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Abstract

Physical activity (PA) promotion is a complex challenge, with the Global Action Plan on Physical Activity (GAPPA) endorsing a systems approach and recommending countries assess existing areas of progress which can be strengthened. This paper reports a process facilitating a systems approach for identifying current good practice and gaps for promoting PA in Ireland.

Elements of participatory action research were enabled through three stages: 1) aligning examples of actions from Irish policy documents (N=3) to the GAPPA, 2) workshop with stakeholders across multiple sectors, and 3) review of outputs. Data collected through the workshop were analysed using a deductive thematic analysis guided by the GAPPA.

The policy context in Ireland aligns closely to the GAPPA with the creation of Active Systems the most common strategic objective across policy documents. Forty participants (50% male) took part in the systems approach workshop, which after revision resulted in 80 examples of good practice and 121 actions for greater impact.

A pragmatic and replicable process facilitating a systems approach was adopted and showed current Irish policy and practices align with the GAPPA “good practices”. The process provides existing areas of progress which can be strengthened, as well as the policy opportunities and practice gaps.

Introduction

Public health recommendations for physical activity (PA) are a key element of health promotion strategies globally^{1,2}. Participation in PA has been shown to reduce the global burden of non-communicable diseases, particularly cardiovascular disease, cancer and diabetes³, preventing around 3.9 million premature deaths annually⁴. In addition, increases in PA across various domains (e.g., transport, occupational, leisure, domestic) has potential to address several sustainable development goals (SDG)⁵, such as SDG3 “good health and well-being”, SDG11 “sustainable cities and communities” and SDG13 “climate action”. Despite the known benefits of PA, the multiple policies promoting PA⁶⁻⁸ and numerous PA initiatives, the proportion of people meeting the recommended PA levels is low. In Ireland, current data show that only 13.5% of children⁹, 34% of adults¹⁰ and 33% of older adults¹¹ meet the PA guidelines, making the promotion of PA a significant public health priority.

Improving population levels of PA is a complex challenge with no single solution². A systems approach that acknowledges the complexity and non-linearity of PA behaviour and its multiple influences, and focuses on the connections, interactions and feedback between levels and components, is recommended to increase PA worldwide¹²⁻¹⁵. However, in advance of examining the complex interactions between correlates, an understanding of the full complexity of the problem is needed. For this reason, a systems approach that builds upon the connections and interactions between different actors within areas of the system is seen as necessary for promoting PA and improving public health¹³. Such an approach provides a framework to help examine the factors involved in a problem (e.g. physical inactivity), viewing solutions as integrated across political, societal, cultural, economic and scientific domains¹⁶, taking a social ecological view. Due to the interconnected nature of a systems approach, in theory all actors directly or indirectly responsible for influencing PA should be involved in the process of understanding the complexity of the “system” and identifying potential solutions¹⁷.

A systems approach for PA promotion was used by the World Health Organization (WHO) in its development of the *Global Action Plan on Physical Activity (GAPPA) 2018 – 2030*^{2,16}. Initially,

determinants or correlates of PA behaviour derived from the literature¹⁸⁻²⁰ were used to generate a systems map, this map was subsequently reviewed and improved by feedback from global stakeholders representing multiple sectors¹⁸. GAPPa includes four overarching strategic objectives and twenty associated policy actions, which are applicable and adaptable to all country contexts² for the purpose of enhancing population levels of PA across multiple settings. Its four strategic objectives are the creation of:

- **Active Societies** by enhancing knowledge and understanding of, and appreciation for the multiple benefits of regular physical activity, according to ability and at all ages (4 policy actions).
- **Active Environments** both built and natural, that promote equitable access to safe places and public spaces, in cities, towns, suburbs and rural communities, in which people can engage in regular PA and active travel (walking and cycling), according to ability (5 policy actions).
- **Active People** by promoting access to opportunities and programmes across multiple settings, to help people of all ages and abilities to engage in regular PA as individuals, families and communities (6 policy actions).
- **Active Systems** through strengthened leadership, governance, land-use planning, multi-sectoral partnerships, workforce, advocacy, research and information systems across sectors to achieve excellence in resource mobilisation and implementation of coordinated international, national and sub-national action (5 policy actions)

It is recommended that “each country assess their own current situation to identify existing areas of progress which can be strengthened, as well as the policy opportunities and practice gaps” (pg. 42)²

The GAPPa “systems-based” roadmap could be a useful tool to generate better understanding of actions required for effective PA promotion. This is enabled through communication of current good practice examples and how they are inter-related, which is seen as a benefit of systems maps in general¹⁶. Cavill and colleagues (2020) have reported the use of systems maps to help stakeholders

take a broader view of a public health problem, such as physical inactivity, as a valuable method²¹. Assessment of the current policies and practices could result in a country specific GAPPa roadmap leading to a better: (1) understanding of context, (2) identification of best practices for PA promotion, and (3) possible actions to achieve optimal impact for PA promotion.

