-to-face due to the small number of participants. In Italy, due to the length of the questionnaire and the lack of time of policy makers, the respondents were presented their answers from previous phases (pre-intervention and post-intervention) and they were asked to mark if there had been a change.

Figure 2 Types of knowledge in Evidence-Informed Public Health
(Adapted from (Brownson et al., 2009; Satterfield et al., 2009)
2.8 Process evaluation

Even though the WP3 interventions in the three participating countries worked towards the same aim – to investigate if the Stewardship approach increased the level of evidence-informed policy making – the contexts and even contents were different from intervention to intervention and country to country. Hence process evaluation methods and questions were not identical in the three countries and six interventions. Each country team planned and carried out a process evaluation based on the respective context of their interventions. Hence the used questions were tailored to the intervention process of each setting. The methodologies used for process evaluation could include:

- Assessment and evaluation of meeting and workshop documents, outputs and summaries;
- Quantitative process evaluation questions as part of (or additionally to) the post-measurement;
- Qualitative face-to-face feedback session with working group participants.

Even though the methodologies used for process evaluation varied in the three participating countries, all countries aimed at collecting input on participants’ feedback and satisfaction regarding the intervention organization, structure, content and impact. Both the Netherlands and Denmark\(^2\) used a process evaluation questionnaire during the course of the intervention and added further process evaluation questions to the post and post-post measurement questionnaire after the interventions were completed. Additionally, further inputs for process evaluation purposes were taken from oral feedback e.g. after sessions and through document analysis such as workshop summaries and meeting minutes. Due to the small number of participants in the two Italian interventions only inputs from oral feedback were collected.

2.9 The RE-AIM framework

Impact evaluations such as using the RE-AIM framework are crucial for evaluating the public health significance of any (health promotion) intervention (Glasgow, McKay, Piette, & Reynolds, 2001). An adapted impact intervention evaluation using the RE-AIM framework is in the process of being performed on the policy interventions in REPOPA countries, as part of the overall evaluation process.

RE-AIM provides a framework for identifying programmes that work in real-world environments. The framework includes five elements for internal and/or external validity: 1) **Reach**, the percentage and representativeness of individuals willing to participate; 2) **Effectiveness**, the impact of the intervention on targeted outcomes and quality of life; 3) **Adoption**, the percentage and representativeness of settings and intervention staff that agree to deliver a program; 4) **Implementation**, the consistency and skills with which various program elements are delivered by various staff and 5) **Maintenance**, the extent to which individual participants maintain behaviour change long term, and, at the setting level, the degree to which the program is sustained over time within the organizations delivering it (Glasgow, Lichtenstein, & Marcus, 2003).

\(^2\) The process evaluation questionnaire was applied in one of the intervention cases (Kolding municipality).
The goals in the intervention evaluation are to 1) adapt the RE-AIM framework to the WP3 in REPOPA and 2) to apply this adapted framework on the intervention processes in WP3.

Our questions guiding the intervention evaluation are:

- Is the intervention model effective in the context of municipal intersectoral policy making?
- What are the factors facilitating or hindering the effectiveness of the interventions carried out?

Data sources for the intervention evaluation planning and application are: formative research documents, detailed output documents from the workshops/meetings, email correspondence; a process evaluation questionnaire; oral feedback from the participants; process evaluation questions pre, post and post-post questionnaires; budget documents.

Note: At this moment, we have fulfilled the first aim of our intervention evaluation: the adaptation of the RE-AIM framework to the WP3 in REPOPA. At the moment we are in the process of applying it on the compiled data.

<table>
<thead>
<tr>
<th>RE-AIM element</th>
<th>Element level/s</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reach</td>
<td>Individual</td>
<td>The absolute number, proportion, and representativeness of individuals who were exposed in a given initiative, intervention, or program. Value from 0-1 (0%-100%)</td>
</tr>
<tr>
<td>Effectiveness/ Efficacy</td>
<td>Individual</td>
<td>Impact results of our intervention on anticipated and unanticipated outcomes (including negative aspects).</td>
</tr>
<tr>
<td>Adoption</td>
<td>Organization (setting level)</td>
<td>The absolute number, proportion, and representativeness of settings who participated in intervention (adopt). NOTE: similar to Reach but different level</td>
</tr>
<tr>
<td>Implementation/ intervention fidelity</td>
<td>Individual</td>
<td>Client’s use of intervention strategies</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Organization (setting level)</td>
<td>Implementation refers to the intervention agents’ fidelity to the various elements of an intervention’s protocol. This includes consistency of delivery as intended and the time and cost of the intervention.</td>
</tr>
</tbody>
</table>

Table 5 RE-AIM - Dimensions and explanations adapted from (Glasgow, Vogt, & Boles, 1999)
3 Results

3.1 Intervention results per country – comparing needs, goals and achievements

Based on the needs assessment the goals of the six interventions in the three countries differed respectively.

