Selected Instruments for Multilevel Policy and Impact Evaluation (SIMPLE) modules

Guidance document

Sven Messing[1], Karim Abu-Omar[1], Isobel Stanley[2], Celine Murrin[2], Gert B. M. Mensink[3], Stefanie Do[4], Maike Wolters[4], Agnieszka Neumann-Podczaska[5], Katarzyna Wieczorowska-Tobis[5], Catherine Woods[6], Enrique Garcia Bengoechea[6], Liam Kelly[6], Kevin Volf[6], Nanna Lien[7] & Antje Hebestreit[4] on behalf of the PEN Consortium

[1] FAU Erlangen-Nürnberg, Department of Sport Science and Sport, Erlangen, Germany

[2] School of Public Health, Physiotherapy and Sports Science, University College Dublin, Dublin, Ireland

[3] Robert Koch Institute, Berlin, Germany

[4] Leibniz Institute for Prevention Research and Epidemiology - BIPS - Bremen, Germany

[5] Poznań University of Medical Sciences, Poznań, Poland

[6] University of Limerick, Limerick, Ireland

[7] University of Oslo, Oslo, Norway

Summary

This document presents **S**elected **I**nstruments for **M**ultilevel **Po**Licy and impact **E**valuation (**SIMPLE**) modules, which measure relevant indicators in the fields of physical activity and diet. These short sets of screening instruments were developed as part of the Policy Evaluation Network (www.jpi-pen.eu) to assist in harmonising data collection on physical activity and diet indicators in existing surveillance systems, and help to evaluate certain policies. Experts in the fields of diet and physical activity went through a systematic process to identify indicators that were already utilised in European surveillance systems. They prioritised these indicators according to their suitability for the monitoring of respective policies, and sorted them according to domain/setting and level of an ecological model. This document describes three SIMPLE modules on physical activity (Physical Activity Recommendations, Cycling & Walking, Physical Activity at School) and four on diet (Food Prices, Promotion, Provision, Equity).

Table of Content

Background

The Policy Evaluation Network (PEN) is a collaborative project that aims to provide Europe with tools to identify, evaluate and benchmark policies designed to directly or indirectly address physical inactivity, dietary and sedentary behaviours while accounting for existing health inequalities. The network connects the growing scientific interest in investigating interconnections between policies on different levels (e.g. supranational, national, local) and individual health behaviour to prevent non-communicable diseases (NCDs). PEN sets out to investigate new approaches to assess the development and implementation of policies for the promotion of a healthy diet and a physically active lifestyle and how they might impact on behaviour.

While European surveillance systems have been capable of identifying and tracking individual level health risk factors for quite some time, these systems appear to be less capable of monitoring system level policies. PEN work package 2 'Monitoring and Surveillance' investigated indicators for physical activity and dietary behaviour in existing surveillance systems that would allow the assessment of policies at different levels of an ecological model. This work intends to assist European surveillance systems to harmonise future efforts of data collection and analysis.

This guidance document contains a description of the methodology and offers a preliminary set of physical activity and diet modules.

Introduction

What is a 'SIMPLE module'?

Selected **I**nstruments for **M**ultilevel **Po**Licy and impact **E**valuation (**SIMPLE**) modules are short sets of instruments allowing for a) the assessment of individual health indicators (behaviour and BMI) and b) the alignment with determinants of these behaviours from a policy, community, and organisational level (upstream indicators). Instruments that measure the indicators directly or variables describing the indicators were selected based on important criteria, such as validity, reliability, and robustness of indicators in a cross-cultural context and their established use in European monitoring and surveillance systems (Hebestreit et al., 2019). They allow the influence of policies to be assessed at different levels of an ecological model, i.e. from national public policies down to health-related behaviours of individuals (McLeroy, Steckler, & Bibeau, 1988). Thus, SIMPLE modules collate instruments to measure the impact of national policy action and infrastructure support on a) individual health and b) proximal and distal determinants (upstream indicators).

What is the purpose of the SIMPLE modules?

SIMPLE modules aim to harmonise data collection and assess comparable health-related data across European monitoring and surveillance systems which will facilitate the evaluation of temporal and regional changes in physical activity, dietary behaviour, and associated health outcomes (individual level). In addition, they allow the measurement of proximal and distal determinants of individual behaviours from a policy, community and organisational level since individual level modules are embedded in the multilevel modules. Their structure enables policy indicators to be assessed in combination with related community or organisational level indicators, thus creating a series of indicators that are interconnected on different levels of an ecological model. The development of the SIMPLE modules is a crucial step in establishing a 'road map' that supports the harmonisation of monitoring and surveillance systems across Europe (Hebestreit et al., 2019).

How can the SIMPLE modules be used?

Individual level modules will be used differently from the multilevel modules. PEN researchers who developed the modules suggest the following approaches:

1. First, individual level modules (orange coloured in Figure 1) were developed for primary data collection by health-related surveillance systems for physical activity and diet. Organisations that run European, regional or national health surveillance systems can integrate one or more modules into their established instruments and measures in order to provide and analyse comparable individual data.
2. Second, instruments of the multilevel modules (green coloured in Figure 1) are also used in existing surveillance systems to measure variables that may

determine health, thus providing routine monitoring data. Hence, researchers, key stakeholders, and policymakers could use these different data sources to evaluate outcomes related to policy actions and infrastructure support influencing individual and population behaviour at a national or pan-European level.
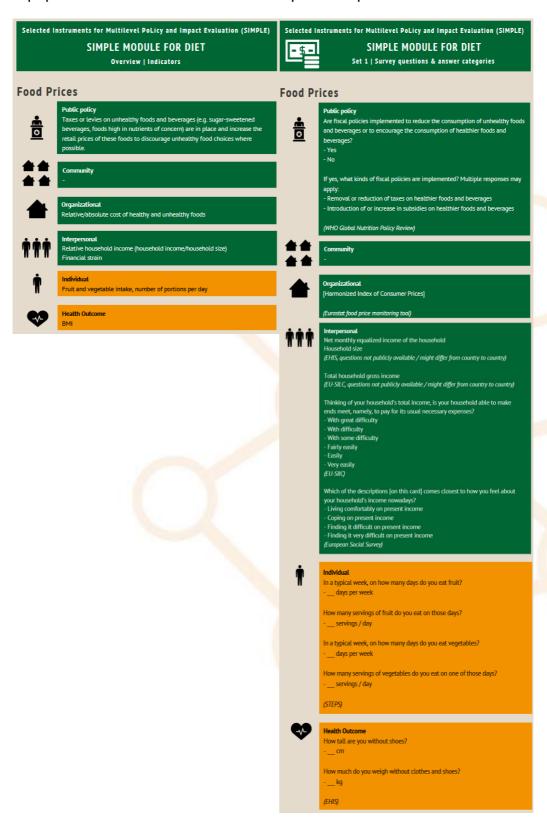

Figure 1: SIMPLE module example, here for Food Prices (individual level module in orange, multilevel in green)

Which SIMPLE modules were developed?

