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Ending Childhood Obesity

Actions through health and food equity

11–12 October 2016
Uppsala, Sweden



We all know that healthcare today must address new and changing challenges. We are faced with both economic and ethical dilemmas, and while advances in research and innovations may open new possibilities for better health and improved care, they do not always reach those who need them.

Uppsala Health Summit is an international arena for frank and challenging dialogue, exploring possibilities and dilemmas associated with advancement in medicine. Uppsala Health Summit stimulates dialogue from various perspectives, such as medical, economic and ethical.

We are an enabler for change, and an arena laying the foundation for long-term relationships and insights that can help you in your work to improve health outcome in your part of the world.

Uppsala Health Summit is arranged in Uppsala, Sweden, by partners with long experience of developing health and healthcare from different perspectives, and who see the potential for improving health and healthcare globally.

The effort is run as a collaboration between Uppsala University, the Swedish University of Agricultural Sciences, Uppsala County Council, the City of Uppsala, the Swedish Medical Products Agency, The National Food Administration, The National Veterinary Institute and the network World Class Uppsala.

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Preface

Children's health is a major concern, both to parents and to society at large. To feed the next generation properly, provide good education and a chance to develop an active life in a healthy environment is the best investment we can make for a sustainable future.

Parents surely want to give their children the best possible start in life, but things may still go wrong. Childhood obesity is a growing problem in many parts of the world. Children do not get the exercise they need and their diets are becoming increasingly unhealthy. If we cannot manage to turn this development around, we as a society will have failed our responsibility towards our children. In addition to this, health systems will be challenged, in some parts of the world even exhausted.

Numbers show that we have to act, but what can we do?

This year, Uppsala Health Summit is dedicated to finding solutions to children's obesity. We will talk about obligations and possibilities. This meeting is needed because obesity is a complex problem. There is not one cause or any one group responsible. Parents, schools, the food industry, governments and other regulatory bodies are all important stakeholders when it comes to defining – and implementing – solutions.

Uppsala Health Summit was created to bring medical, ethical and economic perspectives together to address challenges and dilemmas in order to improve health outcome in all parts of the world, despite limited resources. This year, we will join hands in ending childhood obesity.

I welcome you to challenging and rewarding discussions at Uppsala Health Summit!



Anders Malmberg, Professor
Chairman of Uppsala Health Summit
Steering Committee
Deputy Vice-Chancellor Uppsala University

Ending Childhood Obesity

– actions through health and food equity

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Introduction

Today, 41 million children under the age of 5 suffer from overweight or obesity¹ with increased risk of acquiring cardiovascular disease, diabetes and cancer later in life.

While many countries and socio-economic environments may have managed to halt the rise in the number of children that develop obesity, the

number of obese children in other parts of the world is increasing at a fearful pace. Although the prevalence is higher in high-income regions, we see an alarming increase of obese children in low- and middle-income settings, putting additional burden of chronic disease on already challenged healthcare systems.

There are many factors that contribute towards explaining why a child develops overweight or obesity. These factors need to be altered or removed to minimize the risk of acquiring chronic

¹ World Health Organization. *Ending Childhood Obesity* 2016.