The multisectoral Irish Physical Activity Research Collaboration (I-PARC)²² was established in 2018, with funding from the Health Research Board Applied Partnership Award and Healthy Ireland. The I-PARC project team consists of 14 organisations (National Government Departments = 3, State Agencies = 5, Research Institutions = 6) and invited international experts (N=4). Its aim is to bring these researchers and knowledge users together to apply insight, intelligence and innovation to the challenge of getting more people in Ireland to become more active, more often. During its establishment, I-PARC determined the need to audit national policies with a remit to promote PA directly. More specifically identify areas of strength, but also gaps or points of weakness in the PA policy and practice according to the GAPPa whole of system approach. This paper reports on the process that I-PARC adopted to facilitate reflection, planning and improvement of communication between sectors. Furthermore, this paper presents the key findings relating to the current policies, good practice, and suggested actions needed for the promotion of PA in Ireland.

Methods

Participatory action research (PAR) is variously termed as a dynamic educative process, an approach to social investigation, and a useful methodology from which to take action to address a problem²³ such as physical inactivity. PAR is based on reflection, data collection and action that aims to improve health and reduce health inequalities²⁴ through engaging stakeholders who are involved in the system. PAR aligns well with systems approaches¹⁷, as the process incorporates input from identified “experts” across various sectors to facilitate the generation of new knowledge and connections. Consequently, principles of PAR were used for this research project.

Input from experts was organised according to a three-stage process developed and used deductively to: (1) understand the current context, (2) identify current best practice and gaps for PA promotion, and (3) ensure the output had been reviewed by multiple sectors. Figure 1 demonstrates the three stages. Ethical approval was attained from the University of Limerick Research Ethics Committee and all participants provided informed consent before partaking in the following activities.

<insert Figure 1 about here>

Stage 1 – Understanding current physical activity policy context in Ireland.

A comprehensive policy audit was completed on Ireland using the Health Enhancing Physical Activity (HEPA) Policy Audit Tool^{25,26}. This important contextual information revealed that Ireland had 3 national policies that directly and 15 that indirectly had a role in the promotion of PA²⁶. Those with a direct role were: *'Get Ireland Active!'* the *National Physical Activity Plan for Ireland (NPAP)*⁶, situated within the Department of Health; the *National Sports Policy (NSP)*⁷ and *Smarter Travel: A New Transport Policy for Ireland (STP)*⁸ both in the Department of Transport, Tourism and Sport. A content analysis on the policy actions of these documents was performed and, from this, key cross-sectoral stakeholders were identified for I-PARC workshop recruitment. In addition, to help different sectors understand the current PA policy and programme context in Ireland, practical examples of policy actions that aligned with the GAPPAs strategic objectives were used. Researchers (n = 7) from the PA for Health Research Cluster (PAfH) at the University of Limerick²⁷, assessed each policy document's actions and selected those that aligned to the GAPPAs strategic objectives. This was followed by a consensus meeting where policy alignment was agreed, and where discrepancies arose, these were discussed by all researchers and consensus reached. The outcome was a document that provided examples of national policy actions from the NPAP, NSP and STP aligned to the strategic objectives of the GAPPAs.

Stage 2 – Identifying current good practice and gaps for PA promotion in Ireland using a systems approach.

The I-PARC project team developed and implemented a 2-day workshop to identify good practice and future development areas for promotion of PA in Ireland, using a systems approach guided by the GAPPA. Fifty-two national stakeholders with expertise in PA policy or practice across various sectors - health, sport, education, child and family services, charity, built environment and community development, transport and academia- were invited to take part. Invitees were selected through agreement of the I-PARC project team and based on knowledge gained in Stage 1 identifying the role their sector plays in the promotion of PA.

The purpose of day one was to increase participants' understanding of a systems approach and its application to increasing population levels of PA¹⁶. Presentations by international researchers, I-PARC project team and practitioners facilitated interactive discussions on the usefulness of a systems approach to PA within an Irish context. The purpose of day two, informed by the knowledge gained during day one, was to use the GAPPA systems map and technical document²⁸ as a tool to identify:

1. What Ireland is currently doing well to promote population levels of PA?
2. What should be done in Ireland going forward to help increase population levels of PA?

Each question was addressed separately and sequentially by 4 groups of 10 people from a variety of sectors and areas of expertise. For each question, a four-step process was adhered to: (i) individuals reflected on the question in private and wrote their answer on post-it notes which they posted onto a large GAPPA map next to the related policy action area, (ii) individuals explained their responses to their group, (iii) the group themed similar responses and noted connections within the system, and (iv) the group presented summarised feedback to the full stakeholder panel. Responses that did not fall into any specific GAPPA policy action were also collected. A GAPPA map displaying good practice examples and actions for greater impact when promoting PA in Ireland was generated for each group. Data were collected via GAPPA maps, post-it notes, and group discussion notes (Figure 2).

<insert Figure 2 about here>

Stage 3 – Reviewing responses and additional input.

