This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 774548.

EC Framework Programme for Research and Innovation

Horizon 2020

H2020-SFS-2017-2-RIA-774548-STOP:

Science & Technology in childhood Obesity Policy

Science and Technology in childhood Obesity Policy

Science & Technology in childhood Obesity Policy

Start date of project: 1st June 2018 Duration: 48 months

D11.3: Practice abstracts

Author(s): Hannah Brinsden, Margot Neveux, World Obesity Federation

Version: Final

Preparation date: 27/05/2020

Dissemination Level

PU	Public	☒
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

Science and Technology in childhood Obesity Policy

Table of contents

Science and Technology in childhood Obesity Policy

1 Introduction

This document is a compilation of the first batch of Practice Abstracts for the STOP Project.

Practice abstracts are a requirement of all Horizon 2020 funded projects. They aim to provide the end-users of the project with short and concise practice information. The individual abstracts are meant to outline the main findings of a specific aspect of the project and make it easy to share our findings with those who will apply them. Within the context of the STOP Project, end-users include health professionals such as scientists, public health workers, health promotion specialists and public health nutritionist or fitness industry workers; policymakers and non-governmental organisations; and the general public including parents, adolescents and young people.

The practice abstracts will be shared at the EU-level following the "EIP common format" which is made available on the EIP-AGRI website. All partners from the Consortium are involved and contribute to the production of these abstracts. Each abstract includes a short and understandable title, a succinct summary of the issue tackled as well as a presentation of the main outcomes and recommendations on a selected topic. When available, these will be shared in English as well as the language of the partner or work package in charge of a specific practice abstract.

The second batch of practice abstracts will be submitted at the end of the project.

2 Practice Abstracts

2.1 Practice abstract 1

Title:

A ground-breaking inter-disciplinary approach to address childhood obesity: development of evidence and tools

Short summary for practitioners:

To change trends of childhood obesity across the EU, comprehensive action is needed. The ground-breaking inter-disciplinary approach adopted in the STOP project allowed us, over the first 18 months, to identify key findings that will help researchers and policymakers develop effective obesity interventions, including:

- Establishing a framework and initial data collection aimed at gauge policies and actions to explore the spread of obesity
- Identifying a "molecular signature" of childhood obesity to help assess some of the causal pathways to childhood obesity
- Identifying some of the barriers faced by health professionals when trying to persuade parents of the importance of addressing children's weight problems

STOP will now generate a number of tools and evidence relevant for stakeholders in the research, private and policymaking spheres to increase the effectiveness and sustainability of interventions to address childhood obesity across the EU. These will include:

- Detailed scorecards, developed in collaboration with PEN, for countries across the EU identifying gaps and formulating priority actions for national governments

- Assessing commitments and performance of some of the biggest companies among package food and soft drinks manufacturers, quick service restaurants, school food environments and supermarkets
- Developing a microsimulation tool to test risk factors, diseases, interventions and estimate the global burden of diseases

Through its research and development of innovative tools, we will generate solutions to address childhood obesity by working at local, national and EU levels, while simultaneously engaging a wide range of stakeholders.

For more information, visit www.stopchildobesity.eu

2.2 Practice abstract 2

Title:

Studying molecular signatures for obesity may help prevention

Short summary for practitioners:

Childhood obesity is a serious public health challenge with health repercussions during adulthood. It results from the interaction between genetic, lifestyle, obesogenic environments and social determinants. Studying the molecular pathways that lead from external exposures and behaviours to obesity can provide useful tools for preventive action.

We performed three types of tests based on blood samples: the measurement of a set of proteins, the measurement of thousands of metabolites and the measurement of methylation of DNA, a biological process that allows to quantify the degree of activation of genes. We also explored early outcomes from the tortuosity of retinal blood vessels.

We identified two proteins with the strongest associations with childhood obesity: PCK2 and NFIX. The variation of one of these is associated with children's socio-economic status, and this can help elucidate one important determinant of obesity: social disparities. Proteins allowed us to identify inflammation as an important feature of obesity. While already associated with adult obesity, our research suggests it also plays a role in childhood obesity.

While the study of metabolomics is ongoing, it will provide helpful insight to design better foods, with lower obesogenic impact, and to monitor the effectiveness of dietary changes in children. Obesity impacts on metabolic and inflammatory changes early on, which has health consequences in adulthood.

