

12th Meeting of the WHO European Childhood Obesity Surveillance Initiative (COSI) MEETING REPORT

**Bergen, Norway
13-14 June 2019**



ABSTRACT

The WHO European Childhood Obesity Surveillance Initiative (or COSI) is a unique system that for over 10 years has measured trends in overweight and obesity among primary school aged children. COSI involves taking standardized weight and height measurements from over 300 000 children across the WHO European Region every three years. This provides nationally representative data for participating countries, as well as a large Region-wide data set for analysis of the determinants of childhood overweight and obesity.

The 12th COSI meeting took place in Bergen, Norway, on 13-14 June 2019. Thirty-nine Member States were represented at the meeting, which:

- facilitated sharing of country-level experience with COSI
- reviewed the current status of childhood obesity in the Region and discussed forthcoming initiatives and future publications;
- reviewed the results from the fourth round of COSI data collection;
- reviewed and discussed country-level actions to halt childhood obesity; and
- discussed challenges, opportunities and considerations as COSI moves forward.

Address requests about publications of the WHO Regional Office for Europe to:

Publications
WHO Regional Office for Europe
UN City, Marmorvej 51
DK-2100 Copenhagen Ø, Denmark

Alternatively, complete an online request form for documentation, health information, or for permission to quote or translate, on the Regional Office website (<http://www.euro.who.int/pubrequest>).

© World Health Organization, 2019.

All rights reserved. The Regional Office for Europe of the World Health Organization welcomes requests for permission to reproduce or translate its publications, in part or in full.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use. The views expressed by authors, editors, or expert groups do not necessarily represent the decisions or the stated policy of the World Health Organization.

CONTENTS

	<i>Page</i>
Introduction.....	4
Welcome note and opening speeches	4
Update on recent developments and opportunities for collaboration	5
WHO Health Behaviour in School-aged Children — more than 30 years of experience with surveillance and opportunities for collaboration with COSI	5
Update on Round 5 of COSI data collection	7
Update on recent COSI developments	8
Report on results of COSI 2015-2017	10
Forthcoming publications	11
Prevalence of underweight, obesity and obesity in 2015-2017	11
Social inequalities in obesity	12
Socio-economic inequalities in lifestyle behaviours	13
Urban and rural differences in obesity	14
Parental perception of childhood obesity	15
Isotemporal substitution of discretionary activity time and body mass index of children.....	17
Update on forthcoming initiatives and recent reports	18
The STOP protocol for children under the age of five years	18
Update on the CO-CREATE project.....	18
Results of the Childhood Obesity Management Report.....	19
Country reports on actions to halt childhood obesity.....	21
North Macedonia.....	21
Italy.....	21
Norway	22
Georgia	23
Greece	24
Lithuania	25
Micronutrient deficiencies and child rights approach to marketing of food to children.....	26
The General Data Protection Regulation (GDPR) and its implications for COSI.....	28
Implementation of a data protection concept according to GDPR in COSI Bremen.....	29
Discussion of COSI peer-reviewed publications: lessons learned and recommendations for moving forward 31	
Discussion of COSI moving forward	32
Next steps and closure of the meeting	33
Optional writing workshops	34
Annex 1: List of participants.....	35
Annex 2: Publication of Peer-reviewed Papers with COSI: a Draft Guidance Document	43

Introduction

The WHO European Childhood Obesity Surveillance Initiative (COSI) is a unique system that for over 10 years has measured trends in overweight and obesity among primary-school-aged children. COSI involves taking standardized weight and height measurements from over 300 000 children across the WHO European Region every three years. This provides nationally representative data for participating countries, as well as a large Region-wide data set for analysis of the determinants of childhood overweight and obesity. This vital collaboration between the World Health Organization and research institutions from across Europe provides high-quality data that is needed to inform policy and practice in response to the challenge of childhood overweight and obesity.

The 12th COSI meeting took place in Bergen, Norway, on 13-14 June 2019. Thirty-nine Member States were represented at the meeting, which aimed to:

- share country-level experience with COSI (COSI history, current status, and future plans);
- review the current status of childhood obesity in the region, forthcoming initiatives and forthcoming papers;
- review the results from the fourth round of COSI data collection;
- review and discuss country-level actions to halt childhood obesity; and
- discuss challenges, opportunities and considerations as COSI moves forward.

Additionally, optional writing workshops took place to discuss COSI peer-reviewed publications (the process of preparing COSI papers, suggestions of new paper topics) and for participants to collaborate in the process of drafting peer-reviewed papers related to parents' perception of child's body weight, social inequalities in obesity/lifestyle behaviours and urban/rural differences in child obesity.

Welcome note and opening speeches

On behalf of the Norwegian Institute of Public Health, Professor Knut-Inge Klepp welcomed the COSI network to Norway. Norway is pleased to have been a partner in COSI since the beginning and is planning the fifth round data collection in Oslo and Bergen later in 2019. He wished all participants a productive meeting and pleasant stay in Bergen.

Professor Oddrun Samdal welcomed participants on behalf of the University of Bergen. Research and international collaboration are core themes for the university, which creates knowledge clusters to bring together universities, municipalities and other partners to tackle specific topics. It is fitting, therefore, for COSI, which also has collaboration at its core, to meet in this context.

Dr Nathalie Farpour-Lambert offered some opening remarks on behalf of the European Association for the Study of Obesity (EASO). As President of EASO, Dr Farpour-Lambert provided a brief overview of the Association's work. EASO is made up of 34 national member associations and membership is growing. EASO organizes the European Congress on Obesity, provides educational courses for young researchers and health professionals,

coordinates the networking of more than 100 centres for obesity management and contributes to policy development through dialogue with the WHO Regional Office for Europe and the European Commission. EASO has been advocating for recognition of obesity as a disease, and welcomes the inclusion of childhood obesity in the International Classification of Diseases 11th Revision (ICD11).

On behalf of WHO, Dr João Breda welcomed participants and thanked the Norwegian Institute of Public Health for hosting the meeting. Norway continues to show very valued leadership on public health nutrition and its willingness to collaborate is highly appreciated. On behalf of WHO, he thanked EASO for its advocacy and support on the issue of childhood obesity. The annual COSI meeting is an important opportunity for dialogue, which has been an essential element during the Initiative's development and evolution. COSI is the largest childhood obesity initiative in the world — with 44 Member States now involved — and participating countries can be proud of COSI's contribution to data and scientific understanding, as well as how it continues to inform policy development, and can look forward to future success.

The introductory session concluded with a round of introductions, with participants providing a brief summary of the history of COSI in their country, its current status and future plans.

Update on recent developments and opportunities for collaboration

The first session focused on an update of the latest COSI developments and explored opportunities for collaboration between COSI and the WHO Health Behaviour in School-aged Children survey.

WHO Health Behaviour in School-aged Children — more than 30 years of experience with surveillance and opportunities for collaboration with COSI

Professor Oddrun Samdal, University of Bergen and international data manager for the Health Behaviour in School-aged Children (HBSC) study, provided an overview of the study and explored some issues concerning potential for collaboration with COSI.

The HBSC study is an international study conducted in collaboration with the WHO Regional Office for Europe. It was established because of a perceived need for comparative data on adolescent health in order to understand determinants of health and patterns of health and behaviour and to inform policy and practice for health improvement.

The HBSC study conducts surveys every fourth year in nationally representative samples of 11, 13 and 15-year-old students. Since 1983, 10 main surveys have been conducted. Currently, 48 countries from the European Region and North America participate, with the involvement of around 450 researchers.

Operationally, HBSC is organised on democratic principles with agreed terms of reference. National teams are responsible for work at the country level to obtain funding, conduct the survey according to study protocol and disseminate national study findings. In addition, they are charged with working collaboratively to develop the international study including

methodological improvement, scientific development and informing policy and practice. The study cycle runs over 4 years with overlapping key stages. A round of data collection had recently finished and the next report is due to be launched in March 2020. Each country sends their data file to the University of Bergen for further work and to prepare the data for open access.

The indicators of child wellbeing included in the study have been selected by a scientific process working within the broad conceptual framework of the study. To develop the indicators scientific focus groups have worked in two broad areas:

- social determinants (Socioeconomic indicators; Indicators of family structure and relationships; Indicators of school environment and relationships; Indicators of peer relationships; Indicators of local area/ social capital)
- health and wellbeing and health/risk behaviours (Positive health including self-reported health, life satisfaction, mental well-being, body image, etc; Risk behaviours including tobacco, alcohol and drug use, sexual behaviour, violence; Health behaviours including eating habits, physical activity, etc).

There are many dimensions of well-being in this age group and young people's feelings about their health and about their lives can be expressed in their behaviour and lifestyles, and are quantified by their life circumstances. Data on the following health-related behaviours is collected by HBSC:

- tobacco, alcohol and cannabis use,
- physical activity,
- consumption of food and drinks,
- toothbrushing,
- weight control behaviour,
- fighting and bullying,
- sexual behaviour,
- TV and computer use,
- electronic communication.

Health and well-being are measured with indicators covering self-rated health, life satisfaction, health complaints, body image, Body Mass Index (BMI) and injuries. HBSC also covers some aspects of the social context of adolescents' lives, including school, peer relations, family life and socioeconomic circumstances. The study explores inequalities in adolescent well-being, related to gender, age, socioeconomic status and geography, and has published reports on this issue.¹

In relation to potential collaboration with COSI, it is of note that the two initiatives concern complementary age groups. There could be value in sharing one another's questionnaires to compare indicators. It could be interesting to validate or supplement some of HBSC's self-report measures through collaboration with COSI. One suggestion would be the inclusion in

¹ HBSC. Growing up unequal: gender and socioeconomic differences in young people's health and well-being. Copenhagen: WHO; 2016. http://www.euro.who.int/_data/assets/pdf_file/0003/303438/HSBC-No.7-Growing-up-unequal-Full-Report.pdf

COSI of 11-year-old children for weight and height measurement, because self-reporting is less reliable among 11-year-olds than older children. Another interesting possibility for HBSC would be to collect data on the nutrition questions for the parents of older children. A further suggestion for collaboration would be to work together to amplify the policy impact of data collected. By working together there is an opportunity to deliver more powerful messages covering a broader age range of children and adolescents.

Discussion

Exploration of potential alignment and collaboration between COSI and HBSC was welcomed. There was particular support for the concept of collaboration to strengthen advocacy for effective policy. Collaboration could also be important to avoid difficulties created by timetable clashes, whereby authorities and schools are asked to do COSI and HBSC studies in the same year.

There was some discussion of the potential challenge of sharing data between the two studies, within the current data protection regulatory framework, was raised. Clearly, all country teams have to comply with study protocols and national laws, while respecting the terms of parental consent that has been given, and these constraints need to be taken into consideration.

Update on Round 5 of COSI data collection

Dr Julianne Williams, WHO European Office for the Prevention and Control of Noncommunicable Diseases, presented an overview of progress towards Round 5 of COSI data collection and summarized key findings from a status update survey conducted in May 2019.

Nine countries have completed Round 5 data collection, while 14 countries are currently collecting data and 10 countries have yet to start. Twenty-one countries have completed training for Round 5 and in one country training is ongoing, while six countries have not yet decided whether they will conduct training or not and four countries have decided not to conduct training (usually because the study is linked with existing methods/programmes).

The average number of schools involved in Round 5 data collection, for those that had completed data collection by May 2019, was 245, with a wide range from 54 to 2 492. The number of children from those countries providing estimates ranged from 300 to around 54 000. There was also wide variation in the number of examiners involved, ranging from 12 to around 1 500. Most commonly, these examiners were comprised of a mixture of health professionals (in 20 countries).

Participating students were most commonly in Grade 1 (12 countries) or Grade 2 (11 countries), but there were seven countries with students in Grade 3, four with Grade 4 and two with children from all grades. Twelve countries reported collecting data from multiple grades.

So far, 24 countries are using the COSI family form and, of these, 5 have decided to use the Lime survey version of the family form. Of 31 countries responding, 14 are using Open

Clinica for data entry, while 15 have decided not to use Open Clinica and two remain undecided.

In relation to the type of consent sought for data collection, 19 countries sought active consent, whereby parents are informed and are required to give their agreement for their child to be able to participate. Eight countries were using passive consent, whereby parents are informed and may request for their child not to participate.

Several countries had expanded the questionnaires by adding extra questions:

- five countries reported adding additional questions to the child form (transport to school, breakfast, mid-morning snack and screen use);
- eleven countries had added extra questions to the family form (school meals, parental perception of child's food intake and physical activity, family nutrition habits [salt], mid-morning snacks, frequency of moderate-to-vigorous physical activity, oral hygiene, child birth by caesarean section, parental marital status); and
- seven countries were adding additional questions to the school form (additional physical activity programmes, school access to a gym, usage of cyclical learning for physical education, availability of additional foods/beverages in school and healthy lifestyle initiatives).

Looking to the future, a number of areas for potential improvement were suggested by survey respondents. These include addressing the General Data Protection Regulation (GDPR) requirements for EU countries in relation to parental consent and anonymization of data. In addition, there was a request for more frequent communication about changes in the protocol and earlier sharing of preliminary results/calculations with the Principal Investigators (PIs).

Discussion

There was discussion of the deadline date for Round 5 data to be sent to WHO. To comply with the previously agreed timeline, data collection should be completed by the end of 2019. However, slight flexibility might be possible to be able to incorporate as many countries as possible.

Update on recent COSI developments

Dr João Breda presented a brief overview of COSI progress and an update on some recent developments.

In 2006, at the time of the European Ministerial Conference on Counteracting Obesity in Istanbul, only around 25% of European Member States had national prevalence data on obesity. In addition, measurement tools, calculation and presentation of obesity/overweight data were not standardized.

Since then, child health and development have been firmly incorporated into the global development agenda, and the Sustainable Development Goals (SDGs). Countries are now under pressure to deliver clear results in a reasonable period of time. Access to reliable data is an important element.

To recap, the initial purpose of COSI was to measure trends in children aged between 6 and 9 years, to standardize measurements, to stimulate action and track progress and to share experiences. COSI has delivered on these aims, with the development of detailed, harmonized protocols, and is now a well standardized international study. The progress over time is impressive, with 45 Member States now involved and at least 37 countries collecting data for Round 5. The fourth round of data collection gathered data on more than 300 000 children.

In recent years there has been a push to effectively disseminate COSI data in simple ways. Publication of a factsheet summarizing highlights and preliminary data from Round 4 data collection (2015-2017) was relatively successful. Since 2009, 68 scientific papers and technical reports, including national-level publications, have been published. This is a considerable achievement. It is important now to expand the publication of international papers. Publication of two papers at the European Congress on Obesity, along with accompanying factsheets, was extremely successful:

- *Breastfeeding and obesity* — the paper using COSI data to demonstrate the protective effect of breastfeeding against obesity was very widely reported and will have a major impact.²
- *Prevalence of severe obesity* — COSI data from 21 European countries highlighted that severe obesity affects almost 400 000 children in the participating countries and that prevalence was over 5% in more than half of the countries.³ This is a very valuable contribution.

These are excellent examples of achievements by COSI and everyone participating in the Initiative is to be congratulated on the progress realised.

Discussion

There was discussion about the tension which exists between efforts to disseminate the data as widely as possible and the degree of flexibility with cut-off dates for data collection. It is important to recognize that extensions to the deadline for data collection delay data dissemination.

When disseminating the data, it was suggested that more emphasis should be put on the fact that the height and weight data are measured, rather than self-reported. It was also noted that it is important to examine the data to highlight inequalities (e.g., socioeconomic, rural/urban), this is particularly important for countries where prevalence is not as high as in many other countries.

It was suggested that a media conference should be organized once data of each round is available, after which point Member States should be able to conduct national media conferences. It was also suggested that when scientific papers are published countries should

² Rito AI et al. (2019). Association between characteristics at birth, breastfeeding and obesity in 22 countries: the WHO European Childhood Obesity Surveillance Initiative — COSI 2015/17. Obesity Facts. DOI: 10.1159/000500425.

³ Spinelli A et al (2019) Prevalence of severe obesity among primary school children in 21 European countries. Obesity Facts. DOI: 10.1159/000500436.

be provided in advance with the English version of the press release for translation and dissemination. It was recognized that decisions on the timing of national media communication needs to consider specific aspects of the country context (e.g., periods of substantial political change, elections). It was agreed that it may be possible to learn from the HBSC model of consolidated, coordinated launch of reports.

Several Member State representatives reported that publication of COSI data has attracted the attention of policy-makers and has had some policy impact. There was a strong suggestion that there needs to be much more use of the data to drive further policy change, at both the international and national levels. One suggestion was for a policy conference to bring policy-makers together to raise awareness of the data and ensure that it is used to drive policy action. There was confirmation that EASO is happy to collaborate with WHO and COSI members to support dissemination activities, through the Congress and social media. It would be useful for countries to have access to a searchable database with examples of legislative approaches to tackle childhood obesity, and it was confirmed that this does exist globally for NCD-related policies⁴ and there is a Global Database on the Implementation of Nutrition Actions (GINA⁵) and the existing version of this database for Europe will be revitalized in coming months and there may be ways to particularly showcase obesity-related policies.

Report on results of COSI 2015-2017

Dr Angela Spinelli, National Institute of Health, Italy, and Dr Marta Buoncristiano, WHO Europe consultant, presented an update on preparation of the report on the fourth round of COSI data (2015-2017).

The 2015-2017 data collection report will be bigger than the one on the 2012-2013 (Round 3) data collection because it will contain data from 36 countries.

In the 2012-13 report some indicators are grouped together and shown on the same figure. By comparison, reports on HBSC data show all indicators separately. Due to the larger number of countries for the 2015-17 report, it is proposed to show the indicators separately. For each indicator there would be one or more maps and one or more bar charts. The bar charts could be horizontal or vertical. It is proposed to add tables to the appendices, to show the entire distribution of data.

Participants were asked to give their feedback on the proposed presentation of the data. In addition, the specific questions of whether countries should be shown in alphabetical order or by prevalence.

Discussion

There were a number of suggestions for the data presentation:

⁴ <https://extranet.who.int/ncdccs/documents/db>

⁵ <https://www.who.int/nutrition/gina/en/>

- Terminology between COSI and HBSC should be harmonized where possible (e.g., ‘every day’ or ‘daily’)
- One option is to show the data ranked from high to low (i.e., to show countries in this order)
- Where possible, the average or median could be shown on the chart

There was discussion of the option to place all the data relating to socioeconomic differences into a separate, specific chapter. The counter-argument to that suggestion is that data on socioeconomic inequalities are so fundamentally important that they need to remain part of the overall picture by integrating them into the main results.

It was agreed that participants would be contacted by email and invited to give feedback on the proposed presentation of the indicators.

Forthcoming publications

A number of forthcoming or proposed publications were presented for discussion.

Prevalence of underweight, obesity and obesity in 2015-2017

Dr Angela Spinelli presented an overview of a proposed paper on thinness, overweight and obesity in 6-9-year-old children from 35 countries in COSI 2015-17.

The methods for preparing the paper include classification of child weight status based on 2007 WHO recommended growth reference for school-aged children and adolescents. All analyses included only children belonging to one target age group for each country. Prevalence estimates among children belonging to different age groups were compared for those countries that targeted more than one group. Post-stratification weights to adjust for the sampling design, oversampling and non-response were used in all analyses. In the pooled analysis an adjusting factor was applied to the post-stratification weights to take into consideration the differences in the population size of the countries involved. Countries were grouped into four sub-regions (macro-regions) within the European Region.

It is proposed to present tables with median weight-for-age Z-scores, BMI for age Z-scores by sub-region and country and box plots of weight-for-age Z-scores, height-for-age Z-scores, BMI for age Z-scores for 7-9-year-old boys and girls by sub-region. Other proposed tables include prevalence values and confidence intervals of thinness, overweight, obesity and severe obesity (according to WHO definition) among 7-9-year-old boys and girls by sub-region and country and prevalence values and confidence intervals of overweight and obesity (according to WHO definition) by age, sex and country. Options for supplementary tables could include prevalence values for overweight and obesity according to IOTF definition and prevalence of stunting and underweight by sub-region and country.

Two different graphic options for display of prevalence data were presented, and participants were asked to provide feedback on these options and to indicate their preferences.

This paper is not intended to cover trends because these will be covered in another article.

Discussion

There was clarification that data grouped together by sub-region are adjusted according to population size of the Member States.

There was considerable discussion of the division into sub-regional groupings. Although the grouping is largely based on a UN classification, this is not a usual practice for WHO Europe, country groupings are a very sensitive issue and some PIs were resistant to this approach and to the proposed groups. For this to happen, therefore, all country teams would need to get specific political clearance from their Ministry of Health.

Other suggestions for the paper included:

- including the country data on thinness in all papers since this can be an important issue, particularly for teenage girls;
- including more information on stunting, particularly for countries where stunting in children under five is known to be a problem;
- inclusion of maps with shading to help with interpretation (darker shading for higher prevalence).

Social inequalities in obesity

Dr Marta Buoncristiano presented a proposal for paper on socio-economic inequalities in obesity among school-aged children.

The idea is to explore any association between family socio-economic status (SES) and child obesity. The family form includes three variables relating to family SES: parental education; parental employment status; and family perceived wealth (how a family meets the end of the month with its own earnings). Using these variables, a SES score was created, ranging from 0 to 6, with a higher score indicating higher SES. In relation to children's nutrition status BMI-for-age Z-scores, using WHO cut-offs, were computed to estimate prevalence of overweight/obesity. In total, 17 countries had available data on SES score and a further 5 countries had data available for some characteristics only. Various ways of presenting the results were shown, including:

- a chart showing prevalence of obesity by SES score categories (dividing the 6-point SES score into three categories: low, medium, high), by country;
- a forest plot of adjusted odds ratios of being obese compared to not being obese for one unit increase in SES score, by country;
- a forest plot of adjusted odds ratio of being obese compared to not being obese for high versus low educational attainment;
- a forest plot of adjusted odds ratio of being obese compared to not being obese for family perceived wealth (meeting the end of the month with family's earnings easily versus with troubles).

The results suggest that the association differs between Member States, with similar patterns for different variables. In other words, in some countries low SES is associated with a higher risk of obesity, while in other countries high SES is associated with a higher risk.

Participants were asked to reflect on the following questions:

- Should measurement of families' SES be based on an SES score, single characteristics or both?
- Does it make sense to estimate associations by pooling country data? If so, how should country data be pooled? Should an international classification based on the level of economic development or an inequality index be used?
- Should the association between family's SES and pre-obesity (or overweight) be investigated?
- Should the association between family's SES and BMI be investigated?

Discussion

It was noted that is interesting to see COSI data capturing the nutrition transition in this way (which changes the relationship between SES and obesity). It is clear that this is very rich set of data for academic exploration. Examination of the data in this way is highly relevant for policy-making and for identification of the most appropriate policy options for each country.

It was suggested that it does not make much sense to pool the estimates, and it is preferable to consider country-level data.

It was suggested that it may be necessary to look at the applicability of parental education as an indicator for countries in the Eastern part of the European Region.

It was also suggested to explore inclusion of questions on sources of parent and/or child information on nutrition and to investigate the association between SES, obesity and dietary behaviours, in order to inform the policy response.

Socio-economic inequalities in lifestyle behaviours

Professor Sanja Musić Milanović, Croatian Institute of Public Health, presented a proposal for a paper on socio-economic inequalities in lifestyle behaviours.

In 2015-2017 the fourth round of COSI took place in 35 countries of the WHO European region. Among these countries, 17 collected information on lifestyle behaviours and family socio-economic characteristics through the COSI family form and have been included in the paper.⁶ Data collected in Moscow were excluded because of the high level of missing data on socio-economic characteristics of parents. Italy and San Marino were excluded because they collected information only on fresh fruit and vegetables consumption.

The purpose of the paper is to assess socio-socioeconomic inequalities in certain lifestyle behaviours in 6-9-year-old schoolchildren. The paper will include behaviour items that are closely linked to the energy imbalance that results in overweight and obesity:

⁶ Albania, Bulgaria, Croatia, Czechia, Denmark, Georgia, Kazakhstan, Kyrgyzstan, Lithuania, Latvia, Montenegro, Poland, Portugal, Romania, Spain, Tajikistan and Turkey.

- six items are related to eating habits,
- three to physical activity,
- one to sedentariness and
- one to sleep duration.

The included family SES variables are parental education, parental employment status and family perceived wealth.

It is proposed to display the results on prevalence of risk behaviours according to SES, with a bar chart for variables relating to sleep habits and one for variables relating to physical activity/inactivity. The figures feature a bar showing the level for all children, with two dots showing prevalence for those with low SES score and those with high SES score. The preliminary results suggest higher SES is protective for all eating habits, except eating snacks, and is also protective for recommended levels of practising sports, active play and screen time. It is a risk factor for inactive transportation to and from school.

Participants were asked to consider how countries should be grouped together. Namely, whether there should be geographical grouping (e.g., north-south gradient or according to cultural and traditional differences) or some other characteristic should be used (e.g, above or below certain level on development index, GDP, level of urbanization)?

Another question for consideration relates to terminology. It was proposed to use “unhealthy behaviours” rather than “less healthy behaviours” or “risk behaviours”.

Finally, there is a need to consider whether an overall health risk score should be devised. This would be based on calculation of separate physical activity and eating risk scores then a combination of these to create an overall health risk score.

Discussion

There was discussion of the difficulties posed by the arbitrary nature of risk scores and the need to define cut-offs very carefully. It was noted that there is no reference for any weighting of particular behaviours, so the scores are calculated crudely on the basis of the number of behaviours. This all points to the importance of also showing data for the single behaviours when scores are shown.

It was suggested that the term “energy-related behaviours” is preferable to “lifestyle behaviours”, which can be considered to be too judgemental.

There was discussion about whether it is appropriate to include transport-related variables in the score relating to physical activity. Once again, it is important to also show the data for individual variables.

Urban and rural differences in obesity

Dr Giulia Rathmes, WHO temporary adviser, presented a proposal for a paper on urban and rural differences in overweight and obesity.

The background to the paper is that it is not clear if there is an association between urbanization and obesity in the WHO European Region. The paper, therefore, sets out to explore if such an association exists and, if so, the direction of the relationship.

The paper will examine COSI Round 4 data, using data from 28 countries which collected data on children aged between 6 and 9 years, which measured the height and weight of children and had complete information on sex and urbanization grade of the place of residence or of school.

Variables examined include children's nutritional status (underweight, normal, overweight and obesity by BMI-for-age), urbanization as defined by the PI for the child's place of residence (or, as a proxy, the location of the school).

Preliminary results of an analysis conducted on data from over 200 000 children suggest that in most countries (with a few exceptions) more children live in urban environments. In six countries the odds of being overweight or obese are higher in urban living environments, in two countries the odds of being obese are higher in urban areas and in all other countries there is no statistically significant relationship between urbanization and adiposity risk. Some maps were proposed showing the odds ratio of being overweight/obese in urban living conditions compared to rural living, adjusted for sex and age.

The results suggest that there might be a possible West-East gradient. There is, however, no consensus on how to measure urbanization at the country level or internationally. It could be that the type of urban growth and not urbanization per se may influence the association.

Discussion

There was considerable discussion of the difficulties posed by the fact that participating countries have defined urban and rural in different ways. This is compounded by the trend for the distinctions between urban and rural to become less clear. At the same time, country-specific judgements on what constitutes rural and what is urban are important.

In the future it was suggested that further efforts would be needed to try and identify a common definition of rural and urban, If this is not possible, then use of data will have to be very country-specific. It was suggested that future surveys could include geo-coding of the child's place of residence. This would enable various variables to be applied post-hoc to data, particularly for environmental factors.

There was clarification that any maps included in final publications will be official UN maps.

Parental perception of childhood obesity

Dr Ximena Ramos Salas, EASO, Sweden, presented a proposal for a paper on parents' perception of their children's weight status in 20 COSI countries.

The objectives of the paper are:

- to assess how parents perceive their children's weight status;

- to investigate parents' misperception—if any—by measuring the extent of the misperception and by looking at factors that could be associated with misperceptions, such as a child's age/sex and family SES;
- to determine if parents who live in countries with higher prevalence of obesity are more or less likely to have misperceptions about their children's weight status.

Data were included for children aged 6-9 years with available data on adjusted weight, height, sex and age, and whose parents had completed the family record form and answered the question on perception of their child's weight. The total sample included over 108 000 children.

The percentages of accurate, overestimating or underestimating perception were estimated and adjusted odds ratios and 95% confidence intervals of having incorrectly classified children's weight were estimated.

The pooled estimates suggest that 62% of the parents of children who are overweight and 35% of parents of children with obesity underestimate their child's weight status. Girls' weight status was better identified than boys' weight status. These preliminary results are in line with those from other studies.

There is a lot of variability between countries and there are many possible reasons for the poor level of concordance between perception and independent assessment, and it is important to take care when framing the results. There is a clear gender bias, with parents more likely to underestimate the weight status of boys. It also appears that parents with children who are obese are more likely to accurately estimate their weight status than those whose children are overweight.

Discussion

As a general point it was suggested that person-first language be used throughout COSI documents and papers (e.g., "people with obesity" rather than "obese people" or "the obese").

It was suggested that it would be very interesting to track these data over time and observe whether there are changes in the level of awareness. It was also noted that the literature suggests that parents who are overweight or obese are also more likely to underestimate their children's weight status. It was noted that the results may be influenced by parents trying to protect their children from the answers to the question, but given the extent of underestimation, the effect is likely to be real.

In relation to the gender difference, it would be interesting to compare the results using WHO cut-offs and IOTF cut-offs.

There was discussion of whether obesity is classified as a disease by WHO, because there are important economic consequences of such a classification. There was clarification that childhood obesity has now been included in ICD11, and that this presents an opening that may help with classification of adult obesity as a disease in the future.

There appeared to be general agreement that this issue needs to be handled sensitively and that efforts are required to ensure that the paper does not place too much emphasis on parental responsibility, nor does it amplify the stigma associated with this sensitive issue.

Isotemporal substitution of discretionary activity time and body mass index of children

Dr Eric Feigl-Ding, Harvard Chan School of Public Health, United States, introduced the issue of isotemporal substitution and the implications for prioritization of the finite amount of children's daily time.

Traditional analyses of physical activity are flawed because they fail to consider that the number of hours in a day is finite. For a fixed amount of time engaged in an activity, that activity choice may have different effects on body weight depending partly on the other activities displaced.

The benefits of different activities depend on the activity they displace. For example, walking yields weight loss if compared to 1 hour of television watching, but less weight loss if compared to running. The isotemporal substitution paradigm for physical activity epidemiology has been developed in the literature, with a model for adjusting total activity to take into account the activity being substituted.^{7,8}

An isotemporal substitution analysis of European children's activity time and body mass index has been conducted to examine how different kinds of activity are associated with BMI-for-age Z-scores. It also set out to examine how the different activities compare in relative effects when substituted for one another and how children's activity time should be prioritized.

An isotemporal analysis of data from the third and fourth rounds of COSI data collection. COSI includes different types of activity time: sleeping; electronics activity; outdoor playing activity; sports club activity; and reading.

The implications for COSI are that collecting data on time spent on activity is very critical and that standardization of COSI questions is essential (with minimal customization of survey questions). It is also important that, if activity time is collected, it is collected on all types of activities, not just on a sub-set of activities.

It was proposed that the study would be developed into a more detailed academic paper.

Discussion

⁷ Mekary RA, Willett WC, Hu FB, Ding EL. Isotemporal substitution paradigm for physical activity epidemiology and weight change. *American Journal of Epidemiology*. 2009. 170(4);519-527.

⁸ Grgic J, Dumuid D, Bengoechea EG, Shrestha N, Bauman A, Olds T, Pedisic Z. Health outcomes associated with reallocations of time between sleep, sedentary behaviour, and physical activity: a systematic scoping review of isotemporal substitution studies. *International Journal of Behavioural Nutrition and Physical Activity*. 2018; 15:69.

There was some discussion of the risks of focusing too much on sleep as a recommendation versus physical activity, when the recommendations for overall health and reducing premature mortality emphasize daily physical activity.

It was noted that the study describes a very sophisticated analysis that has been applied to relatively crude measurement of proxy-reported variables.

Update on forthcoming initiatives and recent reports

Updates on several ongoing or recently-completed projects were presented.

The STOP protocol for children under the age of five years

Dr João Breda presented a brief update on the Science and Technology in childhood Obesity Policy (STOP) pilot project to tackle childhood obesity.⁹

The STOP protocol is a large Horizon 2020-funded project, in which WHO is responsible for a work package relating to data on overweight among children under five in 13 Member States. This is a small initiative to examine the methods and will not involve data collection on the same scale as COSI. Member States that are interested in participating should contact WHO.

Finland is leading one of the monitoring tasks for STOP, relating to the harmonization of SES indicators relating to childhood obesity (in partnership with Imperial College London). As a result, the researchers may contact some COSI country teams for information relating to SES indicators related to obesity, and would be very willing to work collaboratively with other partners.

Update on the CO-CREATE project

Professor Knut-Inge Klepp provided an update on the Co-creating policy with youth (CO-CREATE) study¹⁰, coordinated by the Norwegian Institute of Public Health.

The main project objectives are:

- to develop methodology for monitoring and benchmarking relevant policies; investigate changes in overweight, obesity rates and related behaviors across countries over time; study such changes in relation to relevant European and national policies;
- to collaborate with adolescents aged 13-18 in the Netherlands, Norway, Poland, Portugal and the United Kingdom in developing novel policy options that will contribute to upstream overweight prevention and reducing inequalities in overweight and obesity.

⁹ www.stopchildobesity.eu

¹⁰ www.co-create.eu

The key aspects of the project include a policy focus, a systems perspective, youth involvement, open access, dialogue forums and modelling of potential effects. To monitor policies, there is a partnership with the World Cancer Research Fund (WCRF), which publishes policy action in its NOURISHING policy framework.¹¹ The project will build on that framework to create a similar framework for physical activity-related policies: the MOVING framework, which will be launched later in 2019.

The project is exploring use of existing pan-European data (HBSC and COSI) and investigating variation across Europe. In addition, it will monitor and benchmark policies that influence energy-balance-related behaviour and develop monitoring tools for physical activity-related policies. It is envisaged that civil society organisations, such as WCRF, will take ownership of the tools and ensure their use in the long-term. It will also establish the state of the art on effective policy measures to prevent adolescent obesity and investigate prevalence and energy-balance-related behaviours across countries, time and the social gradient. Workshops are being held in a small number of countries to engage young people in the CO-CREATE process to conduct a system analysis and inform the policy agenda. It is already clear that a key theme that is emerging via youth engagement is the importance of mental health.

The project consortium is comprised of 14 partners from 10 countries across the world, plus the WHO Regional Office for Europe. It started on 1 May 2018 and will run for 5 years.

Discussion

The importance of COSI data for this project was acknowledged.

It was pointed out that global civil society partners were involved in the project (World Obesity, World Cancer Research Fund) and suggested that European-level partners might have been more appropriate (e.g., EASO).

Results of the Childhood Obesity Management Report

Dr Viktoria Anna Kovacs, National Institute of Pharmacy and Nutrition, Hungary, summarized a report of a study to map the health system response to childhood obesity in the WHO European Region.¹²

The study was conducted between February 2018 and April 2019 and the report has now been published. A literature review and protocol development were followed by a questionnaire-based survey in 15 countries.¹³ There were semi-structured interviews with

¹¹ <https://www.wcrf.org/int/policy/nourishing-database>

¹² *Mapping the health system response to childhood obesity in the WHO European Region: An overview and country perspectives.* Copenhagen: WHO; 2019. <http://www.euro.who.int/en/health-topics/disease-prevention/nutrition/publications/2019/mapping-the-health-system-response-to-childhood-obesity-in-the-who-european-region.-an-overview-and-country-perspectives-2019>

¹³ Armenia, Austria, Denmark, Estonia, Germany, Israel, Latvia, Malta, Netherlands, North Macedonia, Norway, Romania, San Marino, Serbia, Slovakia

stakeholders in four countries.¹⁴ Inspiring practices were collected via the country representatives and relevant literature.

The study focused on procedures rather than the content of treatment programmes. The questionnaire included questions on professionals involved, clinical pathways, settings for childhood obesity management, health system entry points, provision for long-term care and follow-up, funding arrangements, how systems address inequalities and the specific needs of groups with low SES, perceptions of system functioning, challenges identified and promising initiatives and practices in childhood obesity management.

There were lots of similarities in the main challenges identified, despite the different contexts. These can be summarized as follows:

- Recognition: childhood obesity is not always considered and treated as a chronic disease in practice, particularly in primary care.
- Governance: lack of an integrated strategy for both prevention and care. There is still more focus on prevention than management and care.
- Organization of care: weak vertical and horizontal integration of care providers; lack of clear referrals and care pathways; lack of guidelines (even at EU level).
- Ensure equal access to services and the capacity to adequately respond to the different social and cultural needs.
- Primary care: lack of multidisciplinary care teams.
- Specialized care: heterogeneity of service provision; equal access to care.

The Swiss childhood obesity management programme was presented as a case study, which demonstrates the necessary steps for establishment of a well-functioning system from scratch.

Countries wishing to start doing further work on this area are advised to begin with a situation appraisal. This should cover the institutional, policy and programme context, existing guidelines, the various actors in primary care (school health services, primary care physicians, community care) and in specialized care, integration of services, education and training, and service coverage and financing. The questionnaire used for the study is available for country teams that would like to use it to assess the national situation.

Such situation analyses enable identification of gaps in the systems and then take steps to introduce or improve provision. Actions to consider include strengthening governance, setting up a network of service providers, develop and/or regularly updating guidelines, improving education, establishing multidisciplinary primary health care services, consider increasing the role of school-based services and ensuring proper financing.

Discussion

Dr Kovacs was congratulated on the work and participating teams had learned a lot through the completion of the questionnaire.

There was clarification that the report is available online¹²¹² and that preparation of a shorter version is planned.

¹⁴ England, Italy, Hungary, Sweden

Country reports on actions to halt childhood obesity

A number of countries presented the latest news on their efforts to tackle childhood obesity.

North Macedonia

Dr Igor Spiroski, Institute of Public Health of the Republic of North Macedonia, outlined recent actions to halt childhood obesity in North Macedonia.

The driving force for this action has been the COSI data showing that prevalence of childhood obesity in North Macedonia is one of the highest in Europe. A new project was initiated after COSI results were presented to the Ministry of Education and, later, to the Ministry of Labor and Social Policy, the Ministry of Health and an NGO coordinating EU projects on iodine in North Macedonia.

This new project concerns healthier meals in primary schools, in collaboration with an existing UNICEF project on iodine status assessment among primary school children. Data was gathered for current daily meals from 64 schools and 60 kindergartens across the country. The food composition of the meals was analysed for macro and micronutrients and compared with the National Dietary Guidelines and existing regulations. This is an important issue because food eaten at schools constitutes 70% of children's daily intake and food consumed in kindergartens represents 75% of daily intake for young children.

The general conclusion of the study is that meals are not completely following the regulations on standards for meals in either kindergartens or primary schools. In kindergartens, meals tended to be high in sugars and sodium but low in calcium, folate and vitamin D. In primary schools, meals were high in sugars and sodium but low in calcium and vitamin D. The iodine content was adequate in both settings.

Results were presented to a conference of stakeholders, including government Ministers. There was good media coverage of the event. As a result, new rules and nutrition standards have been developed for food in primary schools, as well as guidance for implementation. A simplified food composition database has been supplied to school kitchens to aid implementation. The Ministry of Education has now announced a new law on primary education and, for the first time, nutrition will feature as part of that law.

Italy

Dr Angela Spinelli presented an overview of the journey from COSI to current actions in Italy to halt childhood obesity.

The Italian surveillance system (*OKkio alla SALUTE*), financed by the Italian Ministry of Health and coordinated by the National Institute of Health, has collected data in all COSI rounds. In the period 2016-2019, several public events were organized and media articles published to increase awareness of obesity and to stress the importance of healthy lifestyle. Numerous interventions promoting healthy lifestyles, such as increasing physical activity and improving eating habits in schools, have also been implemented at national, regional and local levels.

These include:

- A report on *Movement, sport and health: the importance of policies for the promotion of physical activity and impact on the community* published by the National Institute of Health;
- A national, multi-disciplinary ministerial working group on physical activity, established by the Ministry of Health in 2017 to promote physical activity and to counter sedentary habits, has produced national recommendations;
- National recommendations on physical activity for different age groups were published in 2017;
- A national ministerial working group on prevention of obesity, particularly in children, was established in June 2019 by the Ministry of Health to identify the best strategies to prevent obesity;
- The National Institute of Health has established a system to monitor breastfeeding using vaccination centres. In collaboration with Unicef, it has also organized several courses for health personnel to increase breastfeeding.

Dr Marta Buoncristiano described a project that the Ministry of Health promoted and funded, at the end of 2018, on peer education as a tool for reaching and involving families and schools in promoting healthy lifestyles for children. This has four main areas:

- social media and web listening analysis: to provide an insight into how childhood obesity is addressed on the web and social media (and measure the amount of web content that is generated on this topic and identify main sources and themes);
- health promotion interventions: to implement health promotion interventions relating to nutrition, physical activity and sedentary lifestyles and based on active parental participation and identification of peer educator parents;
- evaluation: to provide a qualitative evaluation of these interventions through focus groups and to provide a quantitative evaluation;
- training and dissemination of results: to implement training for health professionals about nutrition, physical activity, sedentary lifestyle, peer education and advice on the use of web sources.

Norway

Dr Else Karin Grøholt, Norwegian Institute of Public Health, gave an update on recent developments in Norway.

The *Public Health Act* of 2012 applies to municipalities, county authorities and central government authorities. It aims to facilitate long-term, systematic public health work and to contribute to societal development that promotes public health and reduces social inequalities in health.

Every four years a new white paper (national policy) on public health is published. The most recent one, published in April 2019, has a focus on early interventions in childhood and adolescence, the prevention of loneliness and reducing social inequalities in health.

The *Norwegian National Action Plan for a Healthier Diet (2017 – 2021)* was published in 2015 and covers five main areas: meal enjoyment and a tasty, healthier diet; healthy and easy choices; communication and knowledge; food, meals and nutrition in health and care services; and research, development and innovation.

Other relevant measures include:

- the Nordic keyhole is a voluntary label for foods, based on the *Nordic Nutrition Recommendations*, and this remains an important tool for developing new and healthier products;
- the Food and Drink Industry Professional Practices Committee (MFU) to monitor and ensure compliance with the industry ban on marketing certain types of food and drink to children under 13 years of age;
- guidelines for food and meals in kindergartens and schools;
- guidelines for regular measuring of height and weight in school health services;
- taxes on sugar, chocolate and sugar products and non-alcoholic beverages.

Knowledge about obesity, physical activity and dietary habits has been enhanced through a number of studies and surveys (child growth study; UngKan surveys of physical activity among children; UngKost surveys on dietary habits among children; HBSC study; data from the school health service and other data sources). The prevalence of overweight and obesity among children appears to be quite stable, but continues to increase among adults. The proportion of children meeting the recommended physical activity guidelines decreases as children get older. In general, Norway is making progress towards the global NCD goals, except in relation to stopping the increase in prevalence of obesity and diabetes, where the trend continues to be in the wrong direction.

According to the *Public Health Act*, each municipality shall have sufficient overview of the population's health and the positive and negative factors that may influence this. The National Institute for Public Health publishes health profiles for the cities/municipalities with 34 indicators as a snapshot of health and determinants and with traffic light colour coding for progress. Municipalities can use these reports to plan public health measures.

Looking to the future, an action plan for physical activity will be launched in 2019. It will be important to monitor trends over time, and to improve data sources in order to be able to do so. In addition, there is a need for more research on the impact of health promoting interventions.

Georgia

Dr Lela Shengelia, National Centre for Disease Control and Public Health, provided a summary of policy and actions to address child obesity in Georgia.

COSI has been particularly important for Georgia because the country had no relevant information about childhood obesity at the country level and no capacity to collect population data. Georgia participated, therefore, in the fourth round of COSI data collection in 2017. The target was children aged 7 years and, in total, 242 schools were involved and 4 148 children participated. The study found that 25.7% of boys and 22.6% of girls were overweight and

9.9% of boys and 7.2% of girls were obese. In addition, important data on underweight and stunting were obtained, with 1.9% of boys and 1.5% of girls underweight and 2.9% of children stunted.

When shown the COSI data, the Ministry of Health and Ministry of Education decided to create new guidelines. A new *National School Lunch Guideline* and a new guideline for school physical activities have been approved. In addition, advertising for soft drinks in schools has been banned.

Schools have also taken action, with healthy food and nutrition becoming a priority on the school agenda, although not for every school. Physical activity has increased from 45 to 90 minutes per week at school.

Barriers to halting childhood obesity include the provision of food services by business operators without any monitoring. In addition, there is no information system for childhood obesity and the country will need WHO support for participation in the next round of COSI data collection.

Greece

Professor Maria Hassapisou, International Hellenic University, presented a project on big data against childhood obesity.

This EU-funded Horizon 2020 project (BigO) is exploring Big Data supporting public health policies.¹⁵ It will collect and analyse Big Data on obesogenic behaviours and environments to enable public health authorities to plan and execute effective programmes against childhood obesity. It will be based on construction of a technological platform that exploits sensor technologies and Big Data analytics to measure obesogenic behaviour indicators and environment and to offer evidence and tools for targeted actions against obesity to public health authorities, health professionals and schools.

It collects data from children and adolescents (9-18 years) in five cities, including Thessaloniki in Greece. It will be possible to do comparisons between COSI and BigO data. Data collection will involve accelerometers, GPS, pictures of meals/food ads taken by the user and completion of a questionnaire, as well as use of smart watches. A range of indicators for physical activity, diet and environment have been defined.

The BigO prototype was tested between March 2018 and May 2019 in 1,330 children and adolescents. In the next two years there will be large scale data collection. International Hellenic University will collect data for 1 500 children from the municipality of Thessaloniki. Approximately 200 primary school children (Grade 4) will also be participating in the fifth round of COSI data collection and have completed family questionnaires. Analytics will be performed to extract associations between obesogenic behaviours and environmental factors.

The expected final outcomes are:

¹⁵ Bigoprogram.eu

- faster, pre-assessed, more efficient policy choices are enabled, from prevention to point-of-care for children and adolescents with obesity;
- young European citizens are taught about the principles of voluntarism, citizen science and public participation;
- increased awareness about healthy living and health literacy, introducing students to the *health-in-all-things* mentality;
- knowledge base developed around the ethical use of Big Data monitoring and analytics.

The project consortium includes universities, schools, obesity clinics, technical companies, telecommunications providers and public health authorities across five countries.

Lithuania

Professor Ausra Petrauskiene, Lithuanian University of Health Services, presented an initiative on best practice for organization of nutrition of children in preschool and general education institutions in Lithuania.

In 2011, the Minister of Health of Lithuania approved the inventory on organization of nutrition of children in preschool, general education and social care institutions. The purpose of this inventory was:

- to create conditions for health-friendly children's nutrition;
- to ensure the best food safety and quality;
- to satisfy children's physiological needs for nutrients;
- to develop healthy eating skills.

Some foods are now prohibited in schools, and must be replaced by healthier foods. The law on school meals was introduced in 2012, and has been revised in 2014, 2015 and 2018. There has been some resistance, with parents complaining that children are not eating school meals so they come home hungry and students arguing that their freedom of choice is limited.

Schools are funded by municipalities, which can take action on the organization of food services (from a budget or a private service providers), the method of production (on-site or by delivery), the financing of catering organization (financial rates for meals, taxes, staff posts) and renovation of food preparation rooms.

The municipality of Kaunas region, for example, defined the following priorities for feeding children:

- health-friendly food;
- modern production technologies;
- cozy catering facilities;
- modern ways of serving students;
- investing in long-term canteen assets;
- attention to staff qualification and competence.

The municipality has created modern kitchens, comfortable canteens and theoretical and practical training for staff. Practical workshops with well-known Lithuanian chefs creating healthy recipes were conducted. In 2017, a partnership with the German club Bergstrasse 'Fideler Kochöffel' was launched.

In 2013, following a visit to Siodertelje, the idea emerged of organizing a 'Swedish table' (pupil self-service) week in schools. The Ministries of Health and Education then met and challenged Kaunas District to set up a pilot project to introduce new tools to change the food culture by using the pupil "Swedish table" model. A Swedish Table Project was then started in 2017-2018, with partial self-service in some schools. Six different types of pilot schools were selected and discussions were held with school principals, staff and the community. Staff were trained, then menus were changed and lunch breaks were extended. There was technical adaptation of the existing conditions and equipment in canteens and provision of additional equipment or funds to create cosier canteen environments, where necessary.

As a result of the project, pupils became more self-sufficient, more polite and have learned to use tableware, and liked the possibility of choice. Furthermore, children are not spending money on fast food and more community members visit the canteen. Healthy eating skills, eating culture and responsibility for food that has not been eaten have improved, and there is significantly less food waste. The food is healthier, more interesting and always warm because the students select it just before eating. There are now plans to continue and develop the project further, and the Ministry of Health has now recommended this approach for other schools.

Micronutrient deficiencies and child rights approach to marketing of food to children

Amirhossein Yarparvar, Unicef, presented an overview of micronutrient deficiencies in the Europe and Central Asia Region (ECA), set out issues relating to iodine monitoring, explored opportunities for collaboration with COSI and outlined a child rights-based approach to marketing of unhealthy foods to children.

Micronutrient deficiencies and obesity

The Europe and Central Asia (ECA) Region has seen a rapid increase in prevalence of obesity among children under 5 years, with an 80% increase since 2000. There has also been a dramatic increase in obesity among adolescents.

At the same time, the ECA Region is still affected by micronutrient deficiencies (hidden hunger). The inter-generational hazards of anaemia in the ECA Region persist; prevalence of anaemia among women of reproductive age has not been reduced over the last decade and anaemia is still prevalent among infants and young children. There are still major gaps within the Region in terms of mandating wheat flour fortification to tackle this issue of anaemia. In relation to vitamin D status there is a serious lack of data in the ECA Region. Similarly, there is a lack of data on vitamin A deficiency, but existing data suggest that most countries have adequate intakes.

Specifically in relation to iodine, there is a persistent myth that there is no need for salt iodization in the ECA region. Few countries in the ECA Region have legislation on mandatory salt iodization.

The most recent data suggest, however, that there are problems with iodine status and iodization programmes do need to be implemented or maintained, and be regularly monitored.

Many countries in the ECA region have overlapping forms of malnutrition (stunting in children with anaemia and overweight in adult women). Unicef has commissioned a systematic review of all the evidence on school children and adolescents to address the significant gaps in data on micronutrient deficiencies, specifically linked with obesity. It could be interesting to explore whether there is enthusiasm for the possibility of integrating micronutrient deficiencies (e.g., iodine status) into COSI.

A child rights approach on marketing of unhealthy foods to children

In recent years there has been a call for action to reduce children's exposure to marketing of unhealthy foods, and various guidelines and tools have been developed to support such action. At the same time, there is recognition that the marketing environment is continually changing.

A Unicef-funded INFORMAS study took a closer look at marketing in the retail environment in five Latin American countries. The study set out to identify how marketing strategies for food and beverages targeted to children and their parents contribute to purchases of unhealthy food. The study found high availability of unhealthy foods at point of purchase and identified a variety of marketing techniques designed to appeal to children or parents (product positioning and placement, use of cartoons, discounting, provision of gifts or other incentives). The study also identified differences between retail environments in different SES areas.

The study concluded that:

- in-store marketing significantly influences consumer behaviour across different countries, outlets, and socio-economic groups;
- price and promotion strategies were the most influential of adult purchasing behaviour; while packaging was most persuasive of children; and
- current in-store marketing practices are predominantly promoting unhealthy products and are targeting children.

Unicef has developed the application of a child rights-based approach to the issue of marketing to children, because the impact of unhealthy food marketing is a child rights concern. This means applying the principles of non-discrimination, the best interests of the child, the right to life, survival and development, and respect for children's views.

The *Convention on the Rights of the Child (CRC)*, the *WHO Set of Recommendations on the marketing of food and non-alcoholic beverages to children* and the WHO implementation framework for the Recommendations provide the framework for effective regulation. The CRC, specifically, sets out that children, including adolescents, are rights holders and that governments are the corresponding duty bearers. Furthermore, all food marketing policies

should be informed and based on standards and principles derived from international human rights treaties.

The value added of a child rights-based approach include strengthened legitimacy, because the inalienable rights of all children stem from internationally recognized treaties, conventions and standards. In addition, this approach enables increased accountability, which should include monitoring the fulfilment of commitments, and additional opportunities for advocacy and the building of strategic coalitions to achieve common objectives.

In conclusion, the key messages are that:

- there is a need to limit children's exposure to unhealthy food marketing;
- marketing is continually evolving, and new techniques and new channels require new and efficient ways to advance policies;
- regulation specific to food marketing in the digital and retail environments is needed;
- applying a child rights-based approach supports effective policy development applying a comprehensive approach using the CRC, WHO Recommendations and the implementation framework.

Discussion

There was discussion about the potential tension between salt iodization and the public health push to reduce salt intakes. There was clarification that universal salt iodization is an accepted public health policy that does not contradict or undermine salt reduction strategies. WHO recommends that countries combine salt iodization and salt reduction strategies, with monitoring systems in place to ensure that a balanced approach be maintained.

One barrier to implementation of salt iodization is lobbying from private sector interests promoting iodine supplements. Supplementation is an approach that can increase inequalities and, from a public health perspective, is not as effective as legislation on universal salt iodization.

Interest was expressed in WHO and Unicef doing further work together on this issue of iodization.

It was pointed out that the child rights-based approach had been a key factor underpinning Switzerland's approach to childhood obesity, with recognition of the condition as a disease and establishment of a national management programme for children with obesity. There is clearly more work to be done to develop this narrative and institutionalize the issue of obesity as a child rights issue.

The General Data Protection Regulation (GDPR) and its implications for COSI

Issues relating to data protection and the challenges encountered and lessons learned since the GDPR had come into force were explored, starting with the example of how GDPR had been applied during implementation of COSI in Bremen.

Implementation of a data protection concept according to GDPR in COSI Bremen

Professor Wolfgang Ahrens, Leibniz Institute for Prevention Research and Epidemiology (BIPS), Germany, provided an overview of COSI implementation in Bremen and the application of GDPR.

The recruitment procedure for schools started with schools being contacted by phone and if they consented to participate (conditional on availability of suitable examination rooms) dates for a site visit and examination day were arranged. During the site visit, study information for parents was handed out to teachers. Having distributed the study materials to parents via their children, the teachers collected returned sealed envelopes with informed consent forms and questionnaires and stored them in lockable cabinets until examination day.

The recruitment procedure for parents included providing them with an invitation letter, a study flyer, an informed consent form, the family questionnaire and a return envelope. Consenting parents return the informed consent form and a family record form, both in a sealed return envelope. The invitation letter contained an explanation of COSI, outlined which data are collected and the procedure for data collection as well as instructions on how to participate and who to contact with questions. The study flyer emphasized that participation is voluntary and explained what happens with the data (pseudonomization, storage and transfer, who receives the data) and how to take part or withdraw at any time, as well as who to contact for information, complaints or withdrawal. This information was repeated on the informed consent form, along with contact details for the supervisory body so that people do not need to complain directly to the COSI team or school. The form also asked for consent for permission to be re-contacted.

Child's assent to participation was also sought, with the examinations explained to children directly before the examinations start. Children were only examined if the informed consent form was signed and returned *and* the child assented on site to be examined.

The data protection measures included some modification to the COSI questionnaires. These included separation of identification data and study data. Question 1a "What is your name?" on the child record form was replaced by initials. Question 2a "What is your child's name?" was removed from the family questionnaire. Matching ID stickers (pseudonyms) were then attached to the child record form, the family questionnaire and the consent form.

Data handling procedures included separation of the consent form and family questionnaire as soon as they were received by study personnel and henceforth were transported and stored separately. In addition, access to the archive holding consent forms is strictly restricted to personnel not working with study data.

Some specific recommendations were received from the external data protection officer. It was recommended that the invitation letter to parents specifically pointed out that questions concerning ethnicity would be asked. Additionally, inclusion on the study flyer and consent forms of contact details of the PI and the data protection officer, the address of the supervisory authority, information about the right to lodge a complaint and about the right to request access to and rectification or erasure of personal data was recommended. Creation of

a participants' portal to provide participants with their own individual data and information about all the studies carried out using the data is now, therefore, underway.

There are very specific procedures for data flow. The informed consent form is carried to a secured archive room with steel lockers. The data entry forms are carried by another person to the Institute for data entry. After data entry, the paper forms are archived in different lockers in a separate room. Staff who have access to one archive do not have access to the other one. Finally, all researchers have to sign confidentiality agreements and obtain an individual login to access data. They do not have access to the paper forms.

Discussion

There was clarification of several aspects of the data protection procedures in Bremen:

- Consent is obtained from one parent only;
- Data can be transferred to WHO after removal of the pseudonomization;
- The period for which completed forms have to be kept depends on national legislation. The important principle is that participants are told how long data will be kept for and why. In Germany good scientific practice suggests forms should be kept for at least 10 years.

There was considerable discussion that Member State governments have different ways of dealing with GDPR requirement and countries have different rules regarding study ethics, etc. It was agreed that countries have to write their own procedures in line with national implementation of the GDPR and other aspects of the national context. In Italy, for example, the very large numbers of children involved means that not all paper forms can be delivered to the National Institute and procedures relate to storage of forms and data entry at the local level.

There was discussion of the fact that date of birth can also be an identifier (if, for example, combined with the date of investigation). Some countries do not collect date of birth — instead examiners record age in years in months or assign a code. To facilitate this work, examiners are provided with a table which enables calculation of age in years and months. Similarly, for date of examination it could be possible to record only the month of examination and not the day.

It was suggested that, given the GDPR constraints, it is no longer possible to avoid the requirement to seek active consent. Related to the question of consent, Norway is required to seek consent from two parents.

It is clear that legislative requirements can always be interpreted in different ways and sometimes it may be necessary to provide justification to data protection officers for proposed data collection. WHO can help country teams in discussions with national or local data protection officers. It was proposed that WHO could provide a common framework and templates for data protection and that COSI members agree common standards. It was also pointed out that commercial parties sometimes take up issues with higher authorities and this is an option that WHO and Member States could explore. That is, representations could be made to the European Data Protection Board. To facilitate dialogue, a member of the Data

Protection Board could be invited to a forthcoming WHO meeting with audiovisual media regulators in Europe.

There was a suggestion that a working group be formed to define the minimum data set that would comply with GDPR and can be transferred to WHO. Caution was urged with respect to reducing the list of data to be transferred to WHO, because WHO requires *all* the data and reducing the dataset to be transferred could have negative consequences for COSI. It may be useful to remember that the GDPR is not, after all, designed to impede research or data transfer. Rather, the legislation is intended to ensure that all data transfer is safe and that the risks and consequences of any security breach have been assessed.

It was agreed that a small group of PIs and support staff would be convened to work further on this issue and, if necessary, raise concerns with, or seek clarification from, the European Commission. It was also suggested that a mutual agreement be drawn up between WHO and Member States to provide assurances that the data will be used within the limits of informed consent and will not be used for commercial purposes.

Discussion of COSI peer-reviewed publications: lessons learned and recommendations for moving forward

A draft guidance document on publication of peer-reviewed papers with COSI was circulated to participants for discussion.

The document was intended to outline the policies for publication of peer-reviewed papers involving data from COSI, drawing on recommendations from the International Committee of Medical Journal Editors' (ICMJE) *Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals*. The document dealt principally with the issue of authorship and other contributions, as well as procedures for publishing papers featuring COSI data, including correct names for Member States.

In discussion, there was broad agreement that such guidance is necessary and helpful. WHO's contribution to paying for the papers to be published as open access was also acknowledged and appreciated.

Authorship

The paper proposed, among other things, that the PIs of all countries who have data included in a publication should be invited to be authors on the paper. If the PI declines or does not fulfil the obligations on authorship then they should be named in the acknowledgements.

There was discussion about whether all PIs should be cited as authors, even if they do not respond to any emails about a paper. Some journals allow studies to cite authors and collaborators (who don't have full authorship but are indexed as part of a group). It is certainly good practice for all authors to have at least read the paper to which their data contribute. It was suggested that the Committee on Publication Ethics (COPE) could also be a good source of advice on authorship issues. It was agreed that, in line with the ICMJE rules for authorship, 'active consent' is required from PIs, meaning that at the very least they reply, confirming that they have read and are happy with the paper, for them to be included as authors.

It was agreed that all international COSI papers could include at least one person for each country whose data are included in the paper. There was discussion of whether other team members, apart from PIs, could be included as authors. It was clarified that each country has the right to include one person responsible for data collection as an author (irrespective of whether it is the PI or another contributor). In order to have more than one author included, however, the second person should have contributed to the early drafting of the paper.

Another issue that has been problematic is getting all the necessary documentation completed by all the authors. It would be most helpful if all participating authors could return the documentation promptly.

Consent to use of COSI data

A further issue that can create problems is the use of COSI data by students. Great care is needed with respect to any data that has not been cleaned and processed by WHO. It should be a rule that all PIs have to give consent to use of their data, and this rule should be respected.

Formalizing procedures for publications

There was clarification that WHO remains the coordinating body for publications. This is vital as COSI is an international surveillance initiative. WHO is, therefore, responsible for authorising all papers using COSI data. There were a number of proposals to improve procedures and/or formalize current arrangements:

- definition of clear procedures for publications and seeking authorization (with circulation of an initial draft to COSI teams for feedback);
- PIs should be given the first option to lead the writing for any paper proposals;
- drawing up of a dissemination plan for all types of COSI papers and documents;
- improving transparency by establishing a protected, confidential internal platform where all proposals for papers, and their status, are visible to all COSI participants. This could have a wider purpose, acting as a repository for all data and documents including information on weighting and sampling etc;
- formation of a publications sub-group to meet and write papers with COSI data.

Discussion of COSI moving forward

There was discussion of the next steps for taking COSI forward, including suggestions for further academic papers and potential changes to the questionnaires.

Proposals for peer-reviewed papers

Suggestions were sought for peer-reviewed papers which could be written on the basis of the existing data sets. These could fall into the three broad categories: prevalence; other survey data; and methodological issues.

A paper on trends, after the report on prevalence from the 2015-17 data has been published, was proposed.

Suggestions for new questions/topics to include in the questionnaires

In relation to the addition of new questions or modules in the questionnaires, it was suggested that an analysis of which variables have been used most often in papers would provide useful insight to inform the future development of the questionnaires.

The issue of migration status was suggested, and received broad support. It was recognized, however, that the challenges associated with this topic are considerable. Nonetheless, it would be good to harmonize questions on this issue — using well-accepted, existing questions — for optional inclusion because migration and health is such an important topic in the European Region. Countries which do include such a question will have to communicate very clearly the rationale for inclusion and reassure parents of strictest confidentiality. In this respect, communication through community groups or use of informal ‘ambassadors’ for particular communities could be useful. It was recognized that inclusion of a migration question could entail further costs, e.g., need to seek further ethical committee approval.

Inclusion of geocodes was also suggested.

Suggestions for other areas of work were also put forward. These include:

- Research to compare patterns and track the continuity of overweight and obesity between early years (under 5s) and the second half of the first decade of life;
- Research to compare and validate indicators of socioeconomic status.

A questionnaire incorporating all the additional questions used in all countries (and including proposals for migration questions) will be circulated to PIs for their feedback.

Other proposals relating to COSI procedures and practices

A number of other points relating to COSI procedures and practices were raised. It was noted that schools, increasingly, may need the questionnaires in a variety of different languages. It was suggested that a repository of all the questions in all the languages would be extremely valuable.

The procedure for data processing is now clear and it is proposed that, for the data collected in the fifth round, Marta will return data sets to country teams within three months of receipt. That should be sufficient time for the data to be cleaned, with sampling weights.

Next steps and closure of the meeting

Professor Knut-Inge Klepp delivered some closing remarks, thanking all participants for their enthusiasm and positivity. On behalf of the Norwegian government and the National Institute, he thanked WHO for its leadership and support, with specific thanks to the Secretariat for the meeting planning and organization.

Dr João Breda thanked the Norwegian government and the National Institute of Public Health for hosting the meeting and added his thanks to WHO staff for the organization. He summarized the next steps:

1. The report with the results of the fourth round of data collection will be finalized. Possibilities for organization of an event to launch the report in early 2020 will be explored.
2. The current round of data collection (Round 5) will ideally be completed by the end of 2019. There is still time for new countries to participate in this round or to add some new questions. WHO is willing to support any countries with training and technical support. In exceptional circumstances justification for extending data collection beyond the end of 2019 will be considered.
3. WHO will take the lead on further work will be done to formalize the procedures and governance relating to COSI publications and papers.
4. The possibilities for expanding the collaboration between COSI and other UN agencies and other initiatives will be further explored.
5. Support for country teams on compliance with GDPR requirements will be developed, as agreed.

Finally, he thanked all the Member States and their teams for all the commitment and investment in this critically important issue for child health.

Optional writing workshops

Two small group writing workshops were held to discuss in more depth two academic papers in development:

- Mother's/parent's perception of child's body weight;
- Social inequalities in lifestyle behaviours.

The results of these workshops are not reported here, but comments received are being taken forward by the writing teams.

Annex 1: List of participants

ARMENIA

Dr Marina Melkumova
Adolescent Health Program Coordinator
Arabkir Medical Centre- Institute of Child and
Adolescent Health

AUSTRIA

Ms Bianca Fuchs-Neuhold
Senior Lecturer
Institute of Dietetics and Nutrition / Health Perception
FH Joanneum University of Applied Sciences

Ms Adelheid Weber
Technical Officer
Mother, Child and Gender Health, Nutrition
Austria Federal Ministry of Labour, Social Affairs, Health and
Consumer Protection

AZERBAIJAN

Dr Nabil Seyidov
Expert
Health Policy and Reforms
Public Health and Reforms Center of
Ministry of Health

BELGIUM

Dr Isabelle Moyersoan
Scientist
Epidemiology and Public Health Sciensano

BOSNIA AND HERZEGOVINA

Dr Aida Filipovic Hadziomeragic
Head of Hygiene and Nutrition Unit
Health Ecology Service
Institute of Public Health of Federation

Professor Dragana Stojisavljevic
Medical Doctor, Specialist of Hygiene Nutrition
Public Health Institute of Republic of Srpsk

BULGARIA

Professor Vesselka Duleva
Head of Department
Food and Nutrition
National Center of Public Health and Analyses

CROATIA

Professor Sanja Musić Milanović
Head of Health Promotion Department for Medical
Statistics Epidemiology and Medical Informatics
Croatian Institute of Public Health
University of Zagreb

CYPRUS

Mrs Eliza Markidou
Clinical Dietitian
Ministry of Health

CZECH REPUBLIC

Professor Marie Kunešová
Physician
Obesity Management Centre
Institute of Endocrinology

Dr Radka Taxová Braunerová
Physician
Obesity Management Centre
Institute of Endocrinology

DENMARK

Ms Tatjana Hejgaard
Senior Adviser
Health Promotion
Danish Health Authority

ESTONIA

Dr Eha Nurk
Senior Researcher/Head of Department of
Nutrition Research
National Institute for Health Development

FINLAND

Ms Päivi Mäki
Development Manager
National Institute for Health and Welfare

Professor Tiina Laatikainen
Institute of Public Health and Clinical Nutrition
University of Eastern Finland

GEORGIA

Dr Lela Shengelia
Head of Division
Maternal, Child and Reproductive Health Division
National Centre for Disease Control and Public Health

GREECE

Professor Maria Chasapidou
Head of Department
Nutrition and Dietetics
Alexander Technological Educational
Institute of Thessaloniki

HUNGARY

Dr Viktoria Anna Kovacs
Senior Nutrition Consultant
National Institute of Pharmacy and Nutrition

IRELAND

Dr Mirjam Heinen
Assistant Professor
School of Public Health, Physiotherapy and Sports Science
University College Dublin
Woodview House, Belfield

ITALY

Dr Angela Spinelli
Director
National Centre for Disease Prevention
and Health Promotion
National Institute of Health

KAZAKHSTAN

Ms Shynar Abdrakhmanova
Lead Specialist
Department of Science and Education
National Center of Public Health

KYRGYZSTAN

Dr Zhamyila Usupova
Deputy Director
Public Health
Republican Center for Health Promotion

LATVIA

Dr Iveta Pudule
Senior Public Health Analyst
Research and Health Statistics
Centre for Disease Prevention and Control

LITHUANIA

Professor Austra Petrauskiene
Lithuanian University of Health Sciences
Health Research Institute
Department of Preventive Medicine

MALTA

Dr Dorothy Zammit
Senior General Practitioner
Primary Health Care
Primary Child, Youth Health and Immunisation Unit

MONTENEGRO

Dr Enisa Kujundzic
Medical Doctor, Specialist of Hygiene
Center for Health Ecology
Institute of Public Health of Montenegro

NORTH MACEDONIA

Dr Igor Spiroski
Head of Department
Department of Physiology and Monitoring of Nutrition
Institute of Public Health of the Republic of North Macedonia

NORWAY

Ms Ingunn Holden Bergh
Researcher
Department of Health and Inequality
Norwegian Institute of Public Health

Dr Else Karin Grøholt
Department Director
Department of Health and Inequality
Norwegian Institute of Public Health

Professor Petur Juliusson
Head of the Department of
Register Research and Development
Norwegian Institute of Public Health

Professor Knut-Inge Klepp
Executive Director
Mental and Physical Health
Norwegian Institute of Public Health

Professor Oddrun Samdal
University of Bergen

POLAND

Ms Anna Fijałkowska
Scientific Director
Deputy Director for Scientific Research
Institute of Mother and Child

PORTUGAL

Professor Ana Rito
Researcher
Food and Nutrition
National Institute of Health Dr Ricardo Jorge

REPUBLIC OF MOLDOVA

Dr Svetlana Cociu
University Assitant
Hygiene Desk
State University of Medicine and Pharmacy of Moldova

ROMANIA

Dr Constanta Huidumac- Petrescu
National Centre for Health Assessment and Promotion
National Institute of Public Health

RUSSIAN FEDERATION

Dr Elena Bogova
Pediatic Endocrinologist
Institute of Pediatic Endocrinology
Endocrinology Research Centre

SAN MARINO

Dr Martina Molari
Dietitian
Hospital Department
Social Security Institute

Dr Elena Sacchini
Statistician Expert
Health Authority

SERBIA

Professor Višnja Đorđić
Faculty of Sport and Physical Education
University of Novi Sad

SLOVAKIA

Dr Ľubica Tichá
Medical Doctor
Paediatric Department
Children's Faculty Hospital

SLOVENIA

Dr Gregor Starc
Researcher
Faculty of Sport
University of Ljubljana

SPAIN

Dr Marta García Solano
Secretary of the Observatory for
Nutrition and the Study of Obesity
NAOS Strategy
Spanish Agency for Food Safety & Nutrition

SWEDEN

Dr Britt Eriksson
Analyst
Unit for Health-Promoting Lifestyles
Public Health Agency of Sweden
Folkhälsomyndigheten

TAJKISTAN

Ms Sanavbar Rakhmatulloeva
Chief Specialist
Department of the Organization of Medical Services for Mothers,
Children and Family Planning
Ministry of Health and social protection

UKRAINE

Dr Vladyslav Zbanatskyi
Deputy Director General
Public Health Centre of the
Ministry of Health of Ukraine

Ms Tetiana Skapa
State Expert on Health Promotion and Risk Factors
Public Health Directorate
Ministry of Health of Ukraine

UZBEKISTAN

Professor Dilorom Akhmedova
Director
Republican Specialized Medical Centre of Pediatrics

TEMPORARY ADVISERS

Professor Wolfgang Ahrens
Scientific Deputy Director, Head of Department
Leibniz Institute for Prevention Research
and Epidemiology – BIPS
Germany

Dr Eric Feigl-Ding
Faculty / Chief Health Economist
Harvard School of Public Health / Microclinic International
United States of America

Dr Tania Griffin
Lecturer in Nutrition and Population Health
Department for Health
University of Bath
Department for Health
United Kingdom

Dr Giulia Rathmes
Switzerland

Professor Harry Rutter
Professor of Global Public Health
Social and Policy Sciences
University of Bath
United Kingdom

Dr Ximena Ramos Salas
Consultant
European Association for the Study on Obesity
Sweden

Dr Nick Townsend
Department for Health
University of Bath
United Kingdom

Mr Gerben Rienk Visser
Data Manager
TrialDataSolutions
Netherlands

OBSERVERS

Dr Bai Li
Institute of Applied Health Research
College of Medical and Dental Sciences
University of Birmingham
United Kingdom

Professor Agneta Yngve
Department of Food Studies, Nutrition and Dietetics
Uppsala University
Sweden

REPRESENTATIVES OF OTHER ORGANIZATIONS

European Association for the Study of Obesity (EASO)

Dr Nathalie Farpour-Lambert
President
United Kingdom

United Nations Children's Fund (UNICEF)

Mr Amirhossein Yarparvar
Regional Health and Nutrition Specialist
Europe and Central Asia Regional Office- Almaty Bureau
Kazakhstan

WORLD HEALTH ORGANIZATION

Regional Office for Europe

Dr João Breda

Head

WHO European Office for Prevention and
Control of Noncommunicable Diseases

Dr Ivo Rakovac

Programme Manager NCD Surveillance a.i.

WHO European Office for Prevention and
Control of Noncommunicable Diseases

Dr Kremlin Wickramasinghe

Technical Officer

WHO European Office for Prevention and
Control of Noncommunicable Diseases

Dr Julianne Williams

Technical Officer

WHO European Office for Prevention and
Control of Noncommunicable Diseases

Mrs Anna Chaturvedi

Programme Assistant

WHO European Office for Prevention and
Control of Noncommunicable Diseases

Ms Liza Villas

Programme Assistant

Nutrition, Physical Activity, and Obesity

WHO Country Office, Tajikistan

Dr Khadichamo Boymatova

National Professional Officer

WHO Europe Consultant

Dr Marta Buoncristiano

Rapporteur

Ms Karen McColl

Interpreters

Ms Victoria Frantseva

Mr Anton Frantsev

Annex 2: Publication of Peer-reviewed Papers with COSI: a Draft Guidance Document

Purpose

The purpose of this document is to outline the policies for publication of peer-reviewed papers involving data from the Childhood Obesity Surveillance Initiative (COSI). The recommendations here are drawn from the International Committee of Medical Journal Editor's (ICMJE's) '[Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals](#)'.

The recommendations below should be followed by anyone publishing peer-reviewed papers using COSI data.

Authors and contributors

- The Principal Investigators (PIs) of all countries who have data that are featured in the publication should be invited to be authors on the paper. If the PI declines or does not fulfill the obligations of authorship (please see below), they should be named in the acknowledgements section of the paper.
- The lead author may also decide to invite for authorship or acknowledge other key partners who were involved in the country-level implementation of COSI, but who do not hold the title of 'Principal Investigator.'
- Following ICMJE recommendations, authorship is based on the following four criteria:
 - 1) Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
 - 2) Drafting the work or revising it critically for important intellectual content; AND
 - 3) Final approval of the version to be published; AND
 - 4) Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriate investigated and resolved.
- Additionally, to qualify for authorship, all contributors must complete and submit the required administrative paperwork from the peer-reviewed journal (such as submission statements, copyright license forms, conflict-of-interest disclosure forms, etc.). If the author is given a reasonable amount of time to complete administrative requirements and they do not do so, they will be listed in the acknowledgments but not included as a co-author.
- The corresponding author is the individual who takes the primary responsibility for communication with the journal during the manuscript submission, peer review and publication process, and typically ensures that all the journal's administrative requirements are properly completed.
- In a large multi-author study such as COSI, the group ideally should decide who will be an author before the work is started and confirm who is an author (and the order of authorship) before submitting the manuscript for publication.

- The order of authorship should be discussed and decided via consensus among co-authors before submission of the manuscript. In general, the first author should be the person who has made the largest contribution to the manuscript and the final author should be the WHO Director of the COSI project. Authors may be listed according to their level of contribution (with those who contributed most being listed first) or alphabetically (in instances where it is felt that all co-authors have made an equal contribution).
- The World Health Organization reserves the right to invite external partners to author COSI papers. In instances when an external person is hired exclusively to draft a paper (i.e. they are not part of the WHO COSI team, a Principal Investigator, or a person involved in country-level data collection), WHO reserves the right to give first authorship to one of the COSI PIs or people with previous involvement and investment in the COSI project, provided that this person accepts the roles and responsibilities of this role.

Other considerations

- Please do not publish peer-reviewed papers featuring COSI data without first obtaining approval and clearance from the co-authors and the World Health Organization.
- Before being published, all peer-reviewed papers featuring COSI data must include the following disclaimer for WHO staff and consultants:
The writing group takes sole responsibility for the content of this article and the content of this article reflects the views of the authors only. X and Y are staff members of the WHO and Z is a WHO consultant. The World Health Organization is not liable for any use that may be made of the information contained therein.
- Common errors in WHO peer-reviewed publications include the incorrect names for Member States. The correct names can be found here: <http://www.euro.who.int/en/countries>. Additionally, it is important that all maps comply with the specifications of the [United Nations](#).

The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

Member States

Albania
Andorra
Armenia
Austria
Azerbaijan
Belarus
Belgium
Bosnia and Herzegovina
Bulgaria
Croatia
Cyprus
Czechia
Denmark
Estonia
Finland
France
Georgia
Germany
Greece
Hungary
Iceland
Ireland
Israel
Italy
Kazakhstan
Kyrgyzstan
Latvia
Lithuania
Luxembourg
Malta
Monaco
Montenegro
Netherlands
North Macedonia
Norway
Poland
Portugal
Republic of Moldova
Romania
Russian Federation
San Marino
Serbia
Slovakia
Slovenia
Spain
Sweden
Switzerland
Tajikistan
Turkey
Turkmenistan
Ukraine
United Kingdom
Uzbekistan