Within PEN, seven SIMPLE modules were developed. The modules were collated by PEN researchers as well as invited experts.

Three modules focus on physical activity:
- ➢ Physical Activity Recommendations
- ➢ Cycling & Walking
- ➢ Physical Activity at School

And four modules focus on diet:
- ➢ Food Prices
- ➢ Food Promotion
- ➢ Food Provision
- ➢ Equity

The SIMPLE modules are presented on pages 12-34.

What are key strengths and limitations of the SIMPLE modules?

The SIMPLE modules have several strengths:

First of all, the selection of indicators was based on a Delphi-like process with the involvement of representatives of existing European surveillance and monitoring systems/frameworks (Garnica Rosas et al., 2021; Stanley et al., under review). The SIMPLE modules are based on a pragmatic approach and cover indicators starting from national public policies down to the health behaviour of individuals. Also, they focus on some of the most relevant aspects of physical activity and healthy diet promotion. The application of strict criteria for the instrument selection (valid and reliable, suitable for the evaluation of WHO recommendations, relevant for EU context, etc.) will enhance quality assurance across systems over time.

In particular, the implementation of the individual level modules would be a further step towards a better harmonisation of monitoring and surveillance systems in Europe. Better harmonised systems will, among other purposes, allow for comparison of regional and temporal changes in health-related behaviours and the relevant policy actions across countries and systems which ameliorate these behaviours. Furthermore, additional short can be developed in the future, based on a set of preliminary SIMPLE modules.

However, the SIMPLE modules have some limitations: The path-dependency[1] of existing monitoring and surveillance systems might be a barrier for better

---

[1] Modifications of survey instruments affect the ability of monitoring and surveillance systems to show time trends.

harmonisation, limiting the potential of the individual level modules to be included in these monitoring systems. With regard to the multilevel modules, data were collected from different sources, such as national level experts, surveys, and monitoring information of populations, or similar. Furthermore, some of the modules only use parts of validated instruments in order to facilitate their implementation by applying a pragmatic approach. The SIMPLE modules also have a limited focus and might not cover all aspects that are relevant in the fields of physical activity and diet (e.g. un-/healthy dietary or PA patterns). As they are based on existing monitoring and surveillance systems, they cannot close current gaps in measurement instruments (e.g. if there is a lack of survey questions that match perfectly to a specific indicator).

How are the SIMPLE modules related to other activities within PEN?

The SIMPLE modules are an output of PEN's work package 2 'Monitoring and Surveillance'. They were developed based on the PEN EU policy indicator catalogue which contains a list of 72 diet-related indicators and 67 physical activity and sedentary behaviour indicators. This catalogue is published online (PEN, 2020).

Additionally, the SIMPLE modules are linked to other work packages of PEN. In work package 1 'Policy Mapping and EPI Development', an Environment Policy Index (EPI) for physical activity and dietary behaviour is developed/applied. While the Food-EPI and PA-EPI are comprehensive tools to benchmark the implementation of a broad range of relevant policy actions and infrastructure support for healthy environments against international best practice, the modules can assess outcomes related to selected policies on different levels of an ecological model.

Collaboration with work package 5 'Equity and Diversity of Policies' ensured that the equity focus of PEN was prioritised with the development of a module which targets specifically indicators of equity, such as access to healthy food.

Methodology

SIMPLE module development

The methodology was based on a stepwise approach developed and approved by the Determinants of Diet and Physical Activity Consortium – DEDIPAC (Hebestreit et al., 2019). In a participatory process with representatives of five European (and one national) surveillance systems, the following set of action points was agreed upon in DEDIPAC:

- ➢ Step 1: Identification and prioritisation of key indicators of health behaviours and determinants
- ➢ Step 2: Development and evaluation of modules and supplementary modules[2]
- ➢ Step 3: Implementation of modules accompanied by methodological studies
- ➢ Step 4: Sustainable harmonisation through a methodological competence platform

The development of modules (Step 2) is based on the results of Step 1. Step 2 is an important part in this process that aims to support the development of a harmonised pan-European surveillance of obesity-related lifestyle behaviours. In 2022, an expert workshop to identify preconditions for the implementation of a harmonised monitoring and surveillance system will be organised within PEN (Step 3) and a methodological competence platform that aims to guide the harmonisation process will be initiated (Step 4). It is planned to invite representatives of surveillance and monitoring systems to the methodological competence platform.

Step 1: Summary

The identification and prioritisation of key indicators of health behaviours and determinants is described elsewhere in detail (Garnica Rosas et al., 2021). As a result, the PEN EU Policy Indicator Catalogue (PEN, 2020) was developed by examining existing EU monitoring and surveillance systems to identify variables that could be mapped to the key indicators from the priority list. The variables from the existing systems were evaluated to see how closely they could be matched to the prioritised indicator by using a 4-point Likert scale from unmatched to well-matched (Stanley et al., under review). A total of 72 diet and 67 physical activity and sedentary behaviour indicators that could be mapped to existing data collection systems were included in the catalogue.

---

[2] These supplementary modules aim to investigate the feasibility of replacing self-reports by objective measurements, but are not part of the document at hand.

The following monitoring and surveillance systems and databases provided variable matches for the key policy indicators:

- ➢ WHO European Childhood Obesity Surveillance Initiative (COSI)
- ➢ European Public Health Alliance (EPHA) policy mapping
- ➢ European Injury Data Base
- ➢ European Environment Agency (EEA)-Indicators: European Air Quality Index
- ➢ European Food Safety Authority (EFSA) Comprehensive European Food Consumption Database
- ➢ European Health Interview Survey (EHIS)
- ➢ Eurobarometer 88.4
- ➢ European Social Survey (ESS)
- ➢ European Union Statistics on Income and Living Conditions (EU-SILC)
- ➢ Eurostat Food Price Monitoring Tool
- ➢ Global dietary database
- ➢ Health Behaviour in School-aged Children Survey (HBSC)
- ➢ Health-Enhancing Physical Activity Policy Audit Tool (HEPA PAT)
- ➢ Open Street Map
- ➢ Special Eurobarometer 472: Sport and physical activity
- ➢ Survey of Health, Ageing and Retirement in Europe (SHARE)
- ➢ WHO Global Nutrition Policy Review

Step 2 – 1st phase: Systematic approach based on the EU PEN Policy Indicator Catalogue

In a first phase of Step 2, a systematic approach was applied based on the EU PEN Policy Indicator Catalogue (PEN, 2020). The researchers sorted the indicators by domain (examples for physical activity are active transport, urban design or worksite). Within each domain, the indicators were sorted by the following levels of the ecological model: Public policy, community, organisational, interpersonal, individual (McLeroy, Steckler, & Bibeau, 1988). The following tables show the availability of indicators for all physical activity domains (Table 1) and diet domains (Table 2) that were covered by the analysed surveillance systems.

