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D8.1 Data Management Plan

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Executive Summary

The Data Management Plan (DMP) contains the general principles for handling of each of the different data sources included in the project. The principles addressed relate to quality assurance and open access to data collected and re-use of existing data. Data will be collected from three stakeholder groups; young people (16-18 years old), scientific experts on adolescent obesity, and policy makers, business leaders, and other actors relevant to prevention of adolescent obesity. The data types that will be collected include system maps, interview data, and survey data. Moreover, system modelling maps will be produced based on the system maps and existing research evidence, as will benchmarking scores for policy effects on individual level behaviour. The project will re-use existing data from two large international WHO collaborative studies on adolescent health and health behaviours.

This first version of the DMP mirrors the early phase of the project. Recruitment processes for participants has been outlined in deliverable 10.1. Currently data collection instruments are under development. When these are settled more details on data type, formats for storing and formats for sharing will be decided. Formats for storing and sharing are currently under exploration, and will be finalised by month 18.

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List of acronyms / abbreviations

BMI – Body Mass Index

COSI – The WHO European Childhood Obesity Surveillance Initiative

DMP – Data Management Plan

ERBR – Energy balance related behaviours

EYP – European Youth parliament

GMB – Group model building

HBSC – Health Behaviour in School-aged Children. A WHO Collaborative Cross-national Survey

WHO – World Health Organization

WP – Work package

Introduction

This Data Management Plan (DMP) is created for the project *Co-Create – Confronting Obesity: Co-creating policy with youth*. Project details:

- Call: H2020-SFS-2016-2017
- Topic: SFS-39-2017
- Proposal number: 774210

The consortium collaborating in Co-Create includes members from 14 institutions from 9 different countries. In order to appropriately respond to the identified research questions, the project will re-use survey data from other studies, and also collect data from three stakeholder groups; young people (16-18 years old), scientific experts on adolescent obesity, and policy makers and business leaders. The data types that will be collected include system maps, interview data, and survey data. Moreover, system modelling maps will be produced based on the system maps and existing research evidence, as will benchmarking scores for policy effects on individual level behaviour.

- This DMP contains the general principles for handling of each of the different data sources to be used in this project.
- Each partner is required to follow the principles outlined in this DMP as well as in protocols supporting the DMP.
- Each partner is required to collect process and store data in accordance with national law, and specific regulations of each partner institution. This also includes research ethics.
- Each partner is required to anonymise data before data is transferred to the project administration/data management centre.
- The data management centre at the University of Bergen will merge data from the different partners to build an international datafile for data analyses, document the data collected by each partner and openly share data according to details outlined below.
- In the first part, general administrative information about Co-Create will be presented, followed by a description of each data source.

1. Administrative information

1.1 Project name

Confronting Obesity: Co-creating policy with youth (Co-Create)

1.2 Project Description

Co-Create aims to reduce childhood obesity and its co-morbidities by working with adolescents to create, inform and disseminate evidence-based obesity prevention policies. The project applies a systems approach to provide a better understanding of how factors associated with obesity interact at various levels. The project focuses on young people within the ages of 16-18 as the specific target group, a crucial age with increasing autonomy and the next generation of adults, parents and policymakers, and thus important agents for change. Co-Create aims to involve and empower young people themselves, as well as youth organizations, to foster a participatory process of identifying and formulating relevant policies, deliberating such options with other private and public actors, promoting relevant policy agenda and tools and strategies for implementation. Co-Create strengthens interdisciplinary research, and it has an inclusive multi-actor approach with involvement of academics, policy makers, civil society, relevant industry and market actors to ensure long-lasting implementation of the results. The project has a strong gender profile, and considers the relevance of geographic, socio-economic, behavioural and cultural factors. Co-Create engages with international partners from different policy-contexts in Europe, Australia, South Africa and the US. Applying large-scale datasets, policy monitoring tools, novel analytical approaches and youth involvement will provide new efficient strategies, tools and programs for promoting sustainable and healthy dietary behaviours and lifestyles.

1.3 PI / Researcher (person, institution or organisation)

Coordinator (PI): Prof. Knut-Inge Klepp, Norwegian Institute of Public Health, Norway. Phone: 004721078052 email: knut-inge.klepp@fhi.no ORCID: <https://orcid.org/0000-0002-3181-6841>

1.4 Participating researchers and/or organizations

Due to the size of the project, only the participant institutions and the work-package leaders are listed below.