For more information, visit www.stopchildobesity.eu

2.3 Practice abstract 3

Title:

Characteristics of cities that predict physical activity and the risk of obesity in children

Short summary for practitioners:

Childhood obesity is related to a higher risk of morbidity both during childhood and adulthood, and subsequent greater risk of premature mortality. We performed geospatial analyses on the urban environment to assess the role of multiple environments and exposures in predisposing children to obesity, based on samples of European populations, aiming to identify actionable determinants of obesity at urban and behavioural levels.

We collected and processed geospatial information such as high-resolution images provided by satellites to characterise neighbourhoods, and linked these with participants from our population samples. The purpose was to identify characteristics of the urban environment (e.g. "walkability", density of fast foods, density of green spaces and playgrounds) that can predict obesity in children. Based on a standardised definition of "neighbourhood" across studies, we found, for instance, that in a Slovenian population, evidence showed that green spaces and playground facilities were beneficial to the physical fitness of children, while higher "walkability" of the environment and the number of playgrounds had beneficial effect on children's body mass index. Slovenian schools intensively promote physical activity among children, and we will extend this analysis to other contexts in Eastern Europe, including Croatia and Romania. Similar analyses were performed in other populations among 12,000 children aged 3-4 years.

While analyses are still ongoing, the identification of urban settings that facilitate physical activity or predict the risk of obesity is clearly of paramount importance to allow better city planning in all project partner countries.

For more information, visit www.stopchildobesity.eu

2.4 Practice abstract 4

Title:

Effects of fiscal policies on children nutrient intake*
**Practice Abstract also available in French*

Short summary for practitioners:

With childhood obesity becoming one of the most dramatic features of the global obesity epidemic, deploying economic tools to address obesity are widely considered. We conducted a study to assess the effects of a hypothetical 20% price increase of sugar-sweetened beverages (SSB) and an equivalent decrease in fruit and vegetable prices, on children nutrient intake in five European countries – Finland, France, Italy, Spain and UK.

We expected that a subsidy of the fruit and vegetable prices would, all else equal, increase consumption of fruit and vegetables by substituting away from other foods. As vegetables have a higher healthy fibre content and lower levels of energy and fat, this should translate into a decrease in calorie and fat intakes. However, this effect occurred only in Italy and Finland, -2.1% and -0.5% for calorie and -3.8% and -1.8% for fat, respectively. We expected that increasing the price of SSB would decrease consumption of SSB in favour of other beverages and food categories and found that a 20% increase of the SSB prices resulted in much larger effects than either of the fruit and

vegetables price subsidy in almost every country. There is an unmistakable fall in calorie (ranging from -1.3% in Finland to -3.0% in Spain) and carbohydrate intakes (-1.50% in Finland to -4.96% in Italy).

These findings clearly suggest that combining these policies would have the desired effect on energy intake, and results suggest that together, these interventions could lead to a decrease in energy intake between 0.5% (UK) and 2.13% (Italy). While encouraging, the findings also highlighted the limited efficiency of such interventions to make a strong difference in the fight of childhood obesity.

For more information, visit www.stopchildobesity.eu

2.5 Practice abstract 5

Title:

Evaluation of the cost, equity and acceptability of three obesity prevention policies

Short summary for practitioners:

Obesity prevention policies are becoming a priority for many governments. A narrative review conducted as part of the STOP project considered three contextual factors – cost, equity and social inequalities, and acceptability to stakeholders – in relation to three policy options: health-related food taxes, front-of-pack nutrition labelling and marketing restrictions.

While we only found sparse availability of research material and unequal sources of evidence across the policies explored, some generalisations can be made and need to be considered when implementing obesity-prevention policies. In addition to all three policy interventions having evidence in favour of being cost-effective:

- There seems to be a differential impact of food taxes on social groups by income or education levels;
- The effects of front-of-pack food labelling are dependent on the format of the front-of-pack nutritional information. Clear and understandable formats demanding lower literacy or numeracy levels should be favoured when targeting lower-educated or lower-income consumers;
- Children's exposure to marketing may have a social gradient and restrictions to marketing will benefit children in proportion to their initial exposure. There should be increased access to information on processed food packs and on the protection of children from commercial incentives nudging towards unhealthy behaviours;
- The implementation of statutory regulations seems to encourage industries to reformulate their products.