In Denmark the focus was mainly to increase intersectoral collaboration; in the Netherlands it was also to strengthen intersectoral collaboration especially to bridge sectors such as welfare, health care and sports; in Italy the emphasis was more on awareness raising about research knowledge by sharing experiences and promoting networks plus to design and implement a Pedibus policy intervention by providing multidisciplinary expertise.

From the European perspective, the common goal in line with the Stewardship approach was to increase use of research knowledge, stakeholder knowledge, and policy target group knowledge including vulnerable populations. The increase in these goals via cross-sector collaboration as well as supporting structures was seen central; in addition, it was central to find out facilitators and barriers to these actions. The goals of the interventions reflected the initial REPOPA indicator topics and formed the core indicators for the intervention success across countries.

3.1.1 Denmark - country results summary

The two Danish interventions were rather different in their overall content and procedures - even if both aimed at increasing cross-sector collaboration. Also, the role of REPOPA was more limited in Varde municipality than in Kolding municipality. In addition, there were more participants in Kolding than in Varde. In general, the relatively low number of participants makes it difficult to carry out statistical analysis and thus the main part of the results and their interpretation needs to be done based on cross-sectional results, the intervention sites combined and with maximum number of participants at each measurement points. Thus the results need to be interpreted carefully and only seen as indicative results in need of further confirmation with bigger samples.

First, it is interesting that at baseline only one third of the respondents were satisfied with intersectoral collaboration in their municipalities. After the intervention, over two thirds were satisfied with the same kind of collaborative processes and/or structures; the percentage decreased to little over half (55,6%) at the 12 months follow-up. So, satisfaction increased markedly though decreased over time. To what extent this development is due to the intervention is hard to say.

There was a minor increase in the use of research knowledge in policy making across the time points. Also, satisfaction of the knowledge use increased slightly over time. Interestingly, perception of the influence of research knowledge as well as organizational structures supporting the use of research increased after the intervention but had dropped 12 months later; thus no long-term impact was seen. It looked that politicians in the organizations of the respondents were seen to request more for research knowledge after
the intervention than before, but then in the follow-up there was a decrease though not to the baseline level.

Looking at barriers and facilitators for the use of research knowledge, there was a slight increase in seeing these barriers over time (potentially due to becoming more sensitized to them). There was a minor increase with facilitators post-intervention that dropped again slightly after 12 months.

An encouraging increase was seen in the perception that research knowledge can be tailored to the local needs as well as in collecting knowledge from both internal and external stakeholders for policy making, but also in organizational procedures for including stakeholder knowledge. Influence of the stakeholder knowledge seemed to increase post-intervention but then it dropped below the baseline level at 12 months. On the other hand, there was a minor increase in the influence of external stakeholders at 12 months. Having organizational structures for stakeholder knowledge seemed to increase more in the longer run. Importance of political agenda in policy making decreased. There seemed to be a minor increase from baseline to post-intervention in the facilitators of the access to stakeholder knowledge though no further increase happened until post-post measurement.

Knowledge of target group characteristics as well their influence on final decisions, seemed to have increased post-intervention but had dropped slightly again after 12 months. A positive and sustainable (after 12 months) increase was seen in the access to and having procedures for including the needs and values of target groups and the influence of these needs on final decision making. Barriers in the use of knowledge of needs and values decreased to zero at post-post measurement; facilitators decreased somewhat from the baseline to post-intervention but then remained on the same level until 12 months. Previous policy initiatives seemed to be used in increasing amount from baseline to 12 month follow-up and their influence seemed to grow, too. On the other hand, there was a minor decrease in the importance of political agenda on policy making over time. The bivariate analysis showed two significant changes after the intervention: 1) An increasing recognition of facilitators for the use of research knowledge and 2) A decrease in the use of knowledge from internal stakeholders when working with policy development.

When asking about actual and ideal influence of different kinds of knowledge, in Kolding municipality research knowledge was thought to have a higher priority than it actually did. Interestingly, shortly after the interventions, research knowledge was thought to be less influential than before. According to the participants in Varde, research knowledge should be the most influential source of knowledge on final decisions, and also in reality it seemed that the influence of research knowledge increased after the intervention and even after 12 months. In both Kolding and Varde municipalities the influence of knowledge from stakeholders was slightly down-prioritized 12 months after the intervention and was rated close to its real levels of influence. Knowledge on target group characteristics and needs was evaluated to be very influential in both municipalities. This observation seemed to be sustainable in Kolding municipality where participants thought that target group knowledge groups should ideally have the greatest influence. Both in Kolding and Varde municipalities the knowledge on political agendas and interests seemed to have more influence on final decisions than they ideally should have according to the respondents.
3.1.2 The Netherlands – country results summary

The interventions in the Netherlands aimed at strengthening the intersectoral collaboration between health, welfare and sports as well initiating active aging physical activity policies by bridging the sectors. In general the interventions reached their goals.