Participating Organisations:

| No. | Name | Country |
|-----|--|--------------|
| 1 | Norwegian Institute of Public Health (NIPH) | Norway |
| 2 | University of Amsterdam (UvA) | Netherlands |
| 3 | University of Oslo (UiO) | Norway |
| 4 | World Obesity Federation (IASO-IOTF) | UK |
| 5 | London School of Hygiene & Tropical Medicine (LSHTM) | UK |
| 6 | University of Cape Town (UCT) | South Africa |
| 7 | Centro de Estudos e Investigacao em Dinamicas Sociais e Saude (CEIDSS) | Portugal |
| 8 | World Cancer Research Fund International (WCRF) | Belgium |

| | | |
|----|---|-----------|
| 9 | EAT | Norway |
| 10 | The University of Texas School of Public Health (UTHealth) | USA |
| 11 | Press (Press) | Norway |
| 12 | University of Bergen (UiB) | Norway |
| 13 | SWPS University of Social Sciences and Humanities (SWPS University) | Poland |
| 14 | Deakin University (DEAKIN) | Australia |

Work-package leaders:

| WP No. | Name | Name and E-mail | Org. No. |
|--------|---|--|----------|
| 1 | Project management and coordination | Knut-Inge Klepp Knut-inge.klepp@fhi.no | 1 |
| 2 | Policy assessment and monitoring | Louise Codling l.codling@wcrf.org | 8 |
| 3 | Obesity rates and energy balance related behaviours | Knut-Inge Klepp Knut-inge.klepp@fhi.no | 1 |
| 4 | Obesity system mapping | Cecile Knai Cecile.knai@lshtm.ac.uk | 5 |
| 5 | Youth Alliances for Overweight Prevention Policies | Christian Bröer c.broer@uva.nl | 2 |
| 6 | Dialogue forum with representatives from policy and business | Sudhvir Singh sudhvir@eatforum.org | 9 |
| 7 | Evaluation of Co-Created policy interventions and methodology | Nanna Lien Nanna.lien@medisin.uio.no | 3 |
| 8 | Open science and fair data management | Oddrun Samdal Oddrun.samdal@uib.no | 12 |
| 9 | Dissemination, exploitation and communication | Tim Lobstein tlobstein@worldobesity.org | 4 |
| 10 | Ethics requirements | Knut-Inge Klepp Knut-inge.klepp@fhi.no | 1 |

1.5 Project Data Contacts

During the project, questions about the data or project should be addressed to the Project Coordinator:

| Name | E-mail | Org. No. |
|-----------------|--|----------|
| Knut-Inge Klepp | Knut-inge.klepp@fhi.no | 1 |
| Therese Bakke | Therese.bakke@fhi.no | 1 |

After the project: When data is delivered to the data repository, questions related to the data should be addressed to the PI and the leader of WP8:

| Name | E-mail | Org. No. |
|-----------------|--|----------|
| Knut-Inge Klepp | Knut-inge.klepp@fhi.no | 1 |
| Oddrun Samdal | Oddrun.samdal@uib.no | 12 |

1.6 Ownership of the material

As a general rule, results are owned by the party that generates them, with a strong commitment to share the data for open use.

The physical activity framework and policy database that links to the healthy diets framework and the policy database (NOURISHING), ref. WP2, D2.1 & D2.5, shall be owned by World Cancer Research Fund International.

An interactive youth-focused website hosted by the World Obesity Federation, including materials generated within the project, shall be owned by the World Obesity Federation.

Further details in the Co-Create Consortium Agreement.

2. Data Summary

2.1 Purpose of the data collection/generation and its relation to the objectives of the project

By focusing on upstream factors and context change instead of individual behaviour change, Co-Create will generate sustainable impacts that contribute to narrowing inequalities in adolescent obesity. The project will i) evaluate and also provide methodology of how to assess effectiveness of existing policies on adolescent obesity, ii) provide knowledge base on what young people, experts and policy makers find are important policy factors to address when aiming to prevent adolescent obesity, and iii) provide a model that will focus on how to involve young people and the range of relevant

stakeholders by explicitly politicising the issue of obesity. This will be actualised by providing specific obesity related policy proposals, and by designing and testing advocacy tools and strategies for implementation and evaluation.