Table 1: Domains (vertically) and levels (horizontally) covered by the physical activity indicators

	Public policy	Community	Organisational	Inter-personal	Individual
General physical activity policies[3]	x	x	x	x	x
Active transport	x	x			x
Schools	x	x	x	x	x
Urban design	x	x		x	
Worksite		x	x		x
Health care	x				
Kindergarten			x		

Table 2: Domains (vertically) and levels (horizontally) covered by the diet indicators

	Public policy	Community	Organisational	Inter-personal	Individual
Food prices	x		x	x	x
Promotion	x	x		x	x
Provision	x	x	x		x
Composition	x		x		
Labelling	x		x	x	x
Retail	x	x	x		
Education & Counselling	x			x	x
Monitoring & Evaluation	x	x	x		x
Governance	x				x
Platforms & Leadership	x			x	x
Resources & Funding	x	x	x		x

SIMPLE modules were developed for three physical activity domains and three diet domains. The domains were selected based on (a) the availability of indicators across different levels within a domain and (b) the relevance of these indicators according to the expert ranking in Step 1. For Physical Activity at School, two separate modules were developed for primary schools (where parents answer questions on the physical activity of their children) and secondary schools (where adolescents can answer the questions by themselves). For two of the diet domains, different versions were developed for children & adolescents and adults (Food Promotion and Food Provision). Additionally, an Equity module was developed due to the importance of this aspect from a public health perspective. However, this could

---

[3] The general physical activity policies include, among others, national recommendations on physical activity for health.

only be realised for diet and not for PA due to a lack of corresponding PA indicators in the PEN EU Policy Indicator Catalogue.

For each SIMPLE module, a limited number of indicators were selected for each level of the ecological model, including the individual level. The indicators were selected based on (a) the 'interlink' of the indicators with distinct levels of the ecological model and (b) the availability of indicators in existing European surveillance systems. Afterwards, instruments to measure these indicators were identified based on (c) their use in established international surveillance systems, (d) their robustness, and (e) their validity.

At the end of the first phase, all preliminary SIMPLE modules contained information on the following aspects:
- Indicator name
- Instrument to measure the indicator directly, or as a proxy-variable, from existing surveillance instruments
- EU Monitoring System/Database (providing matched health indicators from monitoring initiatives)
- Organisation (providing the original instrument)
- Geographical coverage
- Age range of target population
- Most recent survey wave
- Data availability
- Website URL
- Validation of the variable at population level (where applicable)
- Data gathered from national level experts vs. population

Step 2 – 2nd Phase: Strengthening the 'interlink' principle

Additional refinement of the preliminary SIMPLE modules took place in a second phase, based on an expert consultation with the WHO European Office for the Prevention and Control of NCDs and additional desk research. At this stage, additional monitoring and surveillance systems were screened for indicators (multilevel and individual level) and survey questions that were suitable to interlink the policy level indicators with the community, organisational and individual level:
- WHO NCD Country Capacity Survey 2019
- WHO STEPwise approach to Surveillance (STEPS)
- 4th Worldwide Survey of Quality Physical Education
- Nordic monitoring on diet, physical activity and overweight

Furthermore, a few monitoring and surveillance systems from the first phase were screened again at this stage for additional survey questions which were not part of

the EU PEN Policy Indicator Catalogue in order to allow collation of the most complete instrument set.

Final versions of all SIMPLE modules were created. This guidance document presents the full versions of each SIMPLE module. Additional information[4] is available in the EU PEN Policy Indicator Catalogue (PEN, 2020) or from the research team upon request.

> There is not always a 'perfect match' between the indicator and the survey question due to methodological limitations and limitations in the existing monitoring and surveillance systems. The indicators with a 'partial interlink' to the survey question are marked with an asterisk (*).

---

[4] Organisation providing the original instrument, geographical coverage, age range of target population, most recent survey wave, data availability, website URL, validation of the variable at population level (where applicable).

Physical Activity SIMPLE modules

Physical Activity SIMPLE module 1: Physical Activity Recommendations

Multilevel modules: green, individual level module: orange

Level	Indicator	Survey question [and answer categories]	EU Monitoring System / Database	A Data gathered from... B Validation C Proportion of individuals meeting WHO recommendation(s)
Public policy	National recommendations on physical activity for health	Are there national guidelines which provide recommended levels of physical activity for the population or a specific segment of the population? [Yes, No, Don't know] If yes, are there guidelines specifically addressing any of the following age groups: - Children under 5: [Yes | No | Don't Know] - Children and adolescents (ages 5 – 19): [Yes | No | Don't Know] - Adults: [Yes | No | Don't Know] - Older adults: [Yes | No | Don't Know]	WHO NCD Country Capacity Survey	A National level experts B -
Community	Proportion of people aware of physical activity programmes organised by the community[a]	To what extent do you agree or disagree with the following statement about sport and physical activity? - The area where you live offers you many opportunities to be physically active. [Agree / Disagree]	Eurobarometer	A Population (adults) B -
Organisational	Settings included in the delivery of specific health-enhancing physical activity actions	Considering all (…) key physical activity policy documents (…), please indicate which settings	HEPA PAT	A National level experts B -

		are included for the delivery of specific Health-Enhacing Physical Activity actions. [- Preschools/kindergarten - Primary schools - Secondary/high schools - Colleges/universities - Primary health care - Clinical health care (e.g. hospitals) - Workplace - Older adult/senior services - Sport and recreation - Transport - Tourism - Environment - Urban design and planning - Community]		
Interpersonal	Proportion of people who see others being active in their neighbourhood[a]	Earlier you said you engage in sport or another physical activity, vigorous or not. Where do you do this? [- In a park, outdoors, etc. - At home - On the way between home and school, work or shops - At a health or fitness centre - At a sport club - At school or university - Elsewhere (spontaneous) - Don't know]	Eurobarometer	A Population (adults) B -
Individuals	Total time spent with physical activity per week	In a typical week, on how many days do you carry out sports[b], fitness[c] or recreational[d] (leisure) activities for at least 10 minutes[e] continuously?	EHIS	A Population (adults) B (Baumeister et al., 2016)[f] C -

		[___ days per week]		
		How much time in total do you spend on sports[b], fitness[c] or recreational[d] (leisure) physical activities in a typical week? [-___ hours per week - ___ minutes per week]	EHIS	A Population (adults) B (Baumeister et al., 2016)[f] C -

[a] Only partial fit of indicator and survey question

[b] Examples (sports): Ball games, athletics, competitive bicycling, running, swimming, etc. (European Commission, 2013)

[c] Examples (fitness): Endurance training, strength exercise, flexibility training, etc. (European Commission, 2013)

[d] Examples (recreational activity): Nordic walking, brisk walking, ball games, jogging, bicycling, swimming, aerobics, rowing, badminton, etc. (European Commission, 2013)

[e] The time frame of "at least 10 minutes" is no longer recommended in WHO's Global Physical Activity Guidelines, i.e. a modification of this survey question might be necessary in future.