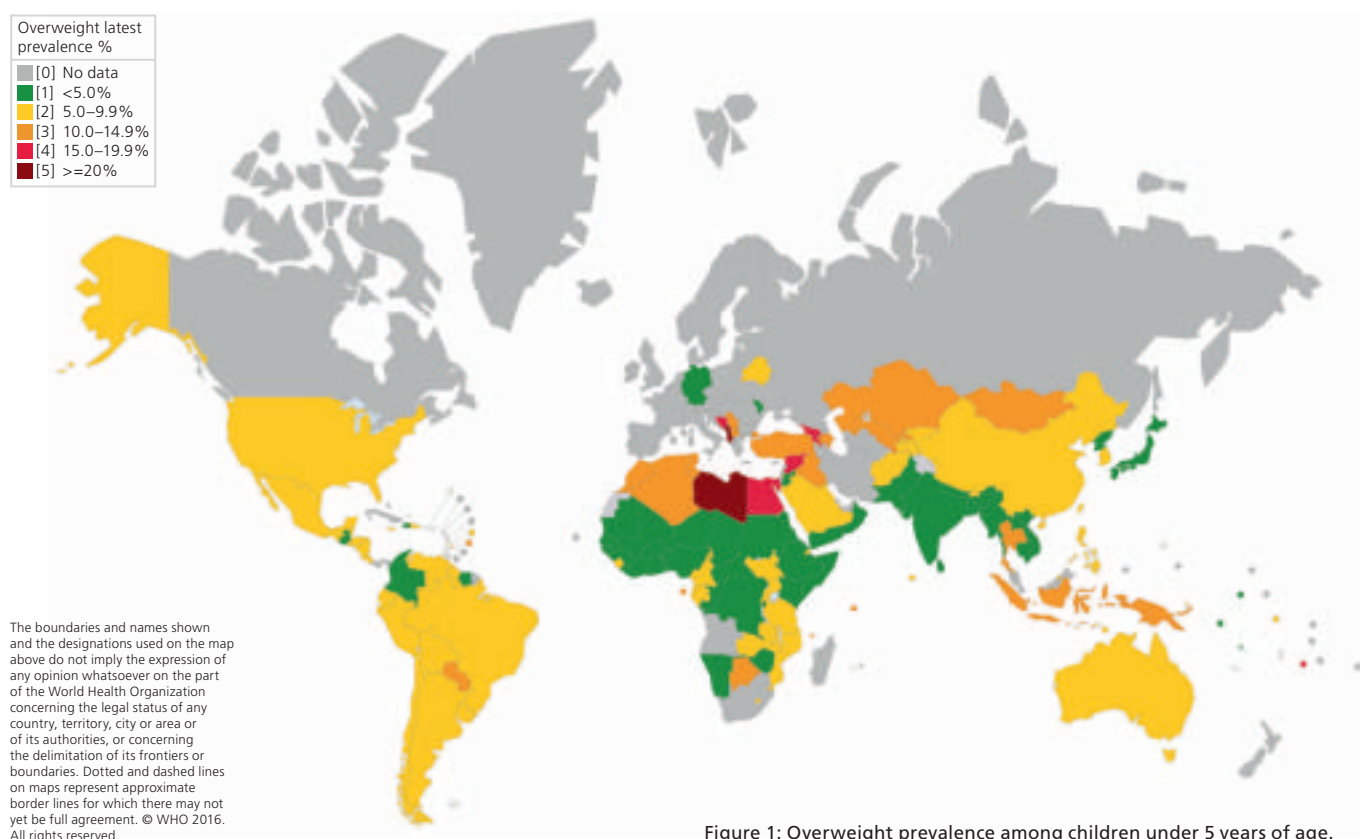


Figure 1: Overweight prevalence among children under 5 years of age.

Source: WHO, www.who.int/nutrition/trackingtool/en/tools



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diseases already at a young age or later in life. Furthermore, in some parts of the world, obesity – particularly in young ages – is a stigma, putting an additional and unnecessary burden on the child and the family.

Childhood obesity – a health threat

According to the Global Nutrition Report 2016, the number of overweight children under five is approaching the number of wasted children.² But trends vary considerably between regions. The most rapid increase of overweight children under five takes place in Asia, while stunting remains a major concern in Africa. As a consequence, the prevalence of non-communicable diseases, such as diabetes, (type-1, type-2 and diabetes during pregnancy) increases worldwide. The number of people with diabetes in Sub-

Saharan and North Africa and the Middle-East, for instance, is predicted to at least double between 2015 and 2040.³

Growing prevalence of childhood obesity and its risk factors may in the end eradicate the achievements made in global public health, unless we can stop its further progress and help our children to healthier lives.

Urbanization has seriously diminished children's, and adult's, opportunity for physical activity. Related to urbanization, though not exclusively, is also the growing concern for children's security, be it for safety, traffic or fear of crime. The effect is the same: children have less opportunity to naturally play outdoors, or travel to school, friends or other social activities.

² International Food Policy Research Institute, 2016, p. 16

³ International Diabetes Federation

The other aspect of children's obesogenic environment is malnutrition which could either mean deficiency of nutrients and calories or excess thereof, leading to obesity. Children from vulnerable socio-economic groups are generally more exposed to various forms of malnutrition, whether it is under- or over-nutrition. However, many regions see a trend whereby children in families with higher socio-economic status are exposed to various forms of over-nutrition and are less physically active, with all its consequences.

We are familiar with the concept of *health equity* which refers to the absence of avoidable or remediable differences between groups of people in society in terms of possibilities and ability to maintain or gain health, regardless of their wealth, power, gender, age or geography. WHO describes that a common characteristic for people experiencing health inequity is the lack of economic, social or political power.

One important part of achieving health equity relates to the understanding of healthy nutrition and access to healthy foods. Therefore, by extension, *food equity* relates to the availability of and access to safe and nutritious food, and the ability to navigate in a complex food environment, irrespective of socio-economic status, gender, age or any other characteristic. *Food inequity* is therefore, a failure in this process and explains why certain groups are more at risk of consuming foods that are detrimental to their health.

Reversing the world's obesity trend among children will require actions on food and health equity specifically targeted for children and their parents.

While being one of the greatest challenges to health and healthcare globally, childhood obesity could also be one of the threats that we actually *can* address if we implement the knowledge gained from research and practice. But, as often, implementation is the tricky part. No one-dimensional intervention will work, but rather a strategy involving multiple actors in society is needed.

Policies promoting a healthy childhood

In April this year, the United Nations' General Assembly declared 2016 – 2025 the *Decade of Action on Nutrition*. The resolution encompasses the whole issue of malnutrition, *i.e.* both under-

nutrition and over-nutrition. This comprehensive approach opens up for strategies and interventions that address both aspects of malnutrition. Undernutrition at early age or during pregnancy seriously increases the risk for the child to become overweight or obese later in life showing their interrelation. Consequently, measures addressing childhood malnutrition must consider all its aspects. Promoting healthy eating is one way. But childhood obesity is a long-term and global health issue that will require actions from stakeholders on all levels, from different sectors and in all regions.

Numerous policy decisions have been taken over the years aiming to protect children's right to a healthy diet and a healthy environment. Among them is the International Code of Marketing of Breast-milk Substitutes adopted by the World Health Assembly in 1981, banning advertising of breast-milk substitutes. The code was strengthened at the World Health Assembly 2016.⁴ Other WHO policy instruments include WHO's recommendations of 2010 on marketing of foods and non-alcoholic beverages, implemented by some nations either as regulations (*e.g.* Chile) or voluntary agreements, as Denmark's Code of Responsible Food Marketing Communication.

