SUPPLEMENT ARTICLE

Mobilizing governments and society to combat obesity: Reflections on how data from the WHO European Childhood Obesity Surveillance Initiative are helping to drive policy progress



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Summary

To meet the need for regular and reliable data on the prevalence of overweight and obesity among children in Europe, the World Health Organization (WHO) European Childhood Obesity Surveillance Initiative (COSI) was established in 2007. The resulting robust surveillance system has improved understanding of the public health challenge of childhood overweight and obesity in the WHO European Region. For

Abbreviations: BML body mass index: COSL Childhood Obesity Surveillance Initiative: HBSC. Health Behaviour in School-aged Children: IOTF. International Obesity Task Force: NCD. noncommunicable diseases; SDG, Sustainable Development Goals; STOP, Science and Technology in childhood Obesity Policy; WHO, World Health Organization.

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the past decade, data from COSI have helped to inform and drive policy action on nutrition and physical activity in the region. This paper describes illustrative examples of how COSI data have fed into national and international policy, but the real scope of COSI's impact is likely to be much broader. In some countries, there are signs that policy responses to COSI data have helped halt the rise in childhood obesity. As the countries of the WHO European Region commit to pursuing United Action for Better Health in Europe in WHO's new European Programme of Work, COSI provides an excellent example of such united action in practice. Further collaborative action will be key to tackling this major public health challenge which affects children throughout the region.

KEYWORDS children, obesity, policy, schools

1 | INTRODUCTION

Obesity is recognized to be one of the major health challenges facing the countries of the WHO European Region.^{1,2} Overweight and obesity among children is a particularly urgent and serious challenge, which threatens to undermine many of the health gains of recent decades.³ Obesity can affect a child's health, education, and quality of life, and it can have lifelong consequences for health and well-being.³ Countries in the region have committed to reaching global goals to halt the increase in overweight and obesity in children, adolescents, and adults and are under pressure to deliver clear results by 2025.^{4,5}

For countries to be able to understand what kind of policy action is needed to prevent overweight and obesity and to monitor the impact of any policies implemented, regular and timely high-quality data on prevalence are essential. It has long been recognized that surveillance data are important catalysts for policy change.^{6,7} Data from the Health Behaviour in School-aged Children (HBSC) study, for example, enabled priority areas for action on adolescent health to be identified and led to system changes and targeted policy actions in areas including substance use and healthy lifestyles.⁸ To meet the need for standardized surveillance data on children's weight status, the WHO Regional Office for Europe and 13 Member States established the WHO European Childhood Obesity Surveillance Initiative (COSI) in 2007.⁹

In September 2020, the WHO Regional Committee for Europe endorsed a new European Programme of Work (EPW) for the period 2020–2025, proposing a vision for WHO's work in Europe that focuses on united action for better health.¹⁰ A key message is the importance of tackling the health inequalities that persist in the region and ensuring that progress in improving health leaves no one behind. A commitment to mobilize society for promoting physical activity, healthy nutrition and the fight against obesity is included.

Reliable data are needed to inform the policy response, but they are also key for raising awareness and mobilizing societies. Prevalence data that are timely and comparable between countries and groups, as well as over time, can play an important role in raising awareness and in motivating political leaders to take action. In this way, COSI data on childhood overweight and obesity have helped to drive and shape policy action on nutrition and physical activity in the WHO European Region for over a decade. To better understand the impact that COSI has had across the European Region, in this paper, we reflect on illustrative examples, taken from our experience, of how COSI data have been used in different areas of national and international policy and may have helped to shape the evolution of obesity trends across the region (Figure 1).