Following the workshop all data were reviewed and collated by two I-PARC researchers and two I-PARC knowledge users. This involved reading responses placed beside each GAPPa policy action area by participants, listing all responses, collating those that were similar across all four maps and where responses fell outside of GAPPa policy action areas, or were unclear, agreeing on how the information could be categorised correctly. Discussion notes were also used to help guide this process. This synthesised data was used to create a GAPPa-Ireland Map-version 1 (GIM-v1), which listed the current good practices and actions for greater impact under the action areas of the GAPPa policy action areas.

To gain input from sectors that had low or no representation at stage 2, an additional 12 stakeholders, who were invited to the workshop but could not attend, were invited to an online consultation. This involved an explanation of the systems approach workshop process and the resultant GIM-v1. All stakeholders' reviews were submitted online, leading to the GAPPa-Ireland Map version 2 (GIM-v2). GIM-v2 was then circulated to the full I-PARC project team for review and feedback and to ensure accuracy and completeness. Any additional feedback received was incorporated into a final document – the GAPPa-Ireland Map (available in Supplementary Files 2.1 -2.4).

Data Analysis

Responses from the workshop and online consultation were analysed using a deductive thematic analysis guided by the GAPPa framework. Thematic analysis provides a highly flexible approach that can be modified for the needs of many studies to allow for a complex account of the data²⁹. While a deductive approach tends to produce a less rich description of the data²⁹, it was deemed fit for purpose due to the use of the GAPPa framework to guide the analysis. Agreement regarding the analysis of the data was ensured across stages 1-3 through consensus building, the workshop process and cross-checking by I-PARC members. Responses were labelled as good practice or suggested actions for greater impact and categorised under the relevant strategic objectives of the GAPPa. The frequency of responses under each label and in each category was recorded.

Results

Table 1 provides a breakdown of how the policy actions within the three national policy documents aligned to the GAPPa strategic objectives. Overall, the policy context in Ireland aligns closely to the GAPPa (i.e. 100% of actions from NPAP, 84.2% from NSP and 61.2% from STP aligned to the strategic objectives) with each policy having a different focus on how it supports PA promotion based on the GAPPa strategic objectives. The creation of Active Systems was the most common strategic objective across all policy documents, ranging from 26.5% – 52.6%. The NPAP and NSP contained more examples of policy actions that aligned to “Active Societies” (23.3% and 12.3%) and “Active People” (30.0% and 17.5%) than the STP (8.2% and 2.0%). Example policy actions from the STP were more closely aligned with “Active Environments” (24.5%) when compared to the NPAP (6.7%) and NSP (1.8%). Details regarding specific policy actions and how they align to the GAPPa objectives is available in Supplementary File 1.

<insert Table 1 about here>

In Stages 2 and 3, 40 participants (76.9% response rate, 50% male) took part in the workshop and nine participants in the online consultation (75% response rate). Participants were from academia (32.7%), sport (24.5%), health (22.4%), education (6.1%), transport (4.1%), charity (4.1%), built environment (4.1%) and child and family services (2.0%) sectors. Participants listed as “academics” had expertise in sport, health, education, transport, and built environment. Almost four hundred (N=392) pieces of data (responses) were collected and analysed, with common data collated (resulting in the reduction in pieces of data by 191). This resulted in the identification of 80 current examples of good practice (39.8%) and 121 suggested actions for greater impact (60.2%). The proportion of good practice and suggested actions for greater impact identified under each GAPPa strategic objective are described below (with examples provided in Table 2). All current good practice and actions for greater impact themed under each of the GAPPa strategic objectives are available in Supplementary Files 2.1 -2.4.

Create Active Societies

Under the strategic objective 'create active societies', almost half (n = 14; 45.2%) of the 31 collected responses during the consultation were deemed good practice, while 54.8% (n = 17) were suggested actions for greater impact. Over forty percent (42.9%; n = 6) of the good practice examples identified related to the strength of professional knowledge, within and outside the health sector, as well as in grassroots community groups and civil society organizations. The implementation of social marketing campaigns linked with community-based programmes made up 35.3% (n = 6) of the suggested actions for greater impact.

Create Active Environments

Under the strategic objective 'create active environments', 34.9% (n = 15) of the 43 responses collected were examples of good practice, while 65.1% (n = 28) were suggestions for greater impact. Of the good practice identified, over a quarter of them (26.7%, n= 4) related to access to good-quality public and green spaces, green networks, recreational spaces, and sports amenities. Most suggested actions for greater impact related to the improvement of walking and cycling network infrastructure (n = 8; 28.6%) and the strengthening of policy, regulatory and design guidelines (n = 7; 25.0%). Both policy actions relating to integration of urban and transport planning policies, and the strengthening of road safety for pedestrians and cyclists, made up 17.9% (n = 5) of suggested actions for greater impact.