For more information, visit www.stopchildobesity.eu

2.6 Practice abstract 6

Title:

The Danish Whole Grain Campaign

Short summary for practitioners:

The Danish Whole Grain case study highlights positive social marketing techniques to promote healthy diets and help address childhood obesity. To encourage the Danish population to consume more whole grains, a logo was launched in 2009 by the Danish Whole Grain Partnership (DWGP), with collaboration between government, health non-profit organisations and organisations representing the food industry. The social marketing phase of the campaign included “on-the-street” promotions, television, radio broadcasts and social media activities. Most materials developed targeted the general population, although some specific populations were also targeted (e.g. a “Whole Grain Hero” cartoon mascot created to appeal to children). Social media played a crucial role and included online cooking, health communities and a dedicated website with customised content. The DWGP also created toolboxes so that food manufacturers and retailers could also contribute to the dissemination of the campaign by sharing materials through their online channels and in their stores. Campaign effectiveness was assessed through:

- Awareness and intention: 71% of Danes recognised the DGWP logo and 53% looked for the logo when buying products
- Sales of products with the logo increased by 7% and sales of wholegrain flour increased by 24%
- Whole grain intakes increased from 32g to 63g/day post-campaign

The Danish Whole Grain Campaign highlighted some central techniques to ensure the success of future health-oriented social marketing campaigns: engage multiple stakeholders; focus on gain-framed messaging; reduce opportunity costs for consumers; and promote using a multi-media approaches.

For more information, visit www.stopchildobesity.eu

2.7 Practice abstract 7

Title:

The Drink Up Campaign

Short summary for practitioners:

Launched by Michelle Obama in collaboration with the Obama White House and the Partnership for a Healthier America, the Drink Up campaign was a social marketing campaign undertaken to encourage healthier behaviours and decrease the prevalence of childhood obesity by encouraging the US population to consume more water. Following a pre-testing phase looking at panellists’ reactions to factors such as logos and taglines, results flagged the importance of gain-framed messages and setting achievable goals. Commercial bottled water companies participated in the campaign. GlobalTap introduced special bottle filling station for parks and public courtyards and donated Drink Up branded stations to local schools. Brita integrated the campaign logo/tagline in their point-of–sale retail strategies. Beside traditional media channels and Facebook, Instagram and Twitter accounts, a nationally traveling street art campaign, a pop-up concert and YouTube music videos were used. Celebrities such as Stephen Curry appeared in Drink Up promotions and others such as Ashanti, Joe Biden, President Obama and Eva Longoria also contributed to the campaign.

Permission to use likenesses of Mohammed Ali and Einstein was obtained. The campaign appeared twice on the Biggest Loser. Effectiveness included Ms. Obama's earned media appearances of 61 million and 18 million online impressions. Drink Up highlighted some central techniques to ensure the success of social marketing campaigns: (i) engage multiple partners and stakeholders; (ii) ensure good target market segmentation; (iii) focus on gain-framed messaging; (iv) reduce opportunity costs for consumers; and (v) promote using a multimedia approach.

For more information, visit www.stopchildobesity.eu

2.8 Practice abstract 8

Title:

Evaluation of policies on active transport and built environments

Short summary for practitioners:

The study aimed to explore the extent to which built environments and mobility measures impact childhood obesity. For reasons of both data availability and due to the intrinsic aim of these measures being addressed to the adult population, the study looked at evaluating policies fostering changes of children's mobility patterns as well as to the analysis of the factors hindering or promoting the active travel (AT) of younger people, where by AT refers to home-school journeys. The results of the study, based on the review of scientific publications addressing the research topic, demonstrated that the analysed policies, when well implemented, are able to increase the number of children that change their travel behaviour with a pedagogical as well as direct physical impact. Nonetheless, the effectiveness of these policies is weakened due to their implementation being based on parents and school personnel's good will. AT for the home-school journeys also only works within a radius of no more than 1.5 km by foot/3 km by bicycle, assuming safety from road accident can be ensured. Based on these findings, two recommendations can be made:

- Children-focused AT policies should be designed and implemented by a wide audience of actors including, in the first instance, parents and then traffic engineers and city designers, sociologists and the school personnel
- Promotion and education actions to make these measures effective are crucial and have to be carried out in collaboration with the school personnel and sustained over time.

For more information, visit www.stopchildobesity.eu

2.9 Practice abstract 9

Title:

Socio-economic disparities in obesity treatment for children aged 3-10 years old

Short summary for practitioners:

Estimates reveal that one in eight of the world's children aged between five and ten years is living with obesity. Given the long-term health, social and economic consequences of childhood obesity, it is urgent to identify effective treatment interventions. We therefore reviewed treatment interventions in health care setting for younger children by (1) examining the evidence for the effectiveness of different interventions to treat paediatric obesity in relation to socio-economic disparities, and (2) examining evidence on the challenging phases of the interventions such as recruitment, adherence and follow-up in relation to socio-economic disparities. Results revealed a major lack of information on social and economic influences on childhood obesity treatment administered through health services. However, we observed that in middle- and higher-income countries, the prevalence of obesity remains greater among families with lower incomes or parental education and in specific ethnic groups.