2 | METHODOLOGY

COSI data are collected according to a common protocol devised by the WHO Regional Office for Europe and Member States, which is designed to standardize conditions around data collection while allowing countries some flexibility to adapt the system to their national context.¹¹ Participating countries can select one or more of four age groups (6.0-6.9, 7.0-7.9, 8.0-8.9, or 9.0-9.9 years of age) for inclusion in the study. Children's bodyweight and height are measured by trained examiners using standardized procedures, and weight status is classified by body mass index (BMI) and the WHO recommended growth references for school-age children and adolescents.^{12,13} Additional data on dietary intake, physical activity, sedentary behavior, family background, and school environments are collected in several countries. According to WHO definitions, overweight (including obesity) and obesity are defined as a BMI-for-age value > + 1 Z-score and > + 2 Z-scores, respectively.¹² The detailed COSI methodology is described elsewhere.¹⁴

In order to illustrate the contribution of COSI data to combating childhood obesity, selected COSI principal investigators were invited to contribute case studies documenting how COSI data had been used in their national context. This convenience sample was selected on the basis of previous publications and contributions to COSI meetings, indicating that surveillance data obtained via COSI were being used to inform policymakers and support them to develop actions. Case study material was provided for 10 countries—namely,



FIGURE 1 Mapping examples of how COSI data can be used to drive and shape policy action to tackle childhood obesity

Bulgaria, Croatia, Georgia, Ireland, Italy, Latvia, Malta, North Macedonia, Portugal, and Turkey. This generated illustrative examples that may not otherwise be documented in the literature. The exercise was not intended to present either a representative picture of the situation in participating COSI countries or an exhaustive description of all the ways in which COSI has contributed to policy across the European Region.

3 | IMPROVING AVAILABILITY OF PREVALENCE DATA

In 2006, at the time of the European Ministerial Conference on Counteracting Obesity in Istanbul, only 13 (25%) countries in the region had nationally representative prevalence data on obesity in children aged 6–10 years based on objective measures.¹⁵ In addition, measurement tools, calculation, and presentation of obesity/overweight data were not standardized.

The adoption of a common protocol and standardized methodology has created a surveillance system that provides regular, reliable, and valid data across Europe.^{11,14} In 2020, there were 45 countries participating in COSI, and the first four rounds of data collection, between 2007 and 2017, measured over 940,000 children.¹⁴ COSI data have been disseminated in a variety of ways, including publication of factsheets, technical reports, scientific papers, and national publications.

It is difficult to overstate the importance of improving access to robust data on prevalence. COSI data have been incorporated into global overweight and obesity prevalence estimates through collaboration between WHO and the NCD Risk Factor Collaboration (NCD-RisC).¹ COSI data are important for tracking progress toward global and regional goals and are incorporated as the source of region-wide data on prevalence of child malnutrition (undernutrition or overweight).¹⁶

The four rounds of COSI data collection have revealed stark differences between and within countries. COSI data have also been able to chart changing situations and, notably, a leveling off or a reduction in prevalence of childhood overweight in several countries, including some of those that initially reported the highest prevalence rates. Meanwhile, COSI data have highlighted that some countries in the eastern part of the region, particularly the participating Central Asian countries, are facing a double burden of malnutrition, whereby undernutrition coexists with overweight and obesity.¹⁷

4 | INFLUENCING NATIONAL POLICY ACTION

At the national level, COSI data have been used to inform, drive, and shape national policy action in a variety of ways. With 45 countries now participating in COSI, the ways in which data have influenced policy action in all participant countries are too numerous to describe here. In this section, we highlight some examples of the role that COSI data have played in the national policies of a selection of countries participating in COSI.

4.1 | Raising awareness of childhood obesity

COSI data have revealed a picture of childhood overweight and obesity in each country. As noted above, prior to the establishment of COSI, there was a lack of reliable data on children's weight status in the WHO European Region.¹⁵ The reliable and valid data generated by COSI have enabled countries to analyze how their situation compares with other participating countries and to assess how the picture is evolving over time.