Create Active People

Under the strategic objective 'create active people', almost half of the 64 responses collected were good practice examples (n = 29; 45.3%). Good practice related to the provision of programmes and services to support older adults, implementation of programmes in multiple settings outside of the school setting, and engagement of communities to implement initiatives at city, town or local level made up 24.1% (n = 7), 20.7% (n = 6), and 17.2% (n = 5) respectively. A breakdown of the suggested actions show that ensuring provision of physical education and positive opportunities for PA across education sectors (n = 8; 22.9%), provision of programmes and services to support older adults (n = 6;

17.1%), implementation of programmes and services increasing opportunities for PA in the least active groups (n = 5; 14.3%), and engaging communities to implement initiatives at different levels (n = 5; 14.3%) were preferentially identified.

Create Active Systems

Under the strategic objective 'create active systems', one-third (n = 22; 34.9%) of the 63 responses were good practice examples while 65.1% (n = 41) were suggestions for greater impact. Most of the good practice examples related to the strength of national and sub-national policies (n = 6; 27.3%), strength of research and evaluation capacity to inform effective policy solutions (n = 5; 22.7%), and advocacy efforts which increase awareness, knowledge and joint action (n = 4; 18.2%). Most suggested actions for greater impact were categorised under the strengthening of national and sub-national policies, recommendations and action plans, and establishment of multi-sectoral coordination mechanisms (n = 10; 24.3%). Other actions for greater impact related to strengthening research and evaluation (n = 7 ;17.1%), enhancing data systems (n = 7; 17.1%), increasing advocacy efforts (n = 5; 12.2%), and strengthening finance mechanisms to ensure sustainability (n = 5; 12.2%).

<insert Table 2 about here>

1 Discussion

2 This paper illustrates the pragmatic and replicable process that I-PARC adopted to facilitate a systems
3 approach workshop, and present some of the key findings generated. The process acknowledges the
4 complexity of PA behaviour and its influences and focuses on connections, interactions and feedback
5 between elements of the system in the “real world”. It moves us away from traditional linear forms
6 of intervention design and evaluation by considering a systems perspective, which incorporates the
7 development of strategies to shift or re-imagine the system, through effective cross-sectoral
8 collaboration. The process, guided by the GAPPA², facilitated knowledge sharing and provided
9 stakeholders with the opportunity to visualise, identify and clearly define their roles, responsibilities
10 in relation to policy implementation and how this impacts on PA practice. Examples of the strengths
11 were established, but importantly areas of duplication and policy-to-practice gaps within the Irish PA
12 landscape were found. This type of surveillance is necessary to avoid uncoordinated action limiting
13 potential for real change. Bellew and colleagues (2020) described the national PA systems map
14 developed by the Australian Systems Approaches to Physical Activity (ASAPa) project as “the end of
15 the beginning” rather than an end in itself³⁰. Similarly, the shared understanding and networks
16 established through this process can begin to use the knowledge gained through the process to
17 promote PA and population health.

18 During the first stage, which aligned example policy actions⁶⁻⁸ with the GAPPA, several observations
19 were noted. Reviewing the actions of each policy document showed that they are aligned with the
20 objectives of the GAPPA, and that policy actions within each document are interlinked. However, it
21 was difficult to establish connections between policy actions working to support the promotion of PA
22 across different sectors and target groups. For example, no policy action was identified that aligned
23 with the provision of programmes and services to support older adults’ PA although seven good
24 practices were identified for this during the workshop and online consultation. This could mean that
25 practice does not reflect policy actions or in fact that there is a lack of connection between policy

26 actions and related national initiatives such as the Healthy and Positive Ageing Initiative³¹, which does
27 support PA promotion in older populations. One recommendation from these findings is to
28 acknowledge the relationships between national policies (N = 18²⁶) and initiatives in Ireland to enable
29 a systems approach for PA promotion. For this, specific policy actions tasking the key implementers
30 to identify, align, and support existing national policies and initiatives where possible will highlight the
31 way in which these policies and initiatives, and the narrative around them, connect and support one
32 another. Cross-sector partnership between government departments was noted as a “current good
33 practice” but it is not planned systematically or measured as a key performance indicator. This would
34 provide a mandate for cross-sector collaboration and partnership, helping governments and
35 organisations at a national, regional and local level to be logical, consistent and avoid unnecessary
36 duplication in their policy actions to achieve a shared goal³¹. Identification of gaps within policy and
37 the successful implementation of policy actions to bridge these gaps, using existing knowledge^{2,33}, and
38 the generation of new research, insights and investment each have the potential to influence the PA
39 levels and overall health of an entire population.

40 The systems approach workshop and analysis showed that areas for greater impact were mentioned
41 more frequently than good practice. It is important for relevant stakeholders within the Irish “system”
42 to utilise this understanding and identify areas that are seen as lacking support (e.g. improvement of
43 walking and cycling infrastructure) or have current good practice but warrant additional support (e.g.
44 providing programmes and services to support older adults PA engagement). A key observation is how
45 certain good practice examples in the system are interlinked with and rely upon good practice in other
46 parts of the system. To illustrate, most good practice examples within the creation of active societies
47 related to the building of workforce capacity. For high-quality capacity building to be available, the
48 funding and organisational support to deliver it must be available, which come from good practice
49 under active systems. The support of Sport Ireland to engage in capacity building through the Local
50 Sports Partnership network is an example of national to local support for increased workforce capacity
51 in Ireland, one that should be replicated across multiple sectors. Continued organisational and

52 educational support is also needed for the volunteer networks which were noted as a current good
53 practice and can also serve as an intervention to enhance PA levels³⁴.