The two Dutch interventions were rather different in their contents and procedures even though both cases aimed at increasing cross-sector collaboration. These differences were mainly because the two Dutch interventions were at different entrance points of the policy cycle. The first one, ‘Connecting Sports and Health Care & Welfare in Utrecht West’ was at the point of evaluating/monitoring the current neighbourhood sports plan and at that point barriers for policy-making and implementation should be addressed. The entrance of the second intervention, ‘Physical activity policy for senior citizens (65+) in Utrecht’ was at the beginning of the policy cycle. The small numbers in the two cases make it difficult to carry out statistical analysis and thus the main part of the results and their interpretation need to be done based on cross-sectional results and with maximum number of participants at each measurement points. The results of the two intervention sites are presented separately though, because of their different intervention character. Results need to be interpreted carefully and only seen as indicative results needing later and further confirmation with bigger samples.

Utrecht West

In combination with the clarifications of the respondents there is an indication that barriers to knowledge use were addressed with the activities in Utrecht West. The intervention did not seem to affect the type of knowledge used and overall research knowledge use did not change; neither did the use of stakeholder knowledge change in longer term. Potential reasons for these results might be that participants already were using research knowledge and were a selected group in that sense. However, the stakeholders did think that research should ideally influence policy making in their organization. The satisfaction of the use of knowledge did increase between pre- and post-measurement. The type of knowledge, which came up in the results most frequently was the use and importance of target group specific information. Target Group characteristics was rated as the source which had on average the greatest influence as well as the source which should ideally have the greatest influence on policy making. Although ‘Needs, values and norms of the target group’ were seen as important, they were not seen as of greatest influence on final decision. Educators in own language was one of the organizational procedures used for target group specific information, but due to budget cuts it was no longer in place.

The intervention in Utrecht West used also specific measures, e.g. that of ‘Health literacy’, which was found to be one of the main and important topics for the stakeholders. Stakeholders were trained on this topic and positive responses were received on both content and ability to work with target groups with low health literacy levels. Also the network was strengthened. More specifically, pre- and post-measurements showed that physical activity providers from different sectors met each other, the sports sector was better linked, a fitness partner even took the lead in the network. New contacts were made and there was a better understanding of each other’s roles and tasks. Stakeholders got a better overview of the availability of physical activity and of the different physical activity providers in the neighbourhood. Furthermore, there was more clarity in the roles of the Neighbourhood Sports Coach, physical activity brokers and
physical activity consultants. Trust in and understanding of each other’s cross-sectors needs some more work though. These barriers increased after the intervention activities. One of the explanations for the decrease in understanding and trust is that the stakeholders have met each other only a few times due to the REPOPA-activities and became aware of the differences in professional languages used and some of the stakeholders found it hard to trust commercial parties such as sports clubs because of possible interfering financial aims.

Utrecht
This intervention to enhance physical activity policies among those 65+ was in line with the municipality targets of addressing those most in need; further, there was an interest in research knowledge and in how to develop their policy. Very importantly, the stakeholders saw more facilitators and fewer barriers after the intervention. The stakeholders used and saw it important to focus on ‘Health Literacy, ‘Needs, values and norms of the target group’ and a ‘Suitable Physical activity offers’. Barriers to use this type of information seem to have decreased over time.

‘Needs and values’ did not have the greatest influence on final policy decisions though they were indicated as important by the stakeholders. The greatest influences on the final decisions were ‘stakeholders’, ‘target group characteristics’ and ‘research evidence’. Ideally, ‘research evidence’ and the ‘stakeholder knowledge’ should have the greatest influence on policy decisions according to the respondents.

From the intervention-specific variables it could be seen that there was a need for a specific policy for 65+, however, it should not focus solely on the residential care, but more on the neighbourhood as a whole. Moreover, as a result of the first network meeting, the main stakeholders have asked CBO to develop a policy brief. The content of the policy brief is the outcome of the REPOPA needs assessment, network meeting and the pre, post and post-post measurement. This policy brief will serve as input for specific physical activity policy for senior citizens in Utrecht. So, although the stakeholders’ use of research knowledge did not increase, in reality they use the REPOPA-research activities as input for their policy. Even if no evidence on increased informed policy making was seen, stimulating factors to use knowledge of external stakeholders increased; the network activity with external stakeholders may have contributed to these results. Positive results were seen on expanding networks, information gained and local policy development in physical activity for senior citizens and a positive attitude to build a network. Building networks for information exchange takes time, and therefore results takes time. Also in this case it seems that longer interference with a Stewardship approach could give beneficial effects on (indicators of) local evidence informed policy making.

3.1.3 Italy – country results summary
As a global conclusion, several changes can be observed in the use of knowledge during and after the Stewardship interventions in Italy, according to the results of the administered questionnaires.