Many countries have introduced or are about to introduce taxes on *e.g.* sugar sweetened beverages. Recently, the United Kingdom and South Africa have announced that such tax policies will be enacted.⁵

We are however far from reaching WHO's global targets for improving maternal, infant and young childhood health⁶: No increase in overweight among children under five; no increase in obesity in adolescents and no increase in the prevalence of type 2 diabetes.

The Convention on the Rights of the Child states in its article 24 all children's right to health, including the eradication of all forms of malnutrition. The connections between nutri-

⁴ World Health Organization, 2016, A/69/A/CONF./7 Rev. 1

⁵ www.bbc.com/news/world-africa-35670275, as per 29/06/2016, and <https://www.theguardian.com/uk-news/2016/mar/16/budget-2016-george-osborne-sugar-tax-growth-forecast-falls>, as per 29/06/2016

⁶ WHO, 2014



PHOTO CREDITS: WORLD OBESITY FEDERATION.

tion, health and the environment are also clearly expressed in the Sustainable Development Goals from 2015, notably the goals 2 and 3: To end malnutrition and to reduce by one third premature mortality from non-communicable diseases by 2030. These are doubtlessly courageous goals, and goals that the world's leader have agreed upon. The sustainable development goals will shape global plans and national policies, including priorities for development-related finance schemes.

Actions directed to children's early life years – commonly referred to as the child's first 1000 days – are generally known as the most critical and the most efficient for undertaking any interventions. These actions include promotion of exclusive breastfeeding which has increased.

In 2014, its prevalence was estimated to 38%⁷. Though still below the WHO nutrition target of at least 50% prevalence, it is a change in the right direction.

A life-course perspective starts before conception. The health of the mother to be, her nutritional status before and during pregnancy, will have strong influence on the child's birth weight and health status. Measures aiming at pre-natal and maternal care are thus considered vital parts of any strategy aiming to improve children's health. Obese mothers are as important to reach as under-nourished mothers.

⁷ WHO, www.who.int/nutrition/publications/globaltargets2025_policybrief_breastfeeding/en/, as per 27/06/2016

The WHO's report *Ending childhood obesity*, presented in January 2016, combines the sustainability perspective with children's rights perspective and the life course approach to health. This report recognizes some hard lessons from many decades of nutritional interventions around the globe: Single interventions, no matter how well designed, will not suffice to achieve the goal of ending childhood obesity. Instead, we need to combine interventions involving a multitude of stakeholders to combat the obesogenic environment that our children are exposed to.

The World Health Assembly's decision in May 2016⁸ to develop the WHO report *Ending Childhood Obesity* into a global implementation plan is promising. Can we transform these recommendations into concrete actions? Are national leaders ready to take up the challenge? Can we, as society, work across different policy areas with a multitude of stakeholders?

Uppsala Health Summit – an arena for constructive and frank dialogues

Uppsala Health Summit will gather stakeholders from different policy areas, sectors and geographies in dialogue on how to take the next steps towards ending childhood obesity. Our goal is to provide an arena that could be truly helpful in

developing input for interventions, for the process of transforming the WHO-Commission's report *Ending Childhood Obesity* into action plans.

We wish to draw on the expertise and experience arising from various perspectives in the dialogue. These may reveal conflicting interests, divergent thoughts or dilemmas. Let us not shy away from them. Respecting the other's perspective will add to the understanding of possible solutions. This mix of perspectives and experiences will pave the way for a fruitful and solution oriented dialogue, developing concrete suggestions for how to move forward.

We invite you to take active part in the discussions, and use the arena to rekindle as well as establish relations needed for multi-stakeholder interventions and for mutual learning.

In order to enable and foster interaction and exchange of ideas amongst the summit participants, parallel workshops are organised. Each workshop highlights a particular aspect of childhood obesity. The following chapters are an introduction to each of the workshops presented at the summit, providing a foundation to kick-start the dialogues in which we look forward to your perspectives and experiences.

⁸ www.who.int/mediacentre/news/releases/2016/wha69-27-may-2016/en/ as per 2016 06 29

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World Health Organization, www.who.int/nutrition/publications/globaltargets2025_policybrief_breastfeeding/en/ as per 2016 06 27

World Health Organization, www.who.int/nutrition/trackintool/en/tools as per 2016 06 27

World Health Organization, <http://www.who.int/mediacentre/news/releases/2016/wha69-27-may-2016/en/> as per 2016 06 29



"Increasing the opportunities for safe, appropriate and gender-friendly structured and unstructured physical activity, both in and out of school will have positive health, behavioural and educational spill-over effects for all children and adolescents". (WHO's Commission on Ending Childhood Obesity, Recommendation 2.2)

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WORLD BANK GROUP.

Policy Tools to Drive Change

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Changes in body weight are the result of two choices: the number of calories consumed and the number of calories expended, and the larger the difference the faster you gain weight. In most countries we see a secular trend in rising body weight, and a contributing reason for this trend is two types of technological change: food has become cheaper through innovations in agriculture, and work has become more productive and less physically demanding through innovations on the labour market. This implies that the price of food has decreased in terms of calories spent (Lakdawalla and Philipson, 2002).