[f] Applicable to moderate-to-vigorous aerobic recreational activity (min/d)

Physical Activity SIMPLE module 2: Cycling & Walking

Multilevel modules: green, individual level module: orange

Level	Indicator	Survey question [and answer categories]	EU Monitoring System / Database	A Data gathered from... B Validation C Proportion of individuals meeting WHO recommendation(s)
Public policy	Government supports the incorporation of walking and cycling infrastructure in urban, rural and transport plans[a]	Are the European Guidelines for Improving Infrastructures for Leisure-Time Physical Activity applied systematically to develop leisure-time infrastructures in your country? [- Implemented - Foreseen in the next 2 years - Not implemented]	EU/WHO HEPA Monitoring Framework survey	A National level experts B -
Community	Availability and quality of cycling networks/paths/amenities; cycle-friendly infrastructure	[User generated content, e.g. bicycle map, hiking map, wheelchair user map]	Open Street Maps	A Users B Validity differs from region to region due to the user-generated content and the differences in user numbers and their activity (Varnaccia, Zeiher, Lange, & Jordan, 2017)
Organisational	-	-	-	-
Interpersonal	-	-	-	-
Individuals	Time spent walking in order to get to and from places in a typical week	In a typical week, on how many days do you walk for at least 10 minutes continuously in order to get to and from places? [___ days per week]	EHIS	A Population (adults) B (Baumeister et al., 2016)[g] C -
		How much time do you spend walking in order to get to and from places on a typical day?	EHIS	A Population (adults) B (Baumeister et al., 2016)[g]

		[- 10-29 minutes per day - 30-59 minutes per day - 1 hour to less than 2 hours per day - 2 hours to less than 3 hours per day - 3 hours or more per day]		C -
	Time spent cycling in order to get to and from places in a typical week	In a typical week, on how many days do you bicycle for at least 10 minutes continuously to get to and from places? [___ days per week]	EHIS	A Population (adults) B (Baumeister et al., 2016)[h] C -
		How much time do you spend bicycling to get to and from places on a typical day? [- 10-29 minutes per day - 30-59 minutes per day - 1 hour to less than 2 hours per day - 2 hours to less than 3 hours per day - 3 hours or more per day]	EHIS	A Population (adults) B (Baumeister et al., 2016)[h] C -

[a] Only partial fit of indicator and survey question

[g] Applicable to walking time (min/d)

[h] Applicable to cycling time (min/d)

Physical Activity SIMPLE module 3a: Physical activity at Primary Schools

Multilevel modules: green, individual level module: orange

Level	Indicator	Survey question [and answer categories]	EU Monitoring System / Database	A Data gathered from... B Validation C Proportion of individuals meeting WHO r
Public policy	Government supports schools to include physical education in school curricula	In your country, is physical education a compulsory school curriculum subject in primary school?	4th Worldwide Survey of Quality Physical Education	A National level experts B -
Community	Condition of active commuting infrastructure to and from school	In your opinion, how safe are the routes to and from school for your child to walk or ride a bicycle, skateboard or non-motorized scooter? [(Please circle the appropriate number) - extremely safe 1 2 3 4 5 6 7 8 9 10 extremely unsafe]	COSI	A Population (parents of primary school children) B -
Organisational	Average curricular physical education time per week	Within the policy framework of the compulsory school programme, how much time is allocated to the physical education curriculum each week in primary schools?	4th Worldwide Survey of Quality Physical Education	A National level experts B -
Interpersonal	Proportion of young people who receive supervision from educators/teachers to be physically active[a]	Does your school organise any sport/physical activities at least once a week for primary school children outside school hours? [- Yes, for all grade levels - Only to some grade levels (please specify the grade): _____ - No] Do children attend these organised sport/physical activities? [- Yes, more than half of the children - Yes, half or less than half of the children	COSI	A Population (parents of primary school children) B -

		- No or mostly not (less than a quarter of the children)]		
Individuals	Total time spent with physical activity per week[a]	Outside school hours, during a normal week, how many hours per day is your child usually playing actively/vigorously (e.g. running, jumping outside or moving and fitness games inside)? Please tick one box for weekdays and one box for weekends. [Weekdays: Never at all, less than 1 hour per day, about 1 hour per day, about 2 hours per day, about 3 or more hours per day] [Weekend: Never at all, less than 1 hour per day, about 1 hour per day, about 2 hours per day, about 3 or more hours per day]	COSI[i]	A Population (parents of primary school children) B - C -

[a] Only partial fit of indicator and survey question

[i] The target group of COSI are primary school children aged 6-9 years. In some countries, children aged 11 years might attend primary school as well. Their health behaviours are assessed by the HBSC survey (see next module).

Physical Activity SIMPLE module 3b: Physical Activity at Secondary Schools

Multilevel modules: green, individual level module: orange

Level	Indicator	Survey question [and answer categories]	EU Monitoring System / Database	A Data gathered from... B Validation C Proportion of individuals meeting WHO recommendation(s)
Public policy	Government supports schools to include physical education in school curricula	In your country, is physical education a compulsory school curriculum subject in lower secondary school?	4th Worldwide Survey of Quality Physical Education	A National level experts B -
		In your country, is physical education a compulsory school curriculum subject in upper secondary schools?	4th Worldwide Survey of Quality Physical Education	A National level experts B -
Community	-	-	-	-
Organisational	Average curricular physical education time per week	Within the policy framework of the compulsory school programme, how much time is allocated to the physical education curriculum each week in lower secondary schools?	4th Worldwide Survey of Quality Physical Education	A National level experts B -
		Within the policy framework of the compulsory school programme, how much time is allocated to the physical education curriculum each week in upper secondary schools?	4th Worldwide Survey of Quality Physical Education	A National level experts B -
Interpersonal	-	-	-	-
Individuals	Total time spent with physical activity per week[a]	Over the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? Please add up all the time you spent in physical activity each day. [0-7 days]	HBSC[j]	A Population (adolescents) B (Prochaska, Sallis, & Long, 2001; Ridgers, Timperio, Crawford, & Salmon, 2012) C (Ridgers et al., 2012)

[a] Only partial fit of indicator and survey question

[j] HBSC collects data on the health behaviour of children aged 11, 13 and 15 years. In some countries, children aged 11 years might still attend primary school (see previous module).