Municipio Roma XII
The post-measurement survey in Municipio Roma XII showed that despite structural changes were not achievable by means of an intervention on a single policy process; some significant changes could be
detected in the participants’ awareness. In re-asking and discussing the "barriers for the use of knowledge from research and from various stakeholders in policy making", the respondents declared a significant improvement of the following items: awareness, collaboration between researchers and policy makers, opportunities to share experiences and lessons learnt. Among the facilitators, they experienced higher level of access to research. Moreover, after the intervention, politicians inside the organization required to a higher level the use of knowledge produced by scientific research in policy development. They also felt that more knowledge from internal and external stakeholders was acquired.

As the aim of the intervention in Municipio Roma XII was raising awareness, fostering collaboration among Municipio Roma XII and other stakeholders, improving access to research and opportunities to share policy strategies and behaviours, the process evaluation gave positive results. The six proposals for improving the science-policy making relationship produced as a result of the Delphi-like intervention further demonstrated the effectiveness of the intervention activity (Valente et al; 2015). In order to perform the process evaluation, we also asked some questions about the activity from Municipio Roma XII regarding their participation. They felt that the participation in the discussion has been for them an enrichment of knowledge and an opportunity to broaden methodologies.

**Tuscany, SdS Valdarno**

The support of Healthy Road policy was the core of the REPOPA Stewardship intervention in Tuscany. A multidisciplinary group was organised and supported in the development of a participatory research that is on-going, after the official end of the REPOPA intervention. The results for this reason are above the expectations, as the availability and openness of the group directly involved (researchers, public administration personnel, school personnel) was very high. Therefore, it is possible to observe that external stakeholders seemed also more influential after the intervention, including final policy decisions.

A general result of the Stewardship intervention is that a participatory process is hardly completed in one-year time. Simple activities, as a seminar and a twinning were completed (second and third activity) but the commitment declared at the beginning of the activity gave us the responsibility and the professional interest to go on with the first proposed activity, the participatory research developed during the school-year from September 2014 to June 2015. For this reason even after the formal ending of WP 3 the intervention will go on. It implies that the post-post-intervention questionnaire administered to the participants is not a questionnaire examining a concluded activity, but describing an ongoing intervention.

**Status of the intervention activities:** Training finished; after the ARM BAND pilot as a part of REPOPA intervention, preparations are going on to implement the activity for the 2015-2016 school year. Further, the twinning intervention material is ready for further dissemination, to develop other experiences.

### 4 Results across countries from pre-, post and post-post measurements

Due to the small number of participants in the three intervention countries, below the central intervention effects/changes based on rough estimates of differences, **without taking into account statistical significance**, over time in the central common variables across countries, are presented. The results
presented below are thus purely descriptive and mostly impressions of raw data distributions of the variables. The study topics and variables used covered the following (access, use, influence, facilitators, and barriers of):

- Research knowledge;
- Stakeholder knowledge;
- Target group knowledge;
- Prioritization of the kind of knowledge.

4.1 Use of research knowledge

The overall aim of the Stewardship interventions was to enhance use of research knowledge in physical activity policy making. There was a trend towards increased use of research knowledge though mostly in Denmark and even that was not very sustainable as seen in the one year follow-up. However, in Denmark and Italy but also in the Netherlands for one policy, satisfaction with use of research knowledge seemed to increase and mostly also the perception that research could be translated into local needs, which is very important for collaborative policy making. Interestingly, also in all intervention settings, an increase of political demand for more research knowledge was seen after the interventions. In Italy the space for research and scientific results was growing in policy making; the knowledge gathering seemed not organized, lacking systematic approach and procedures.

The instrumental use of research knowledge measured as the influence of research knowledge on policy decisions increased in Denmark after the intervention but it was not sustained; in Italy there was also an increase from before the intervention to 12 month follow-up, whereas no change was seen in the Netherlands. Organizational procedures for ensuring the use of research knowledge increased, especially in the year after the interventions in Denmark; in the Netherlands there was a minor decrease whereas in Italy it looked that there were no procedures reported especially after the interventions.

Facilitators in the research knowledge use increased in Denmark post-intervention but then decreased close to the baseline level; in Italy the interventions seemed to facilitate access to research knowledge; a minor increase was seen in the Netherlands post-intervention.

Overall, it looks that the interventions did have an impact on increasing the use and request for as well as adjustment of research knowledge to local needs but also organizational procedures and perceived facilitators. These changes happened most clearly in Denmark and partly also in Italy, but less in the Netherlands. Explanations might be differences in interventions or in the selection of the intervention sites, which in Denmark were already most likely very motivated to enhance evidence-informed policy making, whereas in the Netherlands this kind of collaboration on the intervention sites was on another level, involving local executing stakeholders as well. The entry point of the Dutch policies included, as well as the needs, made the activities more focused on intersectoral networking and stakeholder knowledge exchange as a prerequisite for evidence informed policy making and not so much on the use of research evidence.
4.2 Use of stakeholder knowledge

It is important to be aware of the internal and external stakeholder characteristics to be able to collaborate with them. The picture how the Stewardship interventions had impact on this, is rather varied across the three countries. There was an increase in Denmark in the use of both internal and external stakeholder knowledge over time; interestingly the influence of internal stakeholder knowledge decreased slightly and that of external during the 12 month follow-up. In Italy, there seemed to be an increase in the external but decrease in the internal stakeholder knowledge over time; the picture of the influence of both is less clear.