The goal of the workshop is to make an inventory of the case for taxes and alternative or supplementary policy tools to fight childhood obesity. This includes a discussion on the

effectiveness of various policy tools and how they should be constructed and implemented once the government has decided on a specific intervention. In designing policy it is also important to take into account that children may not take independent and fully informed decisions.

The main focus areas for the workshop are:

- What are the policy tools available to reduce childhood obesity?
- What are the arguments for and against taxes: do these arguments depend on the context?
- What alternative or supplementary policy interventions can be considered; what are the arguments for these?
- What are the special challenges and concerns that need to be considered when addressing obesity of children?



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Childhood obesity has grown along with adult obesity. As children generally eat what their parents eat, the same food related factors which generate obesity also applies to children. In addition, there are important technological changes in leisure time activities (watching TV, tablets, internet, computer games etc.), which have raised utility to a lower price of calories spent. While children still have the opportunity to play outdoors (e.g. playing football or jump rope) the new alternatives have shifted leisure activities towards less calorie consuming activities.¹

The scope for policy interventions

Changes in body weight are the result of two choices: the number of calories consumed and the number of calories expended, and the larger the difference the faster you gain weight. There are naturally individual variations in the causes of overweight, but on the population level people have not changed over the past 50 years.

Policy interventions aimed at curbing childhood obesity need to address either calories consumed

or calories expended. Two policy instruments which are often proposed are nutrition labels aimed at guiding towards healthier food choices, and to raise the cost of energy-dense food through taxes or through subsidizing healthy food alternatives such as fruit and vegetables. Sugar and fat taxes have been introduced in many countries; for example, Finland, Denmark and Mexico.

When discussing possible policy interventions it is important to use knowledge available to construct interventions that will have the desired effect. However, a first issue to consider is if interventions against obesity are warranted, is it a *public* or *private* health problem? Philipson and Posner argue that little research and discussion have addressed the fact that obesity “may be a private health problem rather than a public one. The fact that a person is overweight in a medical sense does not necessarily imply that the person is overweight in the sense that he is failing to maximize his utility or that government intervention would make him better off”.² Downs

¹ Philipson and Posner, 2011

² Philipson and Posner, 2011, p. 2

and Loewenstein mean that “the main rationale for intervention is that, beyond the externalities that it produces, obesity also generates what have been called *internalities* ... – costs that people impose on *themselves* but fail to fully internalize”.³ Our point of departure is that obesity is a public health problem, in addition to a possible private health problem.

How to design effective policy interventions

Drawing on behavioural economics when designing policy interventions has become increasingly common. Downs and Loewenstein argue that theories of *rational choice* explains certain aspects of obesity, but cannot explain other aspects, like why many people spend so much money on weight loss products, programmes and exercise. Downs and Loewenstein argue that “in part due to its failure to take account of the less rational side of obesity ... the rational choice perspective also falls short when it comes to offering policies to deal with the obesity epidemic”.⁴ Behavioural economics, on the other hand, manage to offer a more comprehensive understanding of why people fail to internalize self-imposed costs. Downs and Loewenstein conclude that “weight loss is more difficult than the standard economic perspective recognizes”.⁵ They argue that “by recognizing that people make systematic errors in decision making and suffer from self-control problems, behavioral economics open the door to a wider range of interventions than those that naturally stem from the rational choice perspective of conventional economics”.⁶

So what does this tell us in regard to the design of effective policy interventions? We know that they depend on what drives consumption. Taxes, subsidies or increased information can shift consumption away from energy-dense unhealthy products toward more healthy foods if parents and children make deliberate and rational consumption decisions. However, there is extensive evidence which suggests that individuals make systematic errors in their decision-making. For example, many individuals tend to be *present-biased*; that is, they have problems in fulfilling

long term plans due to temptations in the present, or due to behavioural/neurological cues, especially if future consequences of current behaviour is intangible. In this case taxes may not be as effective a deterrent for consuming unhealthy products. Individuals may also suffer from *projection bias*; that is, they may have difficulties imagining how they will behave in a visceral state and thus having difficulties creating behavioural strategies for sticking to long-term plans.

The case for taxes and information campaigns

Whether taxes and subsidies can shift consumption away from energy-dense, unhealthy products toward more healthy food and reduce the prevalence of overweight and obesity depends crucially on (i) how responsive demand is to prices; also known as the *price elasticity*, and (ii) that consumers do not substitute the taxed good for other energy-dense food. If the price elasticity is low, individuals will not change their food choices so the tax will just redistribute money to the government. With a clear socioeconomic gradient in the consumption of energy-dense food the tax will then become regressive, with an excess burden on an already vulnerable group. Similarly, if a tax covers food within a too narrow range so that there are un-taxed energy-dense alternatives to substitute for the taxed food, total calories may not be significantly affected even if consumption of the taxed good is reduced.

Whether taxes and subsidies are efficient policy tools is ultimately an empirical question. A literature survey by Powell and Chriqui on research using US data suggests that the price elasticity is relatively low which means that “small tax- or subsidy-related price changes would not likely produce substantial changes in body mass index or obesity prevalence”.⁷ However, Härkänen *et al* find that the taxation of sugar in Finland led to a statistically significant reduction in both the incidence of type 2 diabetes and coronary heart disease. In conclusion, research findings on the effect of taxes on obesity are inconclusive.