2.2 The project objectives and how data collection/generation is connected to them

i) Provide methodology and evaluating existing policies

To develop, test, and subsequently provide a valid, reliable, and easily accessible and applicable methodology for monitoring and benchmarking policies which directly or indirectly can influence energy balance related behaviours (EBRB), no new data will be collected, but rather a benchmark of EBRB policies will be generated based on existing data sources. Two sources of existing data will be used; national policy documents addressing ERBR across the seven European Co-Create countries, and data regarding individual level adolescent ERBR and BMI measures. The individual level data will be re-used from the two international surveys “Health Behaviour in School-aged Children. A WHO Cross-national study” (HBSC) (www.hbsc.org) and the WHO European Childhood Obesity Surveillance Initiative (COSI) (<http://www.euro.who.int/en/health-topics/disease-prevention/nutrition/activities/who-european-childhood-obesity-surveillance-initiative-cosi>), that both apply open access procedures to their data. The benchmarking of each country’s policy will address its content and effect on individual level behaviour in adolescents. The national policy documents and the result of the benchmarking process will be made available on the website of the World Cancer Research Fund International.

ii) Provide knowledge base

The project will develop and deliver a set of visual system maps of policy-dependent multi-level drivers of adolescent obesity across six countries (Netherlands, Norway, Poland, Portugal, South Africa, and the United Kingdom), and synthesize them into a single consensus overview maps (WP4). For this purpose both existing data from published research as well a new data collected from mapping workshops with young people and other stakeholders. Notes will be taken from the mapping workshops involving discussions where the participants are asked to develop conceptual maps of the drivers of positive energy balance through the food and physical activity systems, informed by the existing evidence-base. The conceptual maps and the transcript of notes will be used to generate an overarching map (system dynamic model) that depicts the key policy-amenable drivers of adolescent obesity across Europe.

iii) Develop obesity related policy proposals

In order to provide a model that will focus on how to involve young people and the range of relevant stakeholders by explicitly politicising the issue of obesity the project will establish, make use of, and evaluate multi-actor dialogue forums between public and private sector stakeholders (including adolescents) that define and/or are influenced by obesity prevention policies to work towards wider

acceptance and support for effective obesity prevention policies (WP6). The aim of the dialogue forums is to address and help refine obesity prevention policies developed by youth, that policy-makers and businesses can respond to, based on engagement with youth to work towards positioning youth as active agents of change and generating support for effective obesity prevention policies. These policies and solutions will accelerate the move from dialogue to implementation at a local, national and regional level.

2.3 Types and formats of data that will be collected and generated by the project

Three types of data will be collected in the Co-Create project: system maps, interview data, and survey data. Based on the systems maps developed in the mapping workshops and in combination with existing research evidence, appropriate system modelling maps will be generated. Whilst building on existing policy documents and existing survey data, benchmarking of national policies will be generated.

System maps

System maps - in the form of causal loop diagrams – will be generated via workshops, using a process called ‘group model building’ (GMB). Mapping workshop participants will include adolescents from diverse socio-economic backgrounds. The UK team will also host workshops for policy-makers and academic experts working across Europe.

These system maps will represent the factors perceived by groups of participants to affect the diets and physical activity of adolescents. In addition to generating the maps, participants will discuss ways in which these systems could be reshaped through policy actions in order to generate healthier outcomes; this information will be captured via notes taken on paper or digitally (laptop or tablet) but not attributed to any individual participant. These notes will help in writing the reports, and in informing the next steps (WP5 and WP6) but will not be otherwise qualitatively analysed.

Interview data

Following the youth alliance participation group and individual interviews will take place in order to address the experience of the adolescents. These interviews will be transcribed and coded.

Survey data

Adolescents participating in the youth alliances and other stakeholders recruited to take part in the dialogue forums will be asked to fill in a survey regarding their readiness for change and attitudes towards actions preventing obesity. The youth alliance participants will be asked to fill in the questionnaire prior to entering the alliance (baseline), and thereafter regularly (monthly), with the final one three months after the stakeholder forum. The survey to other stakeholders will be undertaken before, after and three months after the dialogue forum. In order to describe the diversity of the participants, the baseline questionnaire will also include data on date of birth,

gender, ethnicity, spoken language at home, their height and weight, thoughts about their weight, socioeconomic status, physical activity habits, and eating habits.