In Portugal, as no national nutritional surveillance system was implemented prior to 2007,¹⁸ when data from the first round of the COSI study revealed the country to have the second highest prevalence of overweight and obesity in children, several initiatives were triggered immediately. The Platform against Obesity (2007–2009),¹⁹ a comprehensive national program from the Ministry of Health, was an important first response, which included a major media campaign as one of six national strategies. This well-structured communication plan, disseminated by all channels and implemented through campaigns, programs, and activities in several settings including schools throughout the country, was crucial to creating awareness, engaging the community in the discussion, and raising literacy about the disease. The Platform strategies were later absorbed into the National Programme for the Promotion of Healthy Eating of the Ministry of Health.²⁰

Publication of COSI data has helped to raise awareness of the public health challenge of childhood overweight and obesity. Publication of COSI data in North Macedonia, for example, was instrumental in raising awareness about the childhood obesity challenge facing the country and resulted in continuous discussion of the topic among public health and healthcare professionals. This greater awareness of the issue led, in turn, to many initiatives including incorporation of childhood obesity into the National Strategy for Health until 2020²¹ and the Action Plan on Public Health until 2020.²²

In Croatia, COSI data showing that the country had the fifth highest prevalence of childhood overweight and obesity of all COSI participating countries sparked great concern. Croatian media became an important partner in promoting healthy weight and healthy lifestyles among children and families. The ability to provide the media with accurate, measured data on Croatian children's weight status, as well as children's lifestyle habits, greatly facilitated this process. On World Obesity Day in March 2020, for example, COSI data on child-hood overweight and obesity in Croatia were presented in 105 media reports over a 3-day period.²³ The key messages were that obesity is one of the largest public health concerns of the 21st century, that it also occurs in children with long-term and serious consequences, and that it is not solely an issue of personal responsibility but is influenced by numerous environmental factors.

4.2 | Encouraging high-level political engagement

Reliable public health data are vital to encourage the engagement of political leaders and the development of political will to take action.

As well as raising awareness among academics, health policymakers, media, and the general public, COSI data have helped to encourage the engagement of senior policymakers. At the global level, COSI was discussed, and highlighted as a successful example of data being used to drive better policies, at a side event during the United Nations General Assembly in New York in 2018.²⁴ In Bulgaria, for example, COSI has played a key role in informing and raising awareness of policymakers about the high prevalence of overweight and obesity, along with some obesogenic characteristics of the school and family environment. Therefore, during the Bulgarian presidency of the European Union (EU) Council in 2018, a conference focusing on healthy nutrition for children was organized, and EU Council Conclusions for future directions were agreed.²⁵ High-level political engagement is also evident in Turkey, where the school lunch program was included in the 2019 Presidency Annual Programme and the Ministry of Education Strategic Plan,²⁶ following the finding in the 2016 round of COSI data collection that childhood obesity is increasing. Evidence on childhood obesity based on COSI data has been presented to parliamentary committees in Ireland, helping to build political will to tackle the issue.

In Portugal, the downward trend in the prevalence of childhood overweight (-8.3 percentage points or -22% relative difference) shown by COSI data between 2008 and 2019²⁷ could be partially ascribed to high-level political engagement at national, regional, and local level. Starting in 2007 with the Ministry of Health Platform against Obesity,¹⁹ followed in 2012 by the National Programme for the Promotion of Healthy Eating,²⁰ COSI data supported the country's first national food and nutrition policy. Later, to overcome the challenge of implementing health-in-all-policies or whole-of-government approaches in 2017, the Portuguese government created an Integrated Strategy for the Promotion of Healthy Eating, involving several different ministries, including the ministries of finance, internal affairs, education, health, economy, agriculture, and sea.²⁸

The impact of COSI in North Macedonia, which has been participating in the Initiative since 2010, has been multidimensional. Several national projects were initiated as a result of the greater awareness about the childhood obesity challenge facing the country due to COSI. A mandatory regulation about the quality of meals in kindergartens and primary schools was developed. The high degree of political engagement in this measure was demonstrated by the presence of three government ministers at the major national conference to promote the new standards.²⁹

4.3 | Informing strategies, action plans, and targets

There are numerous examples of COSI data prompting the development of strategies and action plans and aiding the setting of national targets. Dissemination of data based on measurements of 50,000 children in Italy every 2–3 years, for example, has raised awareness in the population and health professionals, leading the Ministry of Health to establish two technical working groups—one on physical activity and the other on prevention and health system response to obesity—and to publish a National Prevention Plan 2020–2025, agreed by the Ministry of Health and the Italian regional authorities. This Plan includes specific programs for health promotion in schools, active communities, and protection of the well-being of women and children in the 1000-day period from conception to a child's second birthday.³⁰