Diet SIMPLE modules

Diet SIMPLE module 1: Food Prices

Multilevel modules: green, individual level module: orange

Level	Indicator	Survey question [and answer categories]	EU Monitoring System / Database	A Data gathered from... B Validation C Proportion of individuals meeting WHO recommendation(s)
Public policy	Taxes or levies on unhealthy foods and beverages (e.g. sugar-sweetened beverages, foods high in nutrients of concern) are in place and increase the retail prices of these foods to discourage unhealthy food choices where possible.	Are fiscal policies implemented to reduce the consumption of unhealthy foods and beverages or to encourage the consumption of healthier foods and beverages? [Yes/No] If yes, what kinds of fiscal policies are implemented? Multiple responses may apply: [- Removal or reduction of taxes on healthier foods and beverages - Introduction of or increase in subsidies on healthier foods and beverages]	WHO Global Nutrition Policy Review	A National level experts B -
Community	-	-	-	-
Organisational	Relative/absolute cost of healthy and unhealthy foods[a]	[Harmonised Index of Consumer Prices]	Eurostat food price monitoring tool	A Eurostat B -
Interpersonal	Relative household income (household income/household size)	- Net monthly equalized income of the household (Total net monthly income of the household/Equivalent household size) - Household size (number of persons living in household, including the respondent)	EHIS (questions not publicly available / might differ	A Population (adults) B -

			from country to country)	
		[Depends on national questionnaire] Total household gross income	EU-SILC (questions not publicly available / might differ from country to country)	A Population (adults) B -
	Financial strain	Thinking of your household's total income, is your household able to make ends meet, namely, to pay for its usual necessary expenses? [With great difficulty, With difficulty, With some difficulty, Fairly easily, Easily, Very easily]	EU-SILC	A Population (adults) B -
		Which of the descriptions (on this card) comes closest to how you feel about your household's income nowadays? [- Living comfortably on present income - Coping on present income - Finding it difficult on present income - Finding it very difficult on present income]	European Social Survey	A Population B -
Individuals	Fruit intake, number of portions per day	In a typical week, on how many days do you eat fruit[b]? [___ days per week] How many servings of fruit[b] do you eat on one of those days? [___ servings/ day]	STEPS	A Population (adults) B (Cook et al., 2015)[d] C (Cook et al., 2015)[d]

	Vegetable intake, number of portions per day	In a typical week, on how many days do you eat vegetables[c]? [___ days per week] How many servings of vegetables[c] do you eat on one of those days? [___ servings/ day]	STEPS	A Population (adults) B (Cook et al., 2015)[d] C (Cook et al., 2015)[d]
Health outcome	BMI	How tall are you without shoes? cm └─┴─┴─┘ How much do you weigh without clothes and shoes? kg └─┴─┴─┘	EHIS	A Population (adults) B (De Rubeis, Bayat, Griffith, Smith, & Anderson, 2019; Olfert et al., 2018) C -

[a] Only partial fit of indicator and survey question

[b] Serving size: 1 apple, 1 banana, 1 orange, ½ cup cooked or chopped fruit (80g), ½ cup fruit juice. Examples: Fruit and berries include fresh, frozen, canned, glassed/potted etc.; e.g. an apple, an orange, a banana, a bunch of grapes, a plate of strawberries or fruit and berries that are part of porridge, fruit stew, or fruit salad etc. (WHO, 2020).

[c] Serving size: 1 cup of raw green leafy vegetables (spinach, salad), ½ cup other vegetables, cooked or chopped raw (Tomatoes, carrots, pumpkins, corn, Chinese cabbage, fresh beans, onion, etc.), ½ cup vegetable juice. Examples: Vegetables, pulses and/or root fruits include fresh, frozen, canned, glass/potted etc.; e.g. carrots, tomatoes, cucumber, broccoli, peppers, salad, beans, chick peas, lentils, beetroot, celery and parsnip.

[d] Validated questions different compared to those of STEPS, including time frame and using answer categories.

Diet SIMPLE module 2a: Food Promotion (children and adolescents)

Multilevel modules: green, individual level module: orange

Level	Indicator	Survey question [and answer categories]	EU Monitoring System / Database	A Data gathered from... B Validation C Proportion of individuals meeting WHO recommendation(s)
Public policy	Governmental policies are implemented to restrict commercial marketing (including sponsorship, promotion and advertisement) of unhealthy foods and beverages to children, including adolescents, in settings where children gather (e.g. preschools, schools, sports clubs and facilities and cultural events).[a]	Are school health and nutrition policies, programs or related standards being implemented? [Yes/No]	WHO Global Nutrition Policy Review	A National level experts B -
Community	Exposure to food adverts for unhealthy food and beverages through all media and marketing channels.[a]	Are measures to regulate or guide marketing of food and non-alcoholic beverages to children being implemented? [Yes/No] For which communication channels, settings and contexts are the measures mandatory or voluntary? [- TV, - Radio - Advertising (in streets and stores) - Social Media - Apps - Sponsorship - Promotions	WHO Global Nutrition Policy Review	A National level experts B -

		- Give-aways - Using celebrities] Has any work been done to determine the extent and nature of food marketing in your country (for example through a study or survey)? [Yes/No]		
Organisational	School Food Environment	- Which of the following kinds of foods or beverages can pupils obtain on the school premises, excluding lunch provided by the school? Please tick all items that apply. [- Water: (free | paid | N/A) - Tea: (free | paid | N/A) - 100% fruit juices: (free | paid | N/A) - Fruit juices or other non-carbonated drinks: (free | paid | N/A) - Flavoured milk: (free | paid | N/A) - Hot drinks (cocoa, tea, coffee with milk) : (free | paid | N/A) - Fruit: (free | paid | N/A) - Vegetables: (free | paid | N/A) - Sweet snacks (e.g. chocolate, sugar confectionery, cakes, breakfast and/or cereal bars, sweet biscuits and/or pastries): (free | paid | N/A) - Ice-cream: (free | paid | N/A) - Savoury snacks (e.g. potato crisps, salted popcorn, salted nuts, savoury biscuits and/or pretzels: (free | paid | N/A) - Carbonated (soft) drinks: (free | paid | N/A)] - Does your school have a canteen? [Yes/No]	COSI	A Population (school administration) B -

		- Does your school have a shop or cafeteria where foods or beverages can be purchased? [Yes/No] - Does your school have vending machines where children are allowed to purchase foods or beverages (other than water, fruits and vegetables)? [Yes/No]		
Interpersonal	-	-	-	-
Individuals	Sugar-sweetened beverages, glasses per day	How many times a week do you usually drink ...? Coke or other soft drinks that contain sugar[e] [___ times per week] [___ glasses per occasion]	HBSC	A Population (adolescents) B (Riordan et al., 2017; Vereecken & Maes, 2003) C -
	Consumption frequency /day of ultra-processed snack food[a]	Over a typical or usual week, how often do you eat the following kinds of foods: savoury snacks[f], sweet snacks[g]? Never, <1per week, some days (1-3), Most days (4-6), Every day]	COSI	A Population (parents of primary school children) B - C -
Health outcome	BMI	How tall are you without shoes? cm └─┴─┴─┘ How much do you weigh without clothes and shoes? kg └─┴─┴─┘	EHIS	A Population (adults) B (De Rubeis et al., 2019; Olfert et al., 2018) C -

[a] Only partial fit of indicator and survey question

[e] Examples: Energy drinks, red bull, ice tea,… (Matthiessen J et al., 2016).