In the Netherlands there was an increase post-intervention but then a decrease in the use of internal stakeholder knowledge and a decrease in the use of external stakeholder knowledge. Organizational procedures to ensure stakeholder knowledge increased remarkably in the 12-month follow-up in Denmark; in Italy there hardly were procedures for this. In the Netherlands a decrease was seen. Minor decrease was seen in the importance of the political agenda on policy making in Denmark; in Italy the influence is growing and in the Netherlands no clear changes are seen. Looking at the facilitators and barriers in including the stakeholder knowledge, in Denmark as well as in the Netherlands, there was a minor decrease of both facilitators and barriers. Use and the influence of previous policy initiatives seemed to slightly increase post-intervention and drop somewhat in the follow-up in Denmark and in Italy. In the Netherlands, where this indicator was measured also at post-post, there was a minor increase in the use this type of information.

The direction of the changes in the use of stakeholder knowledge is too varied between the countries for any explanations or conclusions at the moment. More in-depth data analysis needs to be done within intervention settings but also more research with larger data sets is needed to get more understanding.

Satisfaction with cross-sector collaboration increased slightly over time in Denmark, the only country it was asked; in Italy the results of the intervention appeared to contribute to a positive evaluation of the interdisciplinary work that is considered complex and time-consuming.

4.3 Use of target group knowledge

One of the cornerstones of the Stewardship approach is that the policy target group’s needs and values and taken into account in policy development. In the REPOPA interventions, access to the target group characteristics as well as their influence increased post-intervention and then dropped somewhat both in Denmark and Italy; in the Netherlands on the other hand, access as well as influence decreased initially but then increased to the pre-intervention level. The access to the needs and values of the target groups seemed to increase but mostly in the long follow-up both in Denmark and Italy; in the Netherlands instead, a decrease was seen.

In the procedures to ensure the knowledge of needs and values of the target groups stayed first even but then increased to double in the follow-up in Denmark; in Italy the lack of procedures was clear; in the
Netherlands no change over time was seen. **Facilitators and barriers** in using the target group needs and values: barriers decreased to zero but also facilitators decreased in Denmark as well as in the Netherlands; in Italy no change was seen over time.

**Prioritization of the sources of knowledge/evidence:** reality and the ideal: in the Netherlands the most often mentioned and influential in decision making was target group information followed by stakeholder information and research evidence, and ideally, target group information, research evidence and stakeholder information should have the biggest impact on decisions on local level. In Denmark, research knowledge was at baseline seen to have high influence but this decreased after the intervention (in Kolding); research knowledge should have the highest importance (in Varde municipality); stakeholder knowledge was seen less important than target group needs and values; political agenda was seen to have more influence than it should.

Rather clearly in Denmark and Italy access and influence of target group knowledge increased post-intervention and in Denmark procedures to guaranteed the access remarkable increased in the 12 months post-intervention. Why the development in the Netherlands was opposite, is difficult to say, although it could be related to higher awareness, ambitions or higher use of research knowledge at the baseline.

### 5 Results of process evaluation

**Satisfaction with the form of the intervention workshops**

The form of the workshops and network meetings was met with overall satisfaction of the participants in all interventions. In Kolding municipality (DK) the participants who received a process evaluation questionnaire during the course of the intervention were very satisfied with the organization of the workshops and the balanced mix of presentations, group sessions and discussions.

In the Dutch policy intervention (for senior citizens), participants felt to have enough time and space in the sessions for group work and also to express their own opinions. The process evaluation also showed that the organization of the workshops was adequately planned and tailored for the target group since most of the participants did not feel to have missed any relevant information during the workshop.

In Italy, participants expressed being satisfied with the workshops which were organized as group discussion. However, it was thought that a participatory approach needs time to grow and settle which can be a challenge within the time limits of a project.

**Satisfaction with the content of the intervention workshops**

Participants in all six interventions have expressed an overall satisfaction with the content-related contributions to the development of the policy for physical activity. In Kolding municipality (DK) participants were to a (very) high degree satisfied with the content of the workshops. The participants from both Danish
policy interventions felt that the interventions were very much planned and implemented according to their respective needs.

In the process evaluation of policy case 1 (health literacy) in the Netherlands participants rated a) the satisfaction with the content and b) if their expectations were met, with high scores respectively. The participants of policy case 2 (senior citizens) reported to be satisfied with the content of their network meetings as well.

Also in Italy the participants expressed their satisfaction with the content of the group discussions which put much focus on the development of a common understanding of the use of science.