The impact of nutrition labelling is debated. Studies have shown scarce impact⁸, as well as results of heightened knowledge, but not neces-

³ Downs and Loewenstein, 2011, p. 139

⁴ Downs and Loewenstein, 2011, p. 139

⁵ Downs and Loewenstein, 2011, p. 139

⁶ Downs and Loewenstein, 2011, p. 149

⁷ Powell and Chriqui, 2011, p. 1

⁸ Storcksdieck genent Bonsmann and Wills, 2012

sarily better diet quality or health.⁹ This means that there is reason to doubt the effectiveness of *more* information in impacting behaviour.

Important policy-design issues

When an informed decision has been taken regarding implementing policy interventions, there are important design issues to address. Powell and Chriqui conclude that “as governments assess what products to tax or subsidize, they will be faced with issues of practicalities. Minimizing adverse substitution behaviours, and undoubtedly industry backlash”.¹⁰ The government will also need to find a good offset for the revenue that rhymes well with the objective for the tax. Furthermore, the tax – its implementation as well as its results – need to be closely monitored to assess the impact as well as possible adverse consequences.

Alternative policy tools

To the extent that individuals make systematic decision errors and suffer from self-control problems, policy tools may be designed more directly to shift behaviour in healthier directions. Examples of alternative policy tools include both regulation, and creating specific incentives and managing default options that are aligned with

behavioural errors. The two latter strategies are what are commonly referred to as *nudging*, in essence this means creating incentives that align with knowledge of human behaviour.

- By regulations we can both restrict access to unhealthy energy-dense products, for example snacks in the school environment. But regulations can also be used to reduce the likelihood of situations that may trigger behavioural or neurological cues.
- By creating healthier defaults – for example smaller plates or healthier plat-de-jour – or pre-commitment on consumption, individuals can be helped to stick to their long run plans.
- By creating incentives that are directly designed towards behavioural errors individuals can be induced to make healthy choices; for example, a contract pre-committing to lose weight that involves a monetary gain if meeting the target but a monetary loss if failing to meet the target may be an effective policy since individuals typically are overconfident and loss-averse.

For these alternative policy tools to be effective they should ideally change behaviour also in other situations/domains and long-run habits. Here the empirical evidence is still limited.

⁹ Downs and Loewenstein, 2011

¹⁰ Powell and Chriqui, 2011, p. 24

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Individual and Societal Responsibilities

– ethical dilemmas

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Obesity depends to some extent on the choices we make, for example what we eat or how we exercise. However, the choices made are partially your own, partially a consequence of the context and the information given and retained. Sometimes the choices are made by others – individuals or groups, among them elected policy makers. When it comes to children and adolescents, it is doubtful whether they have the capacity to make autonomous decisions. So who should bear the responsibility for overweight or obesity among children and its prevention and alleviation?

In this workshop, we will discuss this issue from an ethical point of view. Our aim is to contribute to a thoughtful and constructive conversation around the ethical issues that may occur in policies and programs addressing obesity. Our starting point is that such policies need to be sound from an ethical point of view not just because it is moral, but also because adequate consideration of ethical issues is a prerequisite for successful implementation, since proposed policies are likely to meet with fewer hurdles and be more efficient.

We will focus our discussion on some of the recommendations in the WHO document *Ending Childhood Obesity*:

- What characteristics would a proposal for a tax on sugar-sweetened beverages need to have in order to be perceived as fair by relevant stakeholders? In particular, we would like to raise considerations of equity.
- The recommendation to *Ensure only healthy foods, beverages and snacks are served in formal child care settings or institutions* needs to take into account that formal child care settings are very different and in several cases even unavailable. How can that be done?
- The emphasis that weight management services be family-based has repercussions for where the locus of responsibility is to be located. What would *family-based* mean in different cultural contexts and are there potential conflicts between family-based approaches and individual liberty?

Against the background of these and similar recommendations, we aim to produce a 'checklist' of ethical considerations – *i.e.* things that, at the minimum, should be taken into consideration when evaluating some policy measure targeting childhood obesity prevention or alleviation.



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At least to some extent, obesity depends on choices. These choices are made by individuals and groups, among them elected policy makers. Choices are influenced by numerous factors that we cannot control and which we might not even be aware of. But choices also involve responsibility. This raises questions of who is responsible for the current obesity situation, and whose responsibility it is to do something about it? In particular, who is to be responsible for the consequences of actions of individuals who never can be held responsible themselves, such as children? Where does individual responsibility meet social duty?

Two important distinctions need to be made. The first distinction is between moral responsibility and legal responsibility. Legal responsibilities are sanctioned by governments and supported by legal documents and institutions such as courts, prosecutors, and police. Moral responsibilities are not. At the same time, in democratic societies, law approximates morality, and morals justify legal interventions.

The second distinction is between forward-looking and backward-looking responsibility. Responsibilities that are forward-looking concern actions in the future. Such responsibility is sometimes called ‘task responsibility’ and can be exemplified by for instance situations such as that it is the responsibility of an employer to ensure that her employees’ working environment is safe. Backward-looking responsibility – ‘blame responsibility’ – concerns past actions. A typical example is when we say that ‘the driver was responsible for the car crash since he failed to adapt his speed to the conditions.