In Croatia, the data from anthropometric measurements and from the family and school questionnaires administered as part of COSI have provided valuable information for the development of national action plans on noncommunicable diseases (NCDs)³¹ and obesity prevention.³² In Malta, COSI data revealed a sharp increase in the prevalence of overweight and obesity in both boys and girls aged 6–8 years between 2008 and 2010. This triggered the formulation of a new National Obesity Strategy, which was launched in 2012.³³ Subsequent COSI data collection rounds in 2013 and 2016 point to a plateauing of the overweight and obesity prevalence rates in 6- to 8-year-old children.

In Portugal, as the COSI study also provided regionally representative data, it gave information for policymakers, especially for regional health authorities, to take appropriate action at the regional level.³⁴ Since the first round in 2007/2008, geographical differences were found, showing higher levels of prevalence of overweight and obesity among the islands-Azores (46.6%) and Madeira (39.4%) compared with the national average of 37.9%.¹⁸ This was ascribed to a range of factors, including low levels of physical activity; a decrease in intakes of traditional island foods such as fresh fish, meat, and local fruits and vegetables; and consumption of an energy-dense diet. This information was so important that from 2008 the Azores Health Directorate appointed a nutritionist to each health unit, establishing a follow-up childhood obesity consultation for every child at risk of overweight and obesity.³⁵ Azores has since been the region that has made the greatest contribution to the Portuguese downward trend of overweight in children, decreasing more than 10 percentage points from 46.6% in 2008 to 35.9% in 2019 in that region alone.²⁷

To the north, COSI data allowed policymakers in Ireland to build a picture of the weight status of Irish children, including higher prevalence of obesity in schools in areas of socioeconomic disadvantage. The data were used to define targets for overweight and obesity levels among children and a target to reduce the inequality in the levels of childhood obesity identified in COSI findings.³⁶ In 2016, the then Minister of State for Health described COSI as a "core tool to help us monitor our progress towards achieving the targets set out in A Healthy Weight for Ireland. Obesity Policy and Action Plan 2016-2025" and described tackling childhood obesity as a key personal priority.³⁷

4.4 | Creating healthier school environments

An important element of COSI is the collection of data about school environments. Data are collected on aspects of the physical environment (e.g., spaces and facilities for children to be physically active, school catering, and presence of vending machines) and relevant policies, such as rules around marketing on school premises.¹⁴ Schools are an important setting for promoting children's health through the

provision of education about food, nutrition, and healthy lifestyles and the creation of supportive environments that foster healthy eating and active lifestyles. It is not surprising, therefore, that many countries report that dissemination of COSI data has contributed to bringing about changes in schools.

There has been widespread action to improve the food served, sold, or available in schools. Between 2015 and 2018, the Latvian government, for example, improved the nutritional standards for school lunches and defined which foods are permitted in school cafés or vending machines, reinforcing an earlier ban on soft drinks, sweets, and salty snacks in schools.³⁸ Advertising for energy drinks in educational establishments has been prohibited since 2016. In Georgia, there was action to improve school environments after the dissemination of COSI data, for the first time, in 2017. This included implementation of a new National School Lunch Guideline, inclusion of lessons on healthy eating in primary school curricula, and a ban on advertisements for soft drinks and fast foods in schools. Following publication of COSI data in Turkey in 2013, the Ministry of Health developed new Food and Beverages Standards in Schools³⁹ and prohibited sale of foods and beverages high in calories, fats, sugars, and/or salt.⁴⁰

In Bulgaria, COSI data that highlighted the high prevalence of overweight and obesity in children and the scope for improvements in school food environments have been used to drive change and initiate policy and legislative measures. These included the publication of dietary guidelines for school-age children in 2008, revised in 2019,⁴¹ as well as standards for healthy nutrition of schoolchildren in 2009⁴² and a recipe book for school canteens and buffets.⁴³ Later rounds of COSI data collection have been used to demonstrate some improvements in the school environment and a possible leveling off in the prevalence of obesity and overweight among Bulgarian school children.⁴⁴ Other examples of action to improve school food environments are plentiful throughout the COSI network.