**Perceived benefits from the interventions**

In Denmark participants stated that the interventions contributed with relevant input for the processes around the physical activity policy development. In their opinion the intervention increased the academic standards of their policy development as well as the use of different types of knowledge. After 12 months the participants in Varde municipality still reported that the intervention had a positive effect on the use of research knowledge for their work. Varde municipality has in general a strong focus on including research knowledge in their policy development process. In Kolding municipality participants reported, that the increased use of research knowledge was strongly connected with the intervention itself and the collaboration with REPOPA.

Even though the participants did not feel to have increased their network and collaborations, they still were satisfied with the intersectoral collaboration processes during the intervention. A reason for this is the already existing focus on intersectoral collaboration between administrations and departments. Participants also expressed to have gained knowledge on promoting factors for intersectoral collaboration.

Many participants saw themselves as a “part of the process” and felt responsibility for the future of the policy. Not feeling responsible is according to the respondents connected with low levels of leadership commitment. This could also be observed towards the end of the intervention where the group of participants consisted mainly of consultants and project managers from coordinating levels. Others mentioned that it can be challenging to identify oneself with the process if the content is far from ones tasks and responsibilities.

According to the participants REPOPA’s involvement was connected with many benefits such as getting valuable inputs and perspectives e.g. on barriers and potentials for intersectoral collaboration. The participants appreciated the structured approach and workshop facilitation. Some participants saw a risk of potential conflicting interests between the research project and municipal actors; further, few participants mentioned that a research project’s agenda can move away from the municipality’s reality.

In the Netherlands the process evaluation of policy case 1 strengthening the network showed positive results. The professionals within the care and sports sectors seemed to feel an increase in their ability to work with a target group with low health literacy skills. However, according to the post-post measurement,
the respondents seemed to be less sure about their abilities in the long term. Participants reported that they had made new contacts, had become better in understanding each other’s roles and tasks and had also gained a good overview of physical activity offers provided in the neighbourhood. It seems, however, that trust issues and understanding each other across sectors needs some more efforts. An explanation for the decrease in understanding and trust could be that the stakeholders only met each other a few times (during the REPOPA activities) which actually made them aware of their differences in regards to professional languages; further, some stakeholders found it hard to trust commercial parties such as sports clubs because of possible interfering financial interests.

The network meeting in the policy case 2 (senior citizens) was attended by many relevant stakeholders from all sectors. The process evaluation carried out after this meeting showed that the participants felt that they had received valuable new information and increased their networks by meeting new people. They also reported that the meetings had stimulated policy development in their organization. Half of the respondents gained more insight in the role of the municipality on this topic. For the other half more attention is needed to gain their support. Overall, the results are positive with respect to a successful knowledge exchange within the first network meeting.

In Italy respondents felt that their participation had resulted in gaining new information and input especially on relevant methodologies. Italian participants also expressed satisfaction with the relationships between the participants, which positively affected the collaboration among themselves in their own organization.
### 6 Discussion

#### 6.1 Meeting the objectives of WP3

The main REPOPA WP3 objective was ‘to study if the stewardship approach - based on needs, context and stakeholder analysis, with the aim of strengthening the use of research evidence with other kinds of evidence in close academia-policy maker collaboration - increases the level of evidence-informed policy making in selected, real-world case study events. A particular focus point will be the testing of methods and techniques to identify and effectively engage specific stakeholders in the development of physical activity policy processes under investigation.’

This objective was closely followed by first carrying out the needs assessment, context mapping and stakeholder analysis in all three countries and six intervention settings. Based on this information and the knowledge derived from the WP1, and in close collaboration with the stakeholders, it was possible to tailor the intervention format and contents to the local contexts while at the same time respecting the Stewardship framework. This kind of approach with the same goal but different means (Hawe et al., 2004) is challenging for intervention planning, implementation and evaluation. The core principle was to study in these rather different situations if the evidence-informed policy making (combining research evidence with other kinds of evidence in a participatory approach) increased due to the interventions and if it was sustainable.

The pre-post intervention evaluation was carried out, without any control conditions. The interventions were based on real policy cases, so they by definition varied in terms of the policies chosen, contents and format of the interventions but also in terms of the numbers and characteristics of the intervention participants. For these reasons the main evaluation of each intervention is best done separately. However, to be able to learn from the interventions and to enhance the evidence-informed policy making in Europe, the core issues of the Stewardship approach (use of research knowledge, stakeholder knowledge and target group knowledge and facilitators and barriers of each) were measured with a common set of questions across interventions.

The initial REPOPA indicators of the use of best available research, research evidence integrated with local needs, cross sector collaboration, stakeholder involvement, equity issues, evaluation, systems approach and supporting organizational structures guaranteeing use of different kinds of knowledge developed in WP1 (Hämäläinen et al., 2013) were built whenever feasible into the main instrument of common questions for all intervention sites. The REPOPA indicator development will continue until the end of the project.