54 Good practice that involved multi-sectoral collaboration were noted throughout the four objective
55 areas. This was evident on both a policy (e.g., “cross government communications” or “collaboration
56 between partners to increase awareness, knowledge and joint action”) and practice level (e.g., “good
57 examples of community-wide initiatives” or “sectors working in collaboration to improve PA in older
58 people”). In Ireland, efforts have been made to support collaboration, through innovative funding
59 mechanisms (e.g., Healthy Ireland Fund, Dormant Accounts), collaborative research projects and the
60 establishment of a collaboration to connect research, policy, and practice (i.e., I-PARC). Continued
61 collaboration is encouraged, with Guthold and colleagues (2018) stating that “collaboration across
62 sectors could generate significant returns, because policies that support increasing PA can provide
63 benefits to health, local economies, community wellbeing, and environmental sustainability”³⁵. The
64 themes of support from other areas of the system and inter-sectoral collaboration were also evident
65 for the creation of active environments with both needed for the provision of initiatives (e.g. Healthy
66 Cities), infrastructure (e.g. for cycling and walking) and “green spaces”, which has been found to have
67 multiple health benefits³⁶.

68 The systems approach workshop also produced suggested actions that may generate greater impact
69 for promoting population levels of PA which are described here. Reflective of the current good
70 practice, the suggested actions rely on other areas of the system for collaborative action, advocacy,
71 and organisational support (including financial). This was acknowledged by the participants, who
72 noted that the creation of an “active system” is needed to enable the creation of active societies,
73 environments and/or people. This need for support is highlighted by Shilton (2006), who noted that
74 “political advocacy should be a central element of PA advocacy” to ensure political commitment and
75 in the current context support the policy actions within the GAPPA³⁷. A recommendation therefore

76 would be that rather than 4 similar sized quadrants, the “active systems” quadrant should be larger,
77 due to its potency for the other three quadrants.

78 For Ireland, the suggested actions for greater impact within the “active system” related to enhanced
79 support and the renewal of policies (e.g., National Physical Activity Plan) and governance structures
80 currently in place for promotion of PA and overall health, increased support for collaboration across
81 sectors, and additional funding or dedicated budgets for advocacy needs, interdisciplinary policy
82 actions, and research development. The need for an “active system” in order to consolidate other
83 areas is again highlighted in the creation of “active environments” where additional funding and
84 organisational support for strengthening policy, regulatory and design guidelines for PA engagement
85 in and around public buildings and public places, and the improvement of walking and cycling
86 infrastructure is warranted. There is a pressing need to re-engineer work, school, neighbourhood and
87 home environments to make PA and active travel an easy option³⁸. For example, the advent of COVID-
88 19 has presented some opportunities to rethink how we organise our society and economy and may
89 be an opportunity to set a new norm. Suburbs must be planned and designed with an eye toward
90 making them mixed-use and pedestrian-oriented suburban villages instead of car-dependent
91 estates³⁹. In general, the improvement of walking and cycling network infrastructure was identified as
92 an important area in actions for greater impact. Improving infrastructure to support walking and
93 cycling is often regarded as fundamental for their widespread uptake⁴⁰ and its importance has been
94 emphasised by the United Nations Environment Programme, which recommends that national and
95 city policymakers set aside 20% of the total transport budget for non-motorised active transport
96 programmes⁴¹. Further support for intervention development, implementation and scale-up in various
97 settings was also highlighted as a need for the future by participants. For this, collaborative action is
98 needed between key stakeholders to agree upon evaluation indicators and outcome measures that
99 can allow for comparability between projects and aid evidence-based decision making at multiple
100 levels⁴².