The lessons learned from experience of implementing healthy food procurement policies for schools can be applied to other public institutions. Rules to improve the nutritional quality of food served or sold in public institutions—such as hospitals, childcare facilities, residential care homes, and government offices—can also help create healthier food environments. The Latvian government, for example, has introduced nutritional standards for meals in medical facilities and social care and social rehabilitation institutions³⁸ and issued updated recommendations for procurement for these institutions.⁴⁵

4.5 | Improving information and education on healthy diets

Informing and educating children and their families about healthy diets, physical activity, and healthy weight status are an important element of strategies to prevent obesity. Heightened awareness of the challenge of childhood obesity has prompted some countries to revise their healthy eating or healthy lifestyle advice. COSI data from 2010 and 2013 in North Macedonia, for example, were crucial in making a case for the development of the first national food-based dietary guidelines.⁴⁶ Similarly, the warning sounded by COSI data in Bulgaria led to the publication of specific food-based dietary guidelines for children 7–19 years in 2008 and of a revised version in 2019.⁴¹ In Turkey, following the COSI findings in 2013, the Turkish Nutrition Guide 2015–2020 was developed.⁴⁷ In Italy, the Ministry of Health issued new national recommendations on physical activity for different age groups.⁴⁸

Further efforts to boost education about healthy lifestyles include changes to school curricula in order to incorporate lessons about food, nutrition, and healthy lifestyles or to increase physical education. In Malta, for example, subjects such as healthy lifestyle, nutrition, and physical activity have been incorporated into the National Minimum Curriculum for schools.⁴⁹ In 2015, a policy to promote a whole school approach to healthy lifestyle was launched.⁵⁰

Some countries also report action to increase physical education in schools. Georgia, for example, implemented a new guideline for physical activity in schools and increased the time allocated to physical education from 45 to 90 min per week, whereas Turkey introduced a new fitness test into secondary and high schools in 2017.⁵¹

4.6 | Establishing healthier food environments

Although efforts to improve information and education about healthy eating and to improve school environments are vital elements of obesity prevention strategies, it is important that a comprehensive approach also involves measures to create healthier food environments, which shape the eating habits of children and adults alike.^{52,53}

4.6.1 | Price policies

Price policies-including the use of taxes and subsidies-affect the price of healthier and less healthy food and beverage products and can play an important role in creating healthier food environments.⁵⁴ In recent years, there has been growing momentum to implement specific taxes on sugar-sweetened beverages.⁵⁵ In Portugal, for example, data obtained through the COSI family questionnaire found that the majority (80%) of children aged 6-8 years were regularly drinking soft drinks. These data were important to support scientific evidence and build political momentum for the implementation of a tax on sugar-sweetened beverages, culminating in introduction of the sugary drink tax in January 2017.⁵⁶ Many companies have since reformulated their drink products to reduce the amount of sugar, and there has been an overall drop in sales of sugar-sweetened beverages, as well as an estimated 11% reduction in total energy intake from sweetened beverages.^{57,58} This measure was introduced to reinforce earlier efforts to reduce childhood obesity, because data from the first round of data collection in 2008 revealed one of the highest rates of childhood obesity in Europe. That spotlight on the issue prompted robust government action, with positive results—between 2008 and 2016, the prevalence of overweight in children dropped from 37.9% to 30.7% and obesity prevalence fell from 15.3% to 11.7%.⁵⁷

4.6.2 | Food regulation and food improvement

As part of their efforts to create healthier food environments, governments also have the option to use food regulation or voluntary initiatives to improve the nutritional quality of food products or to regulate access to particular types of products. The Latvian Parliament, for example, approved a law in January 2016 to prohibit the sale of energy drinks to people under the age of 18.⁵⁹

4.6.3 | Food marketing to children

Throughout Europe, children and their caregivers continue to be exposed to advertising and other forms of marketing for foods that are high in fat, sugars, and/or salt,⁶⁰ and this marketing is known to influence what children eat and their risk of obesity.⁶¹⁻⁶³ At the Sixty-third World Health Assembly in May 2010, governments agreed the WHO Set of Recommendations on the Marketing of Foods and Non-Alcoholic Beverages to Children.⁶⁴ To support countries in the European Region to implement these recommendations, the WHO Regional Office for Europe supports a WHO European Action Network on Reducing Marketing Pressure on Children.⁶⁵

The concern generated by the 2016 COSI data in Turkey, which showed an increase in prevalence of childhood obesity, prompted the government to take measures to reduce marketing pressure on children. The Ministry of Health developed a nutrient profile model to identify foods for which marketing is restricted⁶⁶ and television advertising for these foods has been prohibited since 2018.⁶⁷ There is also a ban on giving gifts to appeal to children with food products or on using any similar marketing techniques targeting children, and there is a requirement to include Ministry of Health messages on advertising for some foods.⁶⁸

4.7 | Strengthening the health system response to childhood obesity

Policies that change the environments in which children live, study, and play are of fundamental importance, but there is also a vital role for health systems in prevention and management of childhood obesity. Heightened awareness about the challenges of childhood obesity has also prompted governments to reinforce health systems' work on this issue. In Ireland, for example, COSI data on the prevalence of childhood obesity fed into the development of the draft Model of Care for the Management and Treatment of Overweight and Obesity in Ireland by the Health Service Executive, the Royal College of

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Physicians, and the National Obesity Clinical Management Group.³⁶ In Turkey, a network of 235 healthy living centers has been established within the primary care sector—since 2015, dieticians in the centers have provided over 900,000 consultations⁶⁹—and obesity centers have been established in hospitals.⁷⁰ In addition, data collected within the COSI network contributed to a WHO mapping of the health system response to the management of childhood obesity in the European Region, which identified shortcomings in governance, integrated delivery of services, financing, and education of the workforce.⁷¹

4.8 | Informing efforts to reduce health inequalities

Not only have COSI data been important in raising awareness of the overall prevalence of childhood obesity, but they have also revealed differences between population groups.⁷² These include geographical differences—the very large scale of data collection in Italy, for example, has enabled comparisons between the country's different regions and by parental socioeconomic conditions.⁷³ Differences by socioeconomic status have also been identified. In Ireland, for example, COSI data identified a higher prevalence of childhood obesity in schools in disadvantaged areas.³⁶ The COSI team reported in 2017 that although the overall prevalence of overweight and obesity among first-grade children in Ireland appeared to be stabilizing, this was not the case for first-grade children in disadvantaged schools.⁷⁴ Earlier COSI findings, which had highlighted the existence of such inequalities, supported the setting of a national target to reduce the inequality gap in childhood obesity levels.³⁶

5 | INTERNATIONAL POLICY IMPACT

COSI findings have also influenced the international policy arena in various ways. Robust prevalence data supported a number of global initiatives including the WHO Commission on Ending Childhood Obesity in 2016,³ the Global Action Plan on Physical Activity in 2018,⁷⁵ and the development of the Sustainable Development Goals (SDGs).⁷⁶ At the WHO regional level, COSI data have fed into development of the WHO European Food and Nutrition Action Plan 2015-2020⁵³ and the Physical Activity Strategy for the WHO European Region 2016-2025.77 Within the EU, issues relating to childhood obesity have achieved prominence on the EU agenda thanks to the efforts of some individual countries participating in COSI. The Maltese Presidency of the EU in 2016, for example, organized a working group on childhood obesity and issued a technical report on healthy food procurement in schools.78 As mentioned above, in 2018, 'healthy nutrition for children' was chosen as a priority for the Bulgarian Presidency of the EU.⁷⁹

COSI findings have also contributed to the scientific literature between 2009 and 2019, 68 scientific papers and technical reports, at the international and national levels, were published, often with important implications for science and policy. In 2019, for example, the analysis of COSI data from 22 countries confirmed the protective effect of breastfeeding against obesity.⁸⁰ This evidence reinforces the importance of policies to protect, promote, and support breastfeeding and underlines that such policies promote double-duty actions that protect against undernutrition and overweight. Similarly, analysis of COSI data from 21 countries provided the first analysis of the prevalence of severe obesity in measured school-age children living in those countries.⁸¹

COSI data have also been an important resource for international projects, such as CO-CREATE—a consortium of 14 partners that aims to reduce childhood obesity by working with adolescents to create, inform, and disseminate evidence-based policies for obesity prevention⁸²—and the Science and Technology in childhood Obesity Policy (STOP) pilot project.⁸³ The experience of developing a common protocol and methodology for measuring bodyweight and height among school-age children provided useful learning for WHO's work to collect data on overweight among children under 5 years old as part of the STOP project.

As the first WHO regional surveillance initiative on childhood obesity, COSI may also serve as a model for similar initiatives in other regions.

6 | DISCUSSION

The main findings of COSI are reported elsewhere.^{84–86} As mentioned previously, this paper has not attempted to systematically assess the impact of COSI or to provide an exhaustive description of all the areas where COSI is considered to have had an impact on policy. It draws instead on illustrative examples from 10 countries and is not intended to present a representative picture of the situation in the 45 countries participating in COSI. A more detailed analysis of the national policy landscape in participating COSI countries is provided elsewhere.⁸⁷

It is important to remember the very different contexts within the WHO European Region, which includes 21 middle- and low-income countries as well as 32 high-income countries, with varying levels of economic development.⁸⁸ Moreover, the ways in which medical care and schooling are organized vary among countries. There are differences of up to 21.5 percentage points between the highest and low-est rates for adult overweight and obesity,² and whereas in some countries childhood obesity rates have stabilized, other countries are still experiencing increasing prevalence rates while faced with the double burden of malnutrition.^{17,89} Although it is a strength of COSI that it can be implemented in such different contexts, it is clear that the impact of COSI participation, and the data generated, will depend on the specific national situation.

The examples described in this paper clearly demonstrate the value of standardized data on prevalence and related factors for supporting governments and society to drive and shape policy action on childhood obesity. The findings illustrate different ways to use the data to drive policy progress—from effective collaboration with media in order to raise public awareness of the issue, to direct engagement

with parliamentarians advocating for policy action, or to capitalizing on policy windows of opportunity such as Presidency of the EU to place the issue of childhood obesity on the political agenda. These findings are drawn from a relatively small number of countries, and there are likely to be other lessons to learn from the experience of the other countries participating in COSI.

7 | CONCLUSIONS

For over a decade, strong collaboration between countries in the WHO European Region, in close cooperation with the WHO Regional Office and other partners, has been very effective in producing reliable, valid data on children's weight status and related factors across the region. This paper reflects on many national and international examples to illustrate how COSI data have been able to drive and shape policy action. The true scope of COSI's impact is likely to be much broader. In many participating countries, COSI revealed the extent of the childhood obesity burden, and there are signs in some countries that subsequent policy action has helped to halt the rise in the epidemic, which is important for achievement of the SDGs.

As the countries of the WHO European Region commit to pursuing United Action for Better Health in Europe, COSI provides an excellent example of united action in practice. Further collaborative action is likely to be the key to tackling this major public health challenge, which affects children throughout the region.

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CONFLICT OF INTEREST

The authors declare no conflict of interest. The funders had no role in the design of the COSI protocol and the decision to write this paper or its content.

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ETHICAL STATEMENT

The WHO COSI study protocol was approved by the International Ethical Guidelines for Biomedical Research Involving Human Subjects. Local ethics approval was also granted.

DISCLAIMER

JB, JW, and IR are staff members of WHO, and MB and KM are consultants with WHO. The authors alone are responsible for the views expressed in this article, and they do not necessarily represent the views, decisions, or policies of the institutions with which they are affiliated.

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