Further, steps of knowledge use as well as the RE-AIM framework will be used to analyse the impact of the interventions in more detail. These results will be reported later as their application requires additional time and resources. Further, especially for the Danish intervention processes, specific logic frameworks were developed; these will also be reported in detail later.

One of the objectives: ‘A particular focus point will be the testing of methods and techniques to identify and effectively engage specific stakeholders in the development of physical activity policy processes under investigation’
was aimed at by using locally relevant and feasible intervention recruiting and networking methods. The methods varied from personal contacts to LinkedIn groups.

6.2 A summary of the main intervention results

In Denmark and in Italy a more or less similar pattern was seen in the increased use of research knowledge in policy making between pre and post-intervention periods. In the Netherlands on the other hand, either minor decrease or varying pattern was visible.

In terms of stakeholder knowledge use, a much more varied results pattern was seen. In Denmark, although the use of both internal and external stakeholder knowledge increased, the influence of both on final decisions decreased. There was a similar decrease also in the Netherlands.

In terms of using, access to and influence of the target group knowledge, both in Denmark and in Italy there was an increase and in the Netherlands a decrease.

Based on the Danish data, in many issues, even if an increase was seen after the intervention, there was a minor drop during the 12 months follow-up, though mostly not to the pre-intervention level. Thus there seemed to be a sustainability problem of the developments achieved during the interventions.

Interestingly, in the Netherlands target group knowledge was prioritized highest both in real and ideal situation, whereas in Denmark initially research knowledge was prioritized highest to be decreased somewhat in the follow-up period. In Italy, the 12 months follow-up showed no particular changes. We observed a turnover of the personnel among the intervention participants that makes hard to effectively measure the long-term sustainability.

6.2.1 The central frameworks applied in interventions

The Stewardship approach was the guiding framework for the interventions. It was useful and helped to tailor the interventions to the local needs and stakeholder interests. The central principle of the Stewardship approach, increasing equity, was at least largely adhered to: in the Netherlands vulnerable groups such as chronically ill and elderly were targeted by the interventions; in Italy mainly children were targeted; in the Danish interventions the intervention aim was to cover all population groups, including those with lower socioeconomic status; further, in one Danish intervention setting a specific spring-off study was carried out among elderly targeting their physical activity needs. On the other hand, the goal of including representatives of vulnerable groups in policy making was not so easily reached; instead, proxies such as organizations functioned as their representatives.

Knowledge-to Action-Cycle guided the whole intervention preparation, implementation and evaluation, including sustainability; especially in the Netherlands the two interventions were also defined in terms of their different entry points in the Cycle.
The initial REPOPA indicators as an evaluation tool were included in the core instrument questions used in all intervention settings. The RE-AIM evaluation framework by (Glasgow et al., 2001; Glasgow et al., 1999) was adapted for the interventions; the actual application is in process and will be reported later since more detailed and comparative work needs to be done across interventions and countries.

6.2.2 Comparability of the results across countries

Typical for policy research happening in the real life, in natural conditions, interventions were tailor-made based on the needs, local priorities and values; they happened in varied cultural and policy making practices. For this reason the comparability across countries – and across interventions - was not the main goal of REPOPA WP3. It was most important to get to understand the local policy making process, facilitators and barriers for evidence-informed policy making in that context. Further, the interventions as such also enhanced networking between researchers and policy makers; this has potential for more sustainable collaboration in the future. Using common frameworks and core questions across countries and interventions did help to focus on relevant issues and on the policy making process characteristics.

However, taken results from the three countries together, the WP3 interventions did provide valuable insights and also promising results in enhancing evidence-informed policymaking, especially Danish and Italian results pointed to the same direction. The Dutch results were somewhat different, potentially also due to cultural differences in policy making; or perhaps also that evidence-informed policy making approach had been longer practiced in the Netherlands and the starting level was different - although the Dutch team stated that the relatively few activities in the interventions were not enough to show (significant) results.

Further, the comparability of the results is not straightforward due to a rather small number of respondents in the study overall, and especially in Italy; further, in Italy the post-intervention measures were not fully repeated; instead, the respondents reported only the self-perceived change over time; and also due to the somewhat different measurement instrument used in the Netherlands. For these reasons, but also partly due to variations in the tailored interventions across countries and settings, it was not possible to pool the data together and analyse it quantitatively and statistically.

6.3 Strengths and weaknesses

The REPOPA WP3 Stewardship interventions were a novel way to study policy making by ‘jumping on the wagon’ so that real policy cases and real policy makers from different sectors in local contexts were participating in the interventions together with researchers. These kinds of participatory health policy interventions are demanding to organize and also vulnerable for several contextual pressures. REPOPA interventions were carried to the end even in these situations although there was some dropout among these very busy stakeholders. On the other hand, changing policy and politics making environment meant some changes in the intervention implementations e.g. in Tuscany leaving less time and resources to finalize the interventions. Further, process evaluation, which is paramount in these kinds of natural
experiments, posed some challenges in terms of motivating participants to see the importance of it as well as in detailed reporting of the policy process and success factors of the interventions.