101 From an international perspective, this information offers insight into the Irish context and provides a
102 process that can be utilised for the specific needs and circumstances of other regions or countries
103 wishing to use a systems approach to analyse current PA promotion efforts. This is a key strength of
104 the current work. The role I-PARC²² played in using its established connections to aid the recruitment
105 of stakeholders from various sectors was also a strength. Furthermore, I-PARC can play a major role
106 in monitoring how this process is utilised going forward, reviewing how these findings are used and
107 updating the future context as progress is made. The role I-PARC played needs to be taken into
108 consideration when regions attempt to unite actors from different sectors to conduct this “systems
109 approach” workshop. The establishment of multi-sectoral collaborations to support the context for
110 PA promotion in a region or country is recommended. Another strength is the use of participatory
111 action research processes to enable cross-sectoral engagement and understanding through pragmatic
112 methods. Cavill and colleagues (2020) also reported the benefits of using a simple and pragmatic
113 approach when engaging key stakeholders in systems work at a city-wide level²¹. Limitations also need
114 to be noted from this work. Review of the policy was limited to the actions within the three documents
115 and each policy was allocated to one GAPP action area, which may have led to a restricted view of
116 the overall policy narrative. Additionally, researchers completed the review of policy actions and the
117 inclusion of policy makers from the relevant departments in this process may have provided greater
118 insight. Future assessment of policy actions using the GAPP is recommended to involve a broader
119 range of stakeholders in the process and to consider the narrative around each policy action. Finally,
120 the lack of or under representation of certain sectors creates a challenge with ensuring that all
121 relevant voices are heard^{17,21,43}. Future activities trying to understand the system that supports PA
122 engagement will need coordination, communication, and partnership across the myriad of
123 stakeholders who can affect change⁴³. The authors believe that a multi-sectoral collaboration, such as
124 I-PARC, and the use of pragmatic approaches can help overcome the challenge of engaging all relevant
125 stakeholders.

126 **Conclusion**

127 In conclusion, this paper presents a process for applying a systems approach to progress effective
128 action on PA in Ireland. Our approach is highly pragmatic and did not start from a blank page but used
129 the GAPPA to concentrate on the arguably more important step of building a shared understanding in
130 the workshop. It is hoped that this work will encourage a move away from “traditional” approaches
131 of working in silos with discrete activities occurring in a linear fashion, to “systems” approaches that
132 are tailored to the context, are dynamic and adaptive, and are devolved, engaging practitioners in co-
133 production⁴⁴. As illustrated in this work, participatory action research is a promising methodology to
134 increase communication and understanding of the promotion of PA amongst diverse stakeholder
135 groups. Such an approach could be used to promote the GAPPA within regions and sectors, which is
136 important for its implementation⁴⁵. The process described herein showed that current policy and
137 practices align with the “best-practices” presented in the GAPPA, and continued engagement and
138 further support for cross-sectoral working at multiple levels is recommended. At a policy level, this
139 work highlights the need for an overarching whole of government coordination mechanism to
140 emphasise the relationship and integration between policy actions to help enable a systems approach
141 for PA promotion efforts. The findings also identify existing areas of progress which can be
142 strengthened, as well as the policy opportunities and practice gaps. Actors within the Irish system
143 should consider the suggested actions when planning future policy and practice, with these findings
144 recommending the need to ensure “active systems” are in place to support the creation of active
145 societies, environments and people. To create a change in the system a range of leadership and
146 governance practices will be required⁴⁴. Additionally, the creation of a GAPPA “implementation map
147 or framework” is merited and could be used as a tool to engage stakeholders and advocate for “active
148 systems”. As stated, we are at “the end of the beginning”³⁰ and need to utilise the shared
149 understanding from this work to mobilise multiple sectors in collaboration for the promotion of PA in
150 Ireland.

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Table 1. Mapping of the three Irish policy documents to the GAPP Strategic objectives

	GAPP Strategic Objectives (%)				
	Active Societies	Active Environments	Active People	Active Systems*	Not Applicable
National Physical Activity Plan (NPAP)	23.3	6.7	30.0	40.0	-
National Sports Policy (NSP)	12.3	1.8	17.5	52.6	15.8
Smarter Travel Policy (STP)	8.2	24.5	2.0	26.5	38.8

*Some policy actions that were seen as creating “Active Systems” were also linked to other areas such as creating “Active Environments”.

Table 2. Good practice examples and actions for greater impact identified within the GAPPA framework.

GAPPA Policy Actions		Responses collected through I-PARC workshop		
		Description	Examples from systems approach process	
			Current good practice	Actions for greater impact
Create Active Societies	1.1. Implement social marketing campaigns linked with community-based programmes.	Four (40.0%) current good practice and six (60.0%) actions for greater impact were identified.	Good use of social marketing campaigns to promote physical activity participation (e.g. European Week of Sport).	Implement a wide variety of social marketing campaigns for specific target groups.
	1.2. Promote the co-benefits of physical activity, particularly from walking and cycling.	Two (33.3%) good practice and four (66.7%) actions for greater impact were identified.	Cross-sectoral engagement at a national level for promoting the significant benefits of physical activity for health.	Translate evidence into relevant messages for specific stakeholders (esp. all Departments, e.g., planning and engineering, agencies, and key personnel).
	1.3. Implement regular mass participation initiatives	Two (40.0%) good practice and three (60.0%) actions for greater impact were identified.	Working in partnership to deliver mass participation events (e.g. mini marathon, parkrun) and training programmes to increase engagement in mass participative events.	Ensure a balance of mass participation events that are affordable and accessible (e.g. inclusion of play and outdoor recreation events and not just traditional sporting).