[f] Examples: Potato crisps, salted popcorn, salted nuts, savoury biscuits and/or pretzels) (WHO, 2018).

[g] Examples: Chocolate, sugar confectionery, cakes, breakfast and/or cereal bars, sweet biscuits, pastries chocolate, candy, biscuits, tart,... (Matthiessen J et al., 2016; WHO, 2018).

Diet SIMPLE module 2b: Food Promotion (adults)

Multilevel modules: green, individual level module: orange

Level	Indicator	Survey question [and answer categories]	EU Monitoring System / Database	A Data gathered from… B Validation C Proportion of individuals meeting WHO recommendation(s)
Public policy	Governmental policies are implemented to support social marketing and fund campaigns to promote healthy and sustainable eating.	Are media campaigns on healthy diet and nutrition conducted? [Yes/No]	WHO Global Nutrition Policy Review	A National level experts B -
Community	-	-	-	-
Organisational	-	-	-	-
Interpersonal	-	-	-	-
Individuals	Sugar-sweetened beverages, glasses per day	How many times a week do you usually drink ...? Coke or other soft drinks that contain sugar[e] [___ times per week] [___ glasses per occasion]	HBSC	A Population (adolescents) B (Riordan et al., 2017; Vereecken & Maes, 2003) C -
	Consumption frequency /day of ultra-processed snack food[a]	Over a typical or usual week, how often do you eat the following kinds of foods: savoury snacks[f], sweet snacks[g]? [Never, <1per week, some days (1-3), Most days (4-6), Every day]	COSI	A Population (parents of primary school children) B - C -
Health outcome	BMI	How tall are you without shoes? cm └─┴─┴─┘ How much do you weigh without clothes and shoes? kg └─┴─┴─┘	EHIS	A Population (adults) B (De Rubeis et al., 2019; Olfert et al., 2018) C -

[a] Only partial fit of indicator and survey question

[e] Examples: Energy drinks, red bull, ice tea,… (Matthiessen J et al., 2016).

[f] Examples: Potato crisps, salted popcorn, salted nuts, savoury biscuits and/or pretzels) (WHO, 2018).

[g] Examples: Chocolate, sugar confectionery, cakes, breakfast and/or cereal bars, sweet biscuits, pastries chocolate, candy, biscuits, tart,... (Matthiessen J et al., 2016; WHO, 2018).

Diet SIMPLE module 3a: Food Provision (children and adolescents)

Multilevel modules: green, individual level module: orange

Level	Indicator	Survey question [and answer categories]	EU Monitoring System / Database	A Data gathered from B Validation C Proportion of individuals meeting WHO recommendation(s)
Public policy	The government ensures that there are clear, consistent policies (including nutrition standards) which can be feasibly implemented in schools and early childhood education services for food service activities (canteens, food at events, fundraising, promotions, vending machines etc.) to provide and promote healthy food choices.	Are school health and nutrition policies, programs or related standards being implemented? [Yes/No]	WHO Global Nutrition Policy Review	A National level experts B -
Community	Exposure to food adverts for unhealthy food and beverages through all media and marketing channels.[a]	Are measures to regulate or guide marketing of food and non-alcoholic beverages to children being implemented? [Yes/No] For which communication channels, settings and contexts are the measures mandatory or voluntary? [- TV, - Radio - Advertising (in streets and stores) - Social Media - Apps	WHO Global Nutrition Policy Review	A National level experts B -

		- Sponsorship - Promotions - Give-aways - Using celebrities] Has any work been done to determine the extent and nature of food marketing in your country (for example through a study or survey)? [Yes/No]		
Organisational	School Food Environment	Which of the following kinds of foods or beverages can pupils obtain on the school premises, excluding lunch provided by the school? Please tick all items that apply. [- Water: (free | paid | N/A) - Tea: (free | paid | N/A) - 100% fruit juices: (free | paid | N/A) - Fruit juices or other non-carbonated drinks: (free | paid | N/A) - Flavoured milk: (free | paid | N/A) - Hot drinks (cocoa, tea, coffee with milk) : (free | paid | N/A) - Fruit: (free | paid | N/A) - Vegetables: (free | paid | N/A) - Sweet snacks (e.g. chocolate, sugar confectionery, cakes, breakfast and/or cereal bars, sweet biscuits and/or pastries): (free | paid | N/A) - Ice-cream: (free | paid | N/A) - Savoury snacks (e.g. potato crisps, salted popcorn, salted nuts, savoury biscuits and/or pretzels: (free | paid | N/A) - Carbonated (soft) drinks: (free | paid | N/A)]	COSI	A Population (school administration) B -

		Does your school have a canteen? [Yes/No] Does your school have a shop or cafeteria where foods or beverages can be purchased? [Yes/No] Does your school have vending machines where children are allowed to purchase foods or beverages (other than water, fruits and vegetables)? [Yes/No]		
Interpersonal	-	-	-	-
Individuals	Fruit intake, number of portions per day	In a typical week, on how many days do you eat fruit[b]? [___ days per week] How many servings of fruit[b] do you eat on one of those days? [___ servings/ day]	STEPS	A Population (adults) B (Cook, Roberts, O'Leary, & Allman-Farinelli, 2015)[d] C (Cook et al., 2015)[d]
	Vegetable intake, number of portions per day	In a typical week, on how many days do you eat vegetables[c]? [___ days per week] How many servings of vegetables[c] do you eat on one of those days? [___ servings/ day]	STEPS	A Population (adults) B (Cook et al., 2015)[d] C (Cook et al., 2015)[d]
Health outcome	BMI	How tall are you without shoes? cm �⌝ How much do you weigh without clothes and shoes? kg ⌞⌟	EHIS	A Population (adults) B (De Rubeis et al., 2019; Olfert et al., 2018) C -

[a] Only partial fit of indicator and survey question

[b] Serving size: 1 apple, 1 banana, 1 orange, ½ cup cooked or chopped fruit (80g), ½ cup fruit juice. Examples: Fruit and berries include fresh, frozen, canned, glassed/potted etc.; e.g. an apple, an orange, a banana, a bunch of grapes, a plate of strawberries or fruit and berries that are part of porridge, fruit stew, or fruit salad etc. (World Health Organization, 2020)

[c] Serving size: 1 cup of raw green leafy vegetables (spinach, salad), ½ cup other vegetables, cooked or chopped raw (Tomatoes, carrots, pumpkins, corn Chinese cabbage, fresh beans, onion, etc.), ½ cup vegetable juice. Examples: Vegetables, pulses and/or root fruits include fresh, frozen, canned, glass/potted etc.; e.g. carrots, tomatoes, cucumber, broccoli, peppers, salad, beans, chick peas, lentils, beetroot, celery and parsnip (World Health Organization, 2020)

[d] Validated questions different compared to those of STEPS, including time frame and using answer categories.