Also the inability to pool together the three country data for common and comparative analysis to increase power is clearly a weakness. On one hand, there were too few respondents overall, and especially in Italy, and on the other hand, the Dutch data were gathered using a modified instrument making it impossible to combine the data. This means that for the interpretation and conclusions, it is best to first look at the within-country results and only secondarily to look at common trends in the intervention results.

6.3.1 Generalizability
The findings of the WP3 are mainly qualitative in their character, so generalization is not feasible. However, it can be generally stated based on the analysed cases that the Stewardship-based, tailored interventions seemed to enhance evidence-informed policy making in many of its dimensions; further, even though some of the findings seemed not to be sustainable in the longer run, there was an indication that the interventions were only a beginning of more sustainable and active local collaboration between sectors and between researchers and policy makers and in some settings also strengthening organizational structures for evidence-informed policy making. Based on these preliminary results, it is suggested that more and larger-scale research on the contextually tailored method based on the Stewardship approach is carried in the physical activity policy making but also in other topics, especially lifestyle related ones.

6.3.2 European added value
The fact that REPOPA WP3 interventions were carried out in a Nordic country of Denmark, Western European country of the Netherlands, and Southern European country of Italy, already brought us fruitful contextual know-how of the potentials of locally tailored Stewardship interventions in physical activity policy making in different cultural and policy making environments and traditions. The intervention results and also more process-related lessons learnt are a fruitful resource in applying the methods used and networks built more widely both in further, larger scale (and potentially quantitative) research projects and policy making practice.

Interventions in real-life and real-time policy making are demanding; lessons from REPOPA can be transferred and adapted when needed to study and influence evidence-informed physical activity policy making in other countries across Europe; most likely the lessons can be useful for policy making beyond the field of physical activity, specifically in the policies requiring collaboration across sectors and stakeholders.

6.3.3 Further steps in REPOPA plus more widely and suggestions
The WP3 intervention lessons will further be applied in WP4 Delphi, especially national conference part of it. Also, the results will feed into the REPOPA framework and indicator development, which will be finalized by the end of the project. The next potential research implication would be implementation research to further validate the findings and the process lessons learnt. Further, the application of the (for the WP3
interventions adapted) RE-AIM evaluation framework is still ongoing and will be reported later; these will add to the results presented in this report.

The instruments developed in the interventions very likely would also serve as general tools outside intervention evaluations to measure the developments and trends in evidence-informed policy making, preferably using larger numbers of respondents than these resource-intensive interventions were able to attract and retain. For this kind of purpose the logic models developed in the Danish parts of the interventions would be useful.
7 Conclusions

It can be concluded that the Stewardship approach - based on needs, context and stakeholder analysis, with the aim of strengthening the use of research evidence with other kinds of evidence in close academia-policy maker collaboration – did increase the level of evidence-informed policy making in selected, real-world case study events in three countries of Denmark, Italy and the Netherlands. Especially there was an increase in the access, requests and use of research knowledge, in using stakeholder knowledge as well as needs and values of the policy target groups. There was also a decrease in barriers for using research knowledge in policy making.

Even if the type and size of study did not allow quantitative analysis, there was a clear indication that different stakeholder groups became more aware, more active in searching for knowledge and in networking, and more open to values of others. It is a challenge to provide sustainable results with not so intensive and often sporadic intervention activities placed in the busy normal working life of the participants; however, the initial results post-intervention and also increased networking and appreciation of the local needs and values, provide a good starting point for further interventions, boosters, research and implementation programs. These kinds of needs-based interventions as well as collaborative policy making of policy makers and researchers are effective ways to enhance evidence-informed policy making.

The study also showed that the Knowledge-to-Action framework as well as the main guiding framework of the Stewardship approach was very useful and valuable in guiding the REPOPA WP3 intervention development and implementation. The further application of e.g. the RE-AIM framework will provide more detailed and standardized information of the aspects of the interventions carried out including the methods and techniques used to identify and engage specific stakeholders in the interventions.

Interventions in real-life and real-time policy making are demanding; lessons from REPOPA in three countries of Denmark, Italy and the Netherlands can be transferred and adapted when needed to study and influence evidence-informed physical activity policy making in other countries across Europe; most likely the lessons can be useful for policy making beyond the field of physical activity, specifically in the policies requiring collaboration across sectors and stakeholders.

The WP3 intervention lessons will further be applied in WP4 Delphi, especially national conference part of it. Also, the results will feed into the REPOPA framework and indicator development, which will be finalized by the end of the project. The instruments developed in the interventions very likely would also serve as general tools outside intervention evaluations to measure the developments and trends in evidence-informed policy making.
8 References