The use of weight management and obesity treatment services is likely to be affected by familial attitudes to overweight in children, their understanding of underlying causes of weight gain, their motivation to make family-level changes, and above all the resources they may have available to make and maintain these changes. Effective interventions therefore need to be culturally and socially sensitive, avoiding stigma, encourage motivation, recognise barriers and reinforce opportunities. Furthermore, the success of an intervention also depends on the treatment attractiveness, attendance to treatment sessions and having a sustainable support network.

For more information, visit www.stopchildobesity.eu

2.10 Practice abstract 10

Title:

Planting a seed - talking about young children's overweight and obesity in the health care setting. A qualitative study within the STOP project*
**Practice Abstract also available in Swedish*

Short summary for practitioners:

In Sweden, child health care (CHC) nurses play a key role in preventing children's overweight and obesity, and understanding underlying factors that influence these conversations is crucial to offer support to families. We interviewed 17 CHC nurses regarding their experiences of addressing and communicating children's overweight and obesity to parents. CHC nurses reported that a trustful relationship with families was important when initiating conversations about children's weight. They asked for more training in communication skills and education in childhood obesity, clear guidelines for what care they should provide, when they should refer to other healthcare professionals and to whom. We formulated the following recommendations for CHC nurses to strengthen weight management for children:

To facilitate the conversation, prepare parents on the visit's topic and schedule enough time; Let parents describe children's weight development - this approach will make it easier to understand their perspective and offer support; If parents are resistant to talk about the child's weight, "plant a seed" and schedule a follow-up visit to see the family's behaviour change process; Contact preschools in your area and ask how you can collaborate to support families with advice regarding food choices and daily active play; Contact healthcare providers in your area to see what weight

management care they provide to know where you can refer the family to; You need to be able to have non-blaming conversation about children's overweight; Supervision is key to become confident in conversation skills; Identify trainings to attend to improve your knowledge on childhood overweight and obesity.

For more information, visit www.stopchildobesity.eu

2.11 Practice abstract 11

Title:

School-based interventions: evaluation of effective interventions in the prevention of childhood obesity.

Short summary for practitioners:

Food environments influence dietary choices that can have a significant impact on the prevention of childhood obesity. Many food environment interventions have been undertaken at the school level but evidence of their effectiveness in the reduction of childhood obesity is scarce. We aimed to synthesise and evaluate the evidence of food environmental interventions around and within schools to determine effective parameters that can aid in childhood obesity prevention. The most frequent interventions addressed the effect of vending machines, school stores, cafeterias and menu offering regulations. Four (20%) interventions focused on vending machines. The main outcomes were body-mass index z score and dietary intake. A positive association between the food environment intervention and the reduction of obesity was found in 15 (75%) of the studies.

Based on the results, we were able to identify a number of key parameters and formulate some recommendations:

- Identified effective interventions in the prevention of childhood obesity were banning of sugary drinks in schools and an increase in availability and accessibility of fruits and vegetables for children from an early age.
- Multisystem approaches, such as stringent and monitored school meal programmes, alongside the collaboration, training, education, and integration of the school staff, parents, and students, increased acceptability and adaptability according to the local needs and sustainability of the food environment interventions.
- Changes in the school food environment could facilitate individual dietary behaviour modifications that lead to the prevention of obesity and non-communicable diseases.

For more information, visit www.stopchildobesity.eu

2.12 Practice abstract 12

Title:

Key principles of effective stakeholder engagement

Short summary for practitioners:

To strengthen interdisciplinary research and foster participatory and inclusive multi-actor approaches, STOP engages with different stakeholder groups in a systematic way. The aim of this engagement is to build a space in which multiple stakeholders could work together towards the common aim of improving children's food and physical activity environment. Multi-stakeholder engagement has a number of benefits, including enabling groups from different backgrounds to share their knowledge and expertise towards a common goal; ensuing participation equity among different sectors; and can lead to the establishment of new partnerships and networks. To ensure the most positive outcome from different engagement processes, we identified three central mechanisms, based on preliminary literature research, that need to be considered by researchers when trying to engage a variety of stakeholder groups.