Diet SIMPLE module 3b: Food Provision (adults)

Multilevel modules: green, individual level module: orange

Level	Indicator	Survey question [and answer categories]	EU Monitoring System / Database	A Data gathered from B Validation C Proportion of individuals meeting WHO recommendation(s)
Public policy	The government ensures that there are clear, consistent policies, which can be feasibly implemented, in other public sector settings for food service activities (canteens, food at events, fundraising, promotions, vending machines, public procurement standards etc.) to provide and promote healthy food choices.	Are there national nutrition policies, strategies or action plans or other policies and plans (e.g. health sector plans, social protection plans, food security strategies) which focus on nutrition or healthy diet? [Yes/No] Which nutrition related actions or interventions are included in the policy, strategy or plan? [Creation of healthy food environment in workplaces: • In hospitals • Other places (please specify)]	WHO Global Nutrition Policy Review	A National level experts B -
Community	Neighbourhood healthy food availability	-	-	-
Organisational	Portion size from manufacturers and food outlets in settings	-	-	-
Interpersonal	-	-	-	-
Individuals	Fruit intake, number of portions per day	In a typical week, on how many days do you eat fruit[b]? [___ days per week] How many servings of fruit[b] do you eat on one of those days? [___ servings/ day]	STEPS	A Population (adults) B (Cook et al., 2015)[d] C (Cook et al., 2015)[d]

	Vegetable intake, number of portions per day	In a typical week, on how many days do you eat vegetables[c]? [___ days per week] How many servings of vegetables[c] do you eat on one of those days? [___ servings/ day]	STEPS	A Population (adults) B (Cook et al., 2015)[d] C (Cook et al., 2015)[d]
Health outcome	BMI	How tall are you without shoes? cm └─┴─┴─┘ How much do you weigh without clothes and shoes? kg └─┴─┴─┘	EHIS	A Population (adults) B (De Rubeis et al., 2019; Olfert et al., 2018) C -

[b] Serving size: 1 apple, 1 banana, 1 orange, ½ cup cooked or chopped fruit (80g), ½ cup fruit juice. Examples: Fruit and berries include fresh, frozen, canned, glassed/potted etc.; e.g. an apple, an orange, a banana, a bunch of grapes, a plate of strawberries or fruit and berries that are part of porridge, fruit stew, or fruit salad etc. (World Health Organization, 2020).

[c] Serving size: 1 cup of raw green leafy vegetables (spinach, salad), ½ cup other vegetables, cooked or chopped raw (Tomatoes, carrots, pumpkins, corn Chinese cabbage, fresh beans, onion, etc.), ½ cup vegetable juice. Examples: Vegetables, pulses and/or root fruits include fresh, frozen, canned, glass/potted etc.; e.g. carrots, tomatoes, cucumber, broccoli, peppers, salad, beans, chick peas, lentils, beetroot, celery and parsnip (World Health Organization, 2020).

[d] Validated questions different compared to those of STEPS, including time frame and using answer categories.

Diet SIMPLE module 4: Equity

Multilevel modules: green, individual level module: orange

Level	Indicator	Survey question [and answer categories]	EU Monitoring System / Database	A Data gathered from B Validation C Proportion of individuals meeting WHO recommendation(s)
Public policy	There are processes in place to ensure that population nutrition, health outcomes and reducing health inequalities or health impacts in vulnerable populations are considered and prioritized in the development of all government policies relating to food.	Currently not measured in an ongoing EU surveillance system.	-	-
Community	-	-	-	-
Organisational	Waste reduction policies for food retail and food service outlets are in place	Currently not measured in an ongoing EU surveillance system.	-	-
Interpersonal	Relative household income (household income/household size)	Ask all adults: We put answers into income bands. Would you tell me which band represents your total personal income before all deductions? Is it...	EU-SILC	A Population B -
Individuals	Fruit intake, number of portions per day	In a typical week, on how many days do you eat fruit[b]? [___ days per week] How many servings of fruit[b] do you eat on one of those days? [___ servings/ day]	STEPS	A Population (adults) B (Cook et al., 2015)[d] C (Cook et al., 2015)[d]

	Vegetable intake, number of portions per day	In a typical week, on how many days do you eat vegetables[c]? [___ days per week] How many servings of vegetables[c] do you eat on one of those days? [___ servings/ day]	STEPS	A Population (adults) B (Cook et al., 2015)[d] C (Cook et al., 2015)[d]
Health outcome	BMI	How tall are you without shoes? cm └─┴─┴─┘ How much do you weigh without clothes and shoes? kg └─┴─┴─┘	EHIS	A Population (adults) B (De Rubeis et al., 2019; Olfert et al., 2018) C -

[b] Serving size: 1 apple, 1 banana, 1 orange, ½ cup cooked or chopped fruit (80g), ½ cup fruit juice. Examples: Fruit and berries include fresh, frozen, canned, glassed/potted etc.; e.g. an apple, an orange, a banana, a bunch of grapes, a plate of strawberries or fruit and berries that are part of porridge, fruit stew, or fruit salad etc. (World Health Organization, 2020).

[c] Serving size: 1 cup of raw green leafy vegetables (spinach, salad), ½ cup other vegetables, cooked or chopped raw (Tomatoes, carrots, pumpkins, corn Chinese cabbage, fresh beans, onion, etc.), ½ cup vegetable juice. Examples: Vegetables, pulses and/or root fruits include fresh, frozen, canned, glass/potted etc.; e.g. carrots, tomatoes, cucumber, broccoli, peppers, salad, beans, chick peas, lentils, beetroot, celery and parsnip (World Health Organization, 2020).

[d] Validated questions different compared to those of STEPS, including time frame and using answer categories.