GAPPA Policy Actions		Responses collected through I-PARC workshop		
		Description	Examples from systems approach process	
			Current good practice	Actions for greater impact
1.4	Strengthen professional knowledge, within and outside the health sector, as well as in grassroots community groups and civil society organizations.	Six (60.0%) good practice and four (40.0%) actions for greater impact were identified.	Availability of education and continued professional development for multiple sectors (e.g. organisational levels, volunteers, disability, and disadvantaged groups).	Explore potential of Further/Continuing Education Providers to deliver courses to up skill local instructors and volunteers.
Create Active Environments	Overarching actions related to the creation of Active Environments	Two (100.0%) good practice identified.	Inclusion of appropriate actions in Healthy Ireland Plan, Local Economic Community Plan, Community Development Plans, Regional Enterprise Plans etc.	No actions for greater impact identified.
	2.1	Integrate urban and transport planning policies, and prioritize the principles of compact, mixed-land use to deliver highly connected neighbourhoods.	Three (37.5%) good practice and five (62.5%) actions for greater impact were identified.	Engagement between government department and national transport agencies to overcome several issues around transport planning.

		Responses collected through I-PARC workshop	
GAPPA Policy Actions	Description	Examples from systems approach process	
		Current good practice	Actions for greater impact
2.2 Improve walking and cycling network infrastructure.	Three (27.3%) good practice and eight (72.7%) actions for greater impact were identified.	Increases in available funding provided by government for improving walking and cycling infrastructure.	Increase capacity of communities to audit infrastructure and advocate/lobby for change. Audits need to be a normal part of the process.
2.3 Implement and enforce road safety and personal safety measures to improve the safety of pedestrians, cyclists, and other vulnerable road users.	Three (37.5%) good practice and five (62.5%) actions for greater impact were identified.	Significant safe cycling infrastructure planned and under construction.	Promote safe cycling by lowering the speed limits of motor vehicles in cities, towns and suburbs and promoting segregated cycle lanes/paths; promote safer walking with wider footpaths, better crosswalks, and slower traffic speed limits. Safe cycling and walking routes to schools should be organised and encouraged. Public policies should promote walking and cycling to work and to shop.
2.4 Improve access to good-quality public and green open spaces, green networks, recreational spaces (including river and coastal areas) and sports amenities.	Four (57.1%) good practice and three (42.9 %) actions for greater impact were identified.	Inclusive design of public spaces with community consultation.	Protect and improve access and quality of open spaces and not just green spaces. Include the expertise of urban

GAPPA Policy Actions		Responses collected through I-PARC workshop		
		Description	Examples from systems approach process	
			Current good practice	Actions for greater impact
				designers and landscape architects.
	2.5 Strengthen the policy, regulatory and design guidelines to enable all occupants and visitors to be active in and around the public buildings.	Zero (0.0%) good practice and seven (100.0%) actions for greater impact were identified.	No good practice identified.	Support for enhanced planning policies that enable physical activity in and around buildings, urban streets and in local areas.
Create Active People	Overarching Actions	Four (100.0%) actions for greater impact were identified.	No good practice identified.	Increase use of technology to help engage more people to be physically active.
	3.1 Ensure provision of good-quality physical education and positive opportunities for physical activity across pre-primary to tertiary educational settings.	Four (33.3%) good practice and eight (66.7%) actions for greater impact were identified.	Teacher education provided by the Professional Development Service for Teachers (includes Physical Education and Wellbeing).	Support schools with extracurricular activity and links to community sport.
	3.2 Implement systems of patient assessment and counselling on physical activity in primary and secondary health care and social services.	Three (50.0%) good practice and three (50.0%) actions for greater impact were identified.	Increasing awareness of the importance of physical activity in health service staff (e.g. further roll out of Making Every Contact Count initiative).	Up-skill staff at public leisure centres to deliver appropriate clinical exercise pathways.

GAPPA Policy Actions		Responses collected through I-PARC workshop		
		Description	Examples from systems approach process	
			Current good practice	Actions for greater impact
3.3	Implement programmes in workplace, sport and faith-based settings, and in public open spaces and other community venues, to increase opportunities for physical activity.	Six (60.0%) good practice and four (40.0%) actions for greater impact were identified.	Range of voluntary led programmes implemented (e.g. parkrun, Gaelic Athletic Association Healthy Clubs).	Assess local need to ensure programmes are appropriate to locality and user groups.
3.4	Provide appropriately tailored programmes and services to support older adults to start and maintain regular physical activity.	Seven (53.8%) good practice and six (46.2%) actions for greater impact were identified.	Research conducted for improving physical activity in older people (e.g. Healthy & Positive Ageing Initiative).	More funding/subsidisation to allow individuals with lower income (i.e. people on pension) to engage in physical activity programs.
3.5	Implement programmes and services that increase the opportunities for physical activity in the least active groups.	Four (44.4%) good practice and five (55.6%) actions for greater impact were identified.	Better delivery of cost-effective programmes (e.g. Couch to 5K, daily mile, parkrun, CycleRight).	Emphasise the need for evidence-based programmes with more time provide to see sustained behaviour change.
3.6	Whole-of-community: Engage communities to implement comprehensive initiatives at the city, town or local level.	Five (50.0%) good practice and five (50.0%) actions for greater impact were identified.	Good examples of community-wide initiatives (e.g. Community sport and physical activity hubs and Active Communities).	Continue tackling gaps within the community (e.g. gender, disability, and socio-economic status).
Create Active Systems	Overarching Actions	Two (22.2%) good practice and seven (77.8%) actions for greater impact were identified.	Expert knowledge of what works for promoting physical activity available in Ireland.	More funding for research, evaluation, and monitoring (especially around the efficacy of implementation and data mining).