2.4 Re-use of existing data

Existing data from two international surveys will be used: “Health Behaviour in School-aged Children. A WHO Cross-national study” (HBSC) (www.hbsc.org) and the WHO European Childhood Obesity Surveillance Initiative (COSI) (<http://www.euro.who.int/en/health-topics/disease-prevention/nutrition/activities/who-european-childhood-obesity-surveillance-initiative-cosi>). Both surveys apply open access procedures to their data.

The HBSC study has collected data on adolescent health behaviours in several countries since 1981. Currently there are 45 countries from across Europe and North-America involved with the study. Survey data collection is conducted every four years among a nationally representative sample of 11, 13 and 15-year-olds. For the current project, variables on height, weight, body perception, eating behaviours and physical activity will be used. The 10th cycle of data collection took place 2017/2018. A total of 200.000 students participate each survey year.

The COSI study has since 2007 collected nationally representative data on objectively measured weight and height measurements among 6-9-year-olds. In addition, the study collects information on school characteristics of relevance for healthy eating and physical activity, and information from parents on their child’s eating behaviours and physical activity. The fifth round of data collection took place during the 2018–2019 school year. A total of 300.000 children participate during each cycle.

Both studies follow standardised protocols for sampling, data collection and data cleaning, as well as for translation of study items across the participating countries, allowing cross-country comparison.

2.5 Expected size of the data

2.5.1 Collected data from adolescents

Approximately 600 adolescents will participate in different dialogue activities organised across WP4-7.

The mapping workshops aiming to develop the system maps will take place in the Netherlands, Norway, Poland, Portugal, the United Kingdom, and South Africa. In each country, four schools will be selected and invited to host one mapping workshop each. In total, it is expected that a total of 24 workshops will be conducted. Each workshop will aim to gather 10 to 15 adolescents. Thus, it is estimated that about 360 adolescents will participate in the workshops led by WP4, where 60 adolescents per country (15 adolescents x 4 schools = 60) would be recruited in six countries (60 x 6

= 360). From the 24 workshops, a similar number of system maps is expected as a data outcome. In addition to these system maps. The system maps, in combination with notes from the workshops and existing evidence will be used to generate systems dynamics models visualizing the relationships between the variables to determine the direction of influence that increases or decreases adolescent ERBR and obesity, and to illustrate balancing and reinforcing feedback loops. The system dynamic models represent new data that can be used by others for further research.

For the youth alliances a variety of recruitment strategies will be used, including schools, youth organisations and peers. The aim is to recruit 40 adolescents in each of the six countries, establishing three alliances in each country with 10-15 adolescents in each. In addition to these country-based alliances, 40 adolescent students at the International school will be recruited in the Netherlands to specifically address the EU level strategy in an International Youth Alliance. In total, Co-Create will recruit approximately 240 adolescents from six countries for participation in the Youth Alliances, focus group and individual interviews.

2.5.2 Collected data from other stakeholders

About 30 experts and policymakers attending two different conferences will participate in group model building workshops. Similarly, policy makers, business leaders, and other stakeholders will participate in dialogue forums. The exact group size for these group model building workshops and dialogue forums are under development.

2.5.3 Re-use of existing data

For each of the surveys in the COSI study 300.000 children participate, whilst 200.000 adolescents participate in each HBSC study. As a starting point, data from all surveys in the COSI study will be used, as well as HBSC data from the 2001 surveys and onwards. From 2001, major changes were made to the HBSC study questionnaire as well as the introduction of new ERBR measures, hence data after these changes were put into place will be used. By including data from the last five surveys of the two studies, data from a total of 1.500.000 children and 1.000.000 adolescents across Europe and North America are available for analyses.

2.6 Data utility

All data collected in the Co-Create project will be described and documented to facilitate use of the data through open access.

The principal document for data description will be the protocol developed for the different data collections. The protocol outlines the theoretical framework for the data to be collected, translation with back-translation procedures to ensure comparability of data and concepts used, recruitment

procedures (described in deliverable D10.1), coding procedures for qualitative data and computing guidelines for quantitative data. Thus, the protocol standardizes procedures to be followed by all countries and for all activities taking place in the project, and conclusively will be a vital document for everyone wanting to use the data collected in the project.

Guidelines will be developed for information from each mapping workshop, and interviews after participation in youth alliances and dialogue forums. These files should be documented and stored (including names of files etc.). Moreover, procedures for how countries should transcribe focus group interviews and individual interviews will be provided.