Vallgård *et al.* found that individuals are merited a larger responsibility (and maybe possibility) of influencing actions in the future, in reducing and preventing obesity.

Children, health equity and obesity

However, children are not fully autonomous agents. They neither have the ability nor the opportunity of making autonomous decision about their lives or their health, which affects

where responsibility can be located. One can only be responsible if one is capable of making autonomous choices. This means that some responsibilities fall on parents or guardians. To complicate things, adolescents are more autonomous than children. This requires delicate balancing. Children and adolescents need to be given some liberty to follow their preferences and pursue their own projects, while at the same time having their liberty restricted, in their own (long-term) interest. Most of us probably remember situations in which limitations were imposed on our adolescent selves by our parents or other adults – which we, retrospectively, very much appreciate. Furthermore, in order to exercise autonomy, you need information. Communication messages are diluted, abundant and at times contradictory. This creates a problem for individuals as well as for families. Parents have a huge impact on the child's food environment, values, lifestyle and habits.

There are considerable health *inequalities* involved in childhood obesity. However, not all such inequalities are morally problematic. The term *health inequity* is reserved for instances of inequality that are unjust. WHO describes that a common characteristic for people experiencing health inequity is the lack of economic, social or political power.

There are of course diverging opinions on exactly what makes inequalities unjust. Suggestions include whether the inequality is avoidable, amenable to intervention, has unjust causes, or is linked to individuals' responsibility.¹ The discussion regarding where responsibility should be ascribed is complex. There is a potential that focus on individual responsibilities prevents other solutions from being explored, such as regulation of food marketing or publicly funded health measures.² The issues involve controversy and potential pitfalls.

Focusing on the body, *i.e.* "on being fat as the problem", which in its wake brings stigma, bullying etc. also hinders us from focusing on what is most important, namely health.³

Guiding principles for forward-looking responsibility

This workshop will mainly focus on *forward-looking* responsibility, since this is the mandate for policy-makers.⁴ Studies have shown that different types of organisations (national, regional or international) assign responsibilities differently. A possible conclusion is that organisations furthest from the individuals (international organisations with states as members) assert the lowest level of responsibility to individuals. There is a situation of considerable *normative uncertainty* here, that is, "the wide range of reasonable disagreements that exist about what ought to be done – by individuals, organizations, or the state".⁵

To guide the discussion on ethical considerations to underpin international recommendations and guidelines, we may benefit from having a common starting point, a 'least common denominator'. In mainstream bioethics, the principlist approach of Beauchamp & Childress is firmly established since the 1970s. According to this approach, there are a number of ethical principles upon which it should be possible to agree for people of very different ethical convictions. They are mid-level principles – they are not theories about justification for moral judgements, and not rules for action in concrete cases.

The principles proposed by Beauchamp & Childress are *non-maleficence* ('do not harm'), *beneficence* ('do good'), *autonomy*, and *justice*. The principle of non-maleficence is a version of the 'do not harm' associated with the Hippocratic oath of medical ethics. Beneficence is the duty to, if possible, benefit others, for instance improve their health. Respect for autonomy requires that affected parties, to the extent possible, should be able to make their own choices. Finally, justice is a contested concept with very little agreement about its substantial content. In the principlist approach, justice is usually taken to have two parts. The first one is non-discrimination: Equal cases should be treated equally, and different treatments must be justified. The second principle states that those who are worst off should be given special consideration (both parts are associated with American political philosopher John Rawls.) Of course, many situations can be complicated by the fact that principles might be

¹ Voigt et al. 2014, p. 85

² Voigt et al., 2014, p. 11

³ Bogart 2013, p. 28

⁴ Vallgård et al., 2015, p. 845

⁵ Voigt et al., 2014, p. 10

in conflict, In the case of an obese adolescent, for instance, it might seem that respect for autonomy would mean that we should not interfere with that individual's choice of ice cream over wholegrain – which would in turn be contrary to the principle of non-maleficence (preventing harm to health).

This approach has also gained prominence in food ethics. One application is the Ethical Matrix, which has been used as a means for evaluation of new technologies (*e.g.* genetically modified salmon).

The ethical matrix

Respect for:	Wellbeing	Autonomy	Fairness
Producers	Satisfactory income and work	Managerial freedom	Fair trade laws
Consumers	Safety and acceptability	Choice	Affordability
Treated organisms	Welfare	Behavioural freedom	Intrinsic value
Biota	Conservation	Biodiversity	Sustainability

Source: Mepham, 2010, p. 18

In the matrix, the bioethical principles are tabulated against a number of affected parties, or interest groups, for instance, consumers or the environment. Each principle is then applied to each interest group to see how it affects them with regard to the ethical issue being considered. It has been used to deal with different issues, among them to support policy intervention concerning obesity.⁶

We would like to explore whether there is a case for considering where moral responsibility is, and should be, located in addition to the principlist considerations.

We want to investigate whether the elements of principlism plus attention to responsibilities may be used to draft a tentative "checklist" of ethical considerations, *i.e.* things that, at the minimum, should be taken into consideration when evaluating a proposed or existing policy measure targeting childhood obesity prevention or alleviation.