Conclusions

In order to harmonise data collection and data analysis across European surveillance systems for physical activity and dietary behaviour, the implementation and evaluation of these SIMPLE modules could be highly relevant, as described in the road map towards a harmonised pan-European surveillance of the DEDIPAC consortium (Hebestreit et al., 2019). The SIMPLE modules described in this document present a set that could be expanded to other policy domains in future work. Additionally, developing a physical activity module on equity would be highly relevant; however, current surveillance systems do not contain enough indicators that would allow mapping out such a module. The development of a physical activity module on equity is envisaged for future improvements of the road map. For diet, short screening instruments tracking the impact of food production and consumption on climate change could be an important addition in future harmonisation efforts.

The SIMPLE modules could also be linked with existing recommendations on interventions and policies targeting physical activity and a healthy diet as presented in the WHO Best Buys Series (WHO, 2017) or the Eight Investments of the International Society for Physical Activity and Health (ISPAH, 2020). Additionally, it could be explored how the individual level modules can be implemented in existing surveillance systems, or how the multilevel modules can be completed using existing data sources. This could set the groundwork for more comprehensive SIMPLE modules developed by future projects that might also extend to other health-related behaviours.

The consortium of work package 2 of the PEN project is available for comments and inquiries related to the SIMPLE modules.

List of References

Baumeister, S. E., Ricci, C., Kohler, S., Fischer, B., Topfer, C., Finger, J. D., & Leitzmann, M. F. (2016). Physical activity surveillance in the European Union: reliability and validity of the European Health Interview Survey-Physical Activity Questionnaire (EHIS-PAQ). *The International Journal of Behavioral Nutrition and Physical Activity, 13*, 61. doi:10.1186/s12966-016-0386-6

Cook, A., Roberts, K., O'Leary, F., & Allman-Farinelli, M. A. (2015). Comparison of single questions and brief questionnaire with longer validated food frequency questionnaire to assess adequate fruit and vegetable intake. *Nutrition, 31*(7-8), 941-947. doi:10.1016/j.nut.2015.01.006

De Rubeis, V., Bayat, S., Griffith, L. E., Smith, B. T., & Anderson, L. N. (2019). Validity of self-reported recall of anthropometric measures in early life: A systematic review and meta-analysis. *Obesity Reviews, 20*(10), 1426-1440. doi:https://doi.org/10.1111/obr.12881

European Commission. (2013). Eurostat: European health interview survey (EHIS wave 2). Methodological manual. Retrieved from https://ec.europa.eu/eurostat/documents/3859598/5926729/KS-RA-13-018-EN.PDF/26c7ea80-01d8-420e-bdc6-e9d5f6578e7c

Garnica Rosas, L., Mensink, G. B., Finger, J. D., Schienkiewitz, A., Do, S., Wolters, M., . . . Woods, C. B. (2021). Selection of key indicators for European policy monitoring and surveillance for dietary behaviour, physical activity and sedentary behaviour. *International Journal of Behavioral Nutrition and Physical Activity, 18*(1), 1-18.

Hebestreit, A., Thumann, B., Wolters, M., Buksch, J., Huybrechts, I., Inchley, J., . . . Ahrens, W. (2019). Road map towards a harmonized pan-European surveillance of obesity-related lifestyle behaviours and their determinants in children and adolescents. *International Journal of Public Health, 64*, 615-623. doi:10.1007/s00038-019-01227-y

ISPAH. (2020). Eight Investments that work for physical activity. Retrieved from https://www.ispah.org/resources/key-resources/8-investments/

Matthiessen J, Andersen LF, Barbieri HE, Borodulin K, Knudsen VK, Kørup K, . . . S, F. (2016). The Nordic Monitoring System 2011–2014.

McLeroy, K. R., Steckler, A., & Bibeau, D. (1988). The social ecology of health promotion interventions. *Health Education Quarterly, 15*(4), 351-377.

Olfert, M. D., Barr, M. L., Charlier, C. M., Famodu, O. A., Zhou, W., Mathews, A. E., . . . Colby, S. E. (2018). Self-reported vs. measured height, weight, and BMI in young adults. *International Journal of Environmental Research and Public Health, 15*(10), 2216.

PEN. (2020). PEN EU policy indicator catalogue. Retrieved from https://www.jpi-pen.eu/pen-eu-policy-indicator-catalogue.html

Prochaska, J. J., Sallis, J. F., & Long, B. (2001). A physical activity screening measure for use with adolescents in primary care. *Archives of Pediatrics and Adolescent Medicine, 155*(5), 554-559. doi:10.1001/archpedi.155.5.554

Ridgers, N. D., Timperio, A., Crawford, D., & Salmon, J. (2012). Validity of a brief self-report instrument for assessing compliance with physical activity guidelines amongst adolescents. *Journal of Science and Medicine in Sport, 15*(2), 136-141. doi:10.1016/j.jsams.2011.09.003

Riordan, F., Ryan, K., Perry, I. J., Schulze, M. B., Andersen, L. F., Geelen, A., . . . Harrington, J. M. (2017). A systematic review of methods to assess intake of sugar-sweetened beverages among healthy European adults and children: a DEDIPAC

(DEterminants of DIet and Physical Activity) study. *Public Health Nutrition, 20*(4), 578-597. doi:10.1017/S1368980016002639

Stanley, I., Neumann-Podczaska, A., Wieczorowska-Tobis, K., Mensink, G. B. M., Garnica Rosas, L., Do, S., . . . Murrin, C. (under review). Health surveillance indicators: what is available in European data sets for policy evaluation?

Varnaccia, G., Zeiher, J., Lange, C., & Jordan, S. (2017). Factors influencing childhood obesity - the establishment of a population-wide monitoring system in Germany *Journal of Health Monitoring, 2*(2), 85-97. doi:10.17886/RKI-GBE-2017-047

Vereecken, C. A., & Maes, L. (2003). A Belgian study on the reliability and relative validity of the Health Behaviour in School-Aged Children food-frequency questionnaire. *Public Health Nutrition, 6*(6), 581-588. doi:10.1079/phn2003466

WHO. (2017). Tackling NCDs. ‚Best buys' and other recommended interventions for the prevention and control of noncommunicable diseases. Retrieved from https://www.who.int/publications/i/item/WHO-NMH-NVI-17.9

WHO. (2018). WHO Europe Childhood Obesity Surveillance Initiative (WHO COSI): overweight and obesity among 6-9-year-old children. Retrieved from https://www.euro.who.int/en/health-topics/disease-prevention/nutrition/activities/who-european-childhood-obesity-surveillance-initiative-cosi"

WHO. (2020). The WHO STEPS Surveillance Manual. Retrieved from http://www.who.int/ncds/surveillance/steps/Section%203%20Show%20Cards.pdf.

World Health Organization. (2020). *STEPwise Approach to NCD Risk Factor Surveillance (STEPS) - Manual: Show Cards*. Retrieved from https://cdn.who.int/media/docs/default-source/ncds/ncd-surveillance/steps/part5-section3.pdf?sfvrsn=757b45db_2