For the quantitative survey data a codebook will be developed providing variable names and labels, values and labels. Further, guidelines will be provided on recording of data and missing data, when an electronic survey cannot be undertaken. Clear guidance on how to ensure that confidentiality is secured during data collections processes (including storage of codes connecting longitudinal data) will be given, as well as instructions on how to ensure anonymity of data submitted to the data management centre, placed at the University of Bergen (organisation no 12).

Guidelines will be developed for how each country will need to document their data before submitting them to the data management centre of the project, and in which format the data should be delivered, and how each file should be named. Documentation of the data relates to concrete description of recruitment procedures undertaken (e.g. number of invitations sent, number of responses received, final number of participants), any deviations from protocol (e.g. recruitment, data collection (procedures, instruments), any coding procedures used (e.g. for qualitative data).

Based on the documentation of the data and the data itself, each file submitted to the data management centre will be checked for consistency with protocol and guidelines. Agreed cleaning procedures to secure comparability of the data across the participating countries will be performed by the data management centre. National files that have been cleaned will be merged into international datafiles both for the qualitative and quantitative data for use in the project as well as by external users.

3. FAIR data

The project will adopt the FAIR principles of making data findable, accessible, interoperable and re-usable.

3.1 Making data findable, including provisions for metadata

The data from the project will be made easily available on a data website. A Digital Object Identifier (DOI) system will be developed and used when publishing findings using the data for easy access to both check and further use the data. Our metadata will be in the form of an Atlas.ti documents. Our naming convention will follow a certain uniform agreement, such as: type of data-country-pic-date

taken-version. Example: fgd-poland-zofia-170819-v1. A set of key words will be developed to identify the datafiles from the Co-Create project.

Use of data is vital to identify any errors in the data. Additionally, the data will provide basis for standardising derived variables. To document such changes made to the international data files it is important to have clean and concise version numbers of the data file, as well as documentation of changes undertaken from one version to the next.

Metadata providing information on overall protocol for recruitment procedures, sample, data collections guidelines and instruments, deviations from protocol, and any coding of data undertaken will be presented. The metadata will be provided along with the data.

3.2 Making data openly accessible

All data collected in the project will be anonymised by each country/partner collecting the data, and will after cleaning be shared through open access as soon as the data has undergone the cleaning procedures and international quality assurance procedures. The quality assurance process will need internal use of the data between 6-9 months to allow identification of errors in data that have not been discovered through the cleaning process, and that typically are better observed when analysing the data. The data will be made available through an open access data deposition repository. The decision on which open access data deposition repository to use has not yet been made, but some relevant options have been identified.

We are looking into two options for access, either accessible for direct download or with a request for a name and email address to keep track of those interested in the data and that data is not used for commercial purposes. If the latter approach is chosen, we will ensure that storage of person information is undertaken in alignment with the regulations for the General Data Protection Regulation (GDPR).

The qualitative metadata, namely the qualitative coding and the analysis, might be accessed through Atlas.ti in which different data will be organized on different categories, such as data type, locality, participants and other relevant emerging categories. Atlas.ti offers an XML exchange format for future data stewardship and is part of the the QDA-XML Exchange Standard (REFI on <http://www.qdasoftware.org>).

The quantitative data will be made available as SPSS files, but can also be exported as excel files.

3.3 Making data interoperable

In the protocol for the Co-Create project we will identify approaches and variables used in other studies, so that data can be connected across studies. When appropriate, international standard

coding systems will be used (ISO coding), i.e. for country codes and socio-economic codes. The project will aim to connect its data with other projects and make the Co-Create data available for other projects to connect to.

3.4 Increase data re-use (through clarifying licences)

The data will be made available as soon as it has been checked for errors and documented properly. There will be no licences required to access the data.

4. Allocation of resources

The project has included resources for data management as part of its budget. That involves resources to prepare the data for open access as well as to manage the future maintenance of the data. The data management centre is situated at the University of Bergen and will aim to maintain access to the data also after the project period, or make sure to deposit the data to a repository that will maintain access to the data.

5. Data security

The University of Bergen has a strong fire wall security and safety related to storage of data. A copy of all the original data will therefore be kept safe and provide basis for data recovery should the online platform fail.

6. Ethical aspects

Emphasis will be given to secure confidentiality during data collection and anonymity when data are shared. Informed consent is sought from all participants with regard to the data and information collected in the project, including approval to open access sharing of the data.

7. References

[Guidelines on FAIR Data Management in Horizon 2020](#)



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