⁶ Mepham, 2010

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Migration and the Food Environment

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This workshop will focus on migration and the food environment. Migration in this context is defined as the movements that take place at an individual level and these can be categorised into three levels. Specifically a) a change in the physical location that an individual makes locally b) a change nationally or regionally in the physical environment and c) a global change in the physical environment. These movements ultimately are affected by the make-up that the individual bears with them.

Migrant population groups bring with them a genetic setup, a cultural and diet tradition that is unique from the host environment or country. The situation is exacerbated when an individual during their foetal life may yield to coping strategies and metabolic adaptations that predisposes one to non-communicable disease risk in later life. Particularly if the migrant population bears with them a predominantly rural and non-westernized food culture or food habits.

A “western” pattern diet is generally associated with energy-dense, nutrient poor foods that are high in fat and sugar such as sugar-sweetened beverages, fast foods and highly refined carbohydrate products leading to overweight and obesity for in-born migrants in their new environment. There are indications that younger subjects and more recent immigrants are more likely to adopt

a “Western” pattern diet particularly if the move of the individual is characteristically urbanised or global in nature. The association is most striking when the “Western” pattern diet is high in fat and sugar intakes leading to overweight and obesity in their new environment.

The aims of the workshop are to:

1. Identify current knowledge gaps and need for data to capture childhood obesity problems among first migrant and in-country born migrant adolescent populations
2. Discuss the relevance of foreign and in-country born adolescent immigrants needs of tailor-made public health nutrition messages in the primary health care system
3. Increase awareness and knowledge in primary healthcare systems of the heightened risk group and how to prevent the disease burden.

The main focus areas for the workshop are:

- What are the next steps to be taken regarding migration and the food environment and which stakeholders are most suitable to take this action?
- Can this be done within existing contexts, as voluntary agreements, or do we first need changes in international or national praxis or regulations?
- How can we follow up on actions (interventions) taken, and who should be held accountable?



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Little is known about the factors underlying the increase in weight occurring between first and second-generation immigrants. These population groups, including children born from migrant parents in the new food environment, are vulnerable groups for which particular strategies must be developed, and whose needs hitherto are neglected or underestimated. Increases in obesity among foreign-born adolescents should be a priority target for public health nutrition communication and policy intervention.

Different phases of migration face different health challenges

Migration has changed drastically over the past decades. It is not a new phenomenon, but the sheer numbers of it are unprecedented. A descriptive illustration tells us that if migrants (internationally and within country borders) would be a nation of people, it would be the third largest country in the world after China and India.¹ The general picture of migrations needs to be

diversified and problematized. Zimmerman et al. have identified five phases of *the migratory process* (departure phase, travel phase, destination phase, interception phase and return phase) and specific health considerations related to those phases.

The importance of this lies in giving us a tool to adjust interventions in accordance to the different health challenges that face migrants in different phases of the migratory process. Another important development that has been achieved but needs to be furthered, is the change within health policy-making regarding migration. It has moved from a focus on public health “threats” to a more rights-based perspective including the potential and specific “vulnerability of migrants to, for example, interpersonal and occupational hazards, social exclusion, and discrimination, and the importance of universal access and culturally competent health care services”.²

¹ Zimmerman et al., 2011

² Zimmermann et al., 2011, p. 1

The Barker Hypothesis – the transgenerational roots of chronic disease

“Chronic diseases are not the inevitable lot of humankind. They are the result of the changing pattern of human development. We could readily prevent them, had we the will to do so” argues Barker.³ It is not hundreds of years of evolution; it is two-three generations that affect the disease rates we have now. The knowledge of this, which we have attained through several large cohort studies, argues Barker, is why “protecting the nutrition and health of girls and young women should be the cornerstone of public health”.

The development model argues that variations in foetal nutrition program are “the function of a few key systems that are linked to chronic disease: the immune system, anti-oxidant defences, inflammation, neuro-endocrine settings and the number and quality of stem cells”.⁴ This compels us to think about issues of origin. It is simply not just about people moving around the world, genes are continuously moving around the world too. The knowledge of intergenerational roots, together with the knowledge of migratory phases needs to inform integrated health policy-making. Intervention, information and education are not only needed, they are paramount to solving overriding intergenerational health issues such as those of childhood obesity.

Progress with a focus on girls and young women

As Barker argues there are vast public health benefits to gain by focusing efforts on the health of girls and young women. It is the girls who will later bear children and in that process trigger second and third generation consequences.

However, girls and young women, for certain socio-cultural gender norms, are more prone than boys and young men to be overweight. This observation holds out as true especially because generally boys may have more freedom to engage in leisure activities compared to girls.⁵ It is thus no wonder that girls and women are at greater risks for childhood obesity. The propensity for childhood obesity in itself, entail a heightened risk for developing non-communicable diseases in adulthood.

What is the current situation among migrant and in-born migrant adolescent population groups worldwide? At this stage in life adolescents are more likely to be more interested in what their peers do and think and will also be more likely to adopt a “Western” pattern diet. Issues of lifestyle and activity play a crucial role. It is furthermore a key time for interventions; it is a time in adolescents’ lives when an interest for activity may be fostered, but also when attaining healthy patterns of consumption and behaviour is possible.

In a country like Sweden, childhood obesity has been slowly increasing over the last decades particularly where both parents are of non-Nordic origins.⁶ While recommendations are about targeting these high risk zones, perhaps the issue is also about understanding these intergeneration factors. Another important aspect is the importance of role-models. More often than not, there are limited people with a migrant background that through an active life-style encourage others to do the same. In Sweden, many boys strive to be the next Zlatan Ibrahimovic. The question is: Who do the girls strive to become?

The importance of acculturation

Important progress has been achieved in understanding the vast differences in weight between first and second-generation immigrants. The same patterns have been seen in many different countries, with in-borne migrant groups from different parts of the world. An increased focus on migrations’ eating patterns has shown the importance of the extent of *acculturation*, which refers to “the acquisition of dominant cultural norms by members of a non-dominant group”.⁷ The results have furthermore shown, that acculturation goes beyond eating patterns, to include physical activity and smoking (*i.e.* over-weight related behaviours) and this happens at a pace that surprises researchers.⁸ The understanding of the concept of acculturation and related health risks for in-born migrants needs to be a priority for nutrition communication.

Specific primary healthcare messages

The understanding of differences in sensitivity to risk for different immigrant groups in soci-

³ Barker, 2012, p. 185

⁴ Barker 2012, p. 188

⁵ Moraeus, Lissner et al., 2012

⁶ Moraeus, Lissner et al., 2012

⁷ Gordon-Larsen et al., 2003, p. 2023

⁸ Becker et al., 2013

ety needs to be constantly re-evaluated, since changes in migration patterns, mean changes in health risks.

We know that health professionals meet increasingly diverse migrant groups. However, it is many times civil society and different foundations that note new developments in an early phase since they are often more in tune and may be the first point of contact within a new society. At the same time, depending on the status of the migrants, health authorities may not be able to make an early intervention to prevent childhood obesity of families that are not legally documented. Hence, civil society are important actors in identifying new trends and findings regarding health risks and health seeking behaviour among diverse immigrant groups so that this can inform the designing of particular interventions.

Countries vary greatly in their acknowledgment and appreciation of diversity, which sometimes leads to not identifying immigrant groups, as a specific target group. These groups need specific primary healthcare interventions, and for now this is a research and implementation gap that could be amended.

Policies need to be integrated and SMART

“Migration policy-making is wholly compatible with health-promoting strategies for migrants” argues Zimmermann.⁹ The challenge is to get health policy-makers to take migration processes and the ensuing health issues into account and vice versa. But the task is also about policies being multi-sectorial. There is a clear divide between *practice* and *policy* according to Zimmermann *et al.*

There is an opportunity right now to develop and implement policies that address the diversity of migrant groups and their subsequent health risks. A useful tool in that process may be the notion of SMART policies.¹⁰ This means policies that are *Specific, Measureable, Achievable, Realistic* and *Time bound*. When policies are SMART, then we can hold governments accountable and this increases the chance of them having an actual and decisive impact.

While the importance of gender and gender imbalance is highlighted in the WHO report *Ending childhood obesity*, the report does not provide guidance as to how to address these gender disparities particularly in the provision of preventive health services. Notwithstanding, neither are the challenges that migrant populations face and the consequences in relation to information, education and interventions, these are far from being sufficiently addressed.

⁹ Zimmermann *et al.*, 2011, p. 5

¹⁰ Hawkes *et al.*, 2015

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Workshop

Healthy Eating for School Children

– today and for life

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This workshop will focus on the school environment as an arena for promoting healthy eating and nutrition literacy among school children. The importance of the school as an arena for this cannot be emphasised enough, since the school in most countries reaches all children regardless of socio-economy, gender and ethnicity. Furthermore children also spend a large part of their day in the school. Therefore it is important what children eat during the school day, what activities they do and what they learn about healthy eating and physical activity. The importance of the school environment, including nutrition literacy and physical activity, for reducing childhood obesity is highlighted in the WHO report *Ending childhood obesity*. The report points out that effective collaboration between the health and education sectors is needed to ensure healthy school environments.

In the workshop representatives from different sectors and from different parts of the world will meet with other stakeholders with the aim to formulate how the recommendations in the WHO report can be turned into

concrete action. The focus of this workshop will be on the food environment in schools and how schools can promote health and nutrition literacy. The emphasis will be on how policies could be implemented and turned into actions.

The main focus areas for the workshop are:

- Children need to learn a lot in school.
What should schools do to promote health and nutrition literacy? And to what extent?
- How can we convince teachers, parents, children and policy makers that promoting health and nutrition literacy in school is important?
- What do school staff and teachers need to be able to develop and implement successful school policies for a healthy school environment?
- Identify concrete and practical steps that policy makers and schools can take in order to improve the environment in and around schools.
- Evidence gaps and research needs related to the role of schools in promoting health and nutrition literacy.



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The Convention of the Rights of the Child (CRC) states that all children have the right to a good start in life. How different societies are able to meet this goal varies, but there shall not be a difference in opinion of what it entails. In regards to the school it entails the child's right to a healthy up-bringing, as well as to a school environment that promotes a sense of security and self-esteem.

As highlighted in the report *Ending Childhood Obesity* school children is also a particularly susceptible group to marketing of different types of unhealthy food alternatives as well as for peer pressure and ideal body images. Furthermore, it is important to remember that schools are a *mini-society* where the values of parents and teachers are a reflection of the values in society as a whole.

Schools are an important arena from several different and mutually strengthening perspectives; in addition to being an arena for learning about food and physical activity it is an