GAPPA Policy Actions	Responses collected through I-PARC workshop		
	Description	Examples from systems approach process	
		Current good practice	Actions for greater impact
4.1 Strengthen national and sub-national policies, recommendations and action plans, and establish multi-sectoral coordination mechanisms.	Five (33.3%) good practice and ten (66.7%) actions for greater impact were identified.	Increased collaboration between research, practice, and policy (e.g. I-PARC).	Enhance leadership for important actions and ensure appropriate linkage and oversight of stakeholder(s) responsible for implementation.
4.2 Enhance information systems and digital technologies to strengthen monitoring and decision-making.	Two (22.2%) good practice and seven (77.8%) actions for greater impact were identified.	Improvement in children's physical activity monitoring.	Develop centralised register of programmes, activities, and resources to enable wider cooperation and less overlap.
4.3 Strengthen research and evaluation capacity to inform effective policy solutions.	Five (41.7%) good practice and seven (58.3%) actions for greater impact were identified.	Collaborative research projects examining physical activity promotion at both a national and international level.	Structured evaluation - embedded and informing implementation.
4.4 Advocacy: Escalate advocacy efforts to increase awareness, knowledge and joint action.	Four (44.4%) good practice and five (55.6%) actions for greater impact were identified.	Non-Government Organisation driving physical activity promotion.	Sustain collaborative platforms (e.g. I-PARC).
4.5 Strengthen financing mechanisms to ensure sustainability.	Three (37.5%) good practice and five (62.5%) actions for greater impact were identified.	Increasing investment and emphasis on collaboration between stakeholders (e.g. Healthy Ireland Fund, National Sports Policy).	Use of cost and benefit analysis data for interventions/policies.

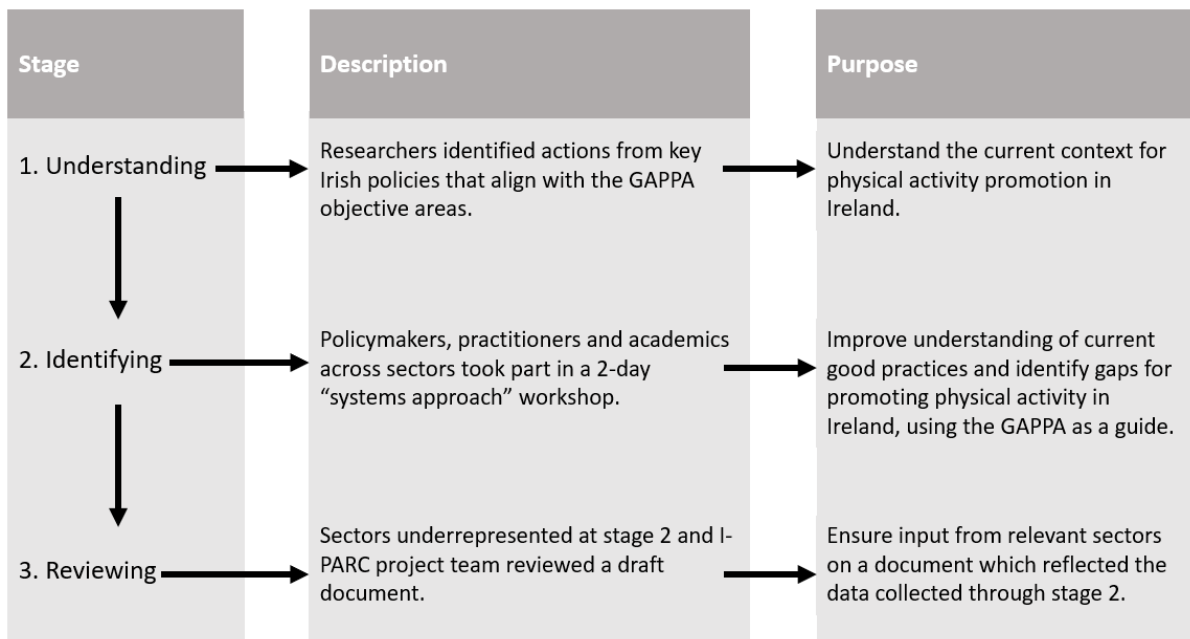


Figure 1. The 3-stage process developed for a systems approach activity in Ireland.



Figure 2. Participants engaging in the systems approach workshop and an example GAPP map with good practice examples and actions for greater impact.