First, we need to actively engage stakeholders early and across the different phases of the research project. Second, we need to focus on the relationship between the different stakeholder groups, including at individual, community and societal levels. It is essential to establish collaborative and sustained relationships between citizens, policymakers, health professionals and researchers. Third, there needs to be early and close engagement of the stakeholders with the decision makers, while considering power different between and across groups. This will help understand the overall decision-making environment.

For more information, visit www.stopchildobesity.eu

2.13 Practice abstract 13

Title:

Identification of STOP stakeholders and organisation of the stakeholders into platforms*
**Practice Abstract also available in Slovenian*

Short summary for practitioners:

To promote a shared understanding of the challenges and necessity for joint actions to define and implement solutions for childhood obesity, we aim to recommend to national authorities and the European Commission a sustainability plan for future stakeholder engagement in the areas of childhood obesity.

With the method of the social network analyses, we are investigating social structures and alliances among stakeholders. The stakeholder engagement process is an integral component of the STOP project, and we would like to better understand stakeholders' views and positions and get feedback on the project processes and outcomes.

Comparing the membership structure of EU-level (multi-)stakeholder platforms with identified individual EU-level obesity stakeholders revealed that existing platforms generally include the main actors active at EU level. However, organisations representing the private sector appear to have a stronger presence on the platforms. The fields of biology/health are also less represented as a topic in multi-stakeholder platforms, most likely due to the more policy-oriented nature of stakeholder platforms. Furthermore, not all types of stakeholders, especially non-formal ones, are represented at the EU level which means that certain views and approaches may be absent from EU debates.

This emphasises the importance of regional and local voices to be mobilised to the solution searching processes.

For more information, visit www.stopchildobesity.eu

2.14 Practice abstract 14

Title:

Key concepts from the first stakeholder dialogues*
**Practice Abstract also available in Slovenian*

Short summary for practitioners:

It is not uncommon for the views and positions of stakeholders involved in a project to differ. Nonetheless, given their unique expertise, their individual contribution shouldn't be undermined. Stakeholder engagement is a central component of the STOP project which was initiated with the organisation of a stakeholder dialogue. Participants had the opportunity to discuss topics, policies and measures related to childhood obesity. Stakeholders came from a variety of different backgrounds and together contributed to identifying policy solutions and reflect on the work of STOP.

Following this multi-stakeholder dialogue, concepts of power, transparency and trust, the importance of evidence, and political will and empowerment all appeared as important values. Following this first meeting, these key messages emerged and should be considered for multi-stakeholder meetings:

- Evidence is one of the basic tools to gain trust, but it has to be used "neutrally." It seems evidence might be the driver engaging all different stakeholder groups;
- Concepts of power and trust were perceived as the "soft" mechanisms "behind the scenes" and important drivers for stakeholder engagement;
- Participants indicated transparency was a crucial concept. It supports evidence-based policy design, enables effective and efficient implementation, enhances trust and confidence amongst stakeholders;
- Holistic and interdisciplinary approaches are essential, as well as increased cooperation and less competition between stakeholder groups.

Given the variety of stakeholder groups represented, we plan to explore and identify promising means to engage all different stakeholder groups. For more information, visit www.stopchildobesity.eu

2.15 Practice abstract 15

Title:

Healthy Voices – giving a voice to the youth

Short summary for practitioners:

Today, young people under the age of 25 represent the largest part of the population. As our next generation of leaders, policymakers and workforce, we need to ensure youth health is a focal point of developed policies. True and lasting impact to positively influence youth health, including overweight and obesity, will not only need to include young people's input, perspective and suggestions: the leadership of young people themselves need to be part of the answer.

Healthy Voices, a joint online capacity-building platform for both the STOP and CO-CREATE projects, aims to do that. Oriented towards youth aged 15-20 years old, it features youth-friendly content developed from both projects' outputs to aid youth engagement and empowerment in policymaking, as well as serve as an advocacy tool and provides toolkits, blogs and other interaction material. It is an opportunity for young people to engage with other adolescents and experts across Europe. Given the central role of youth today and in the future, the review of youth-oriented literature and guidelines allowed us to identify four central mechanisms to promote youth engagement:

1. Unfreeze the culture and recognise the need for a cultural shift
2. Catalyse knowledge into action by nominating champions
3. Internalise change by creating and taking advantage of existing opportunities
4. Institutionalise youth engagement into policy and standards to ensure it becomes a consistent practice.

It is therefore essential to ensure youth have access to appropriate resources that will help increase their overall health literacy, specifically regarding nutrition policies.

For more information, visit www.worldobesity.org/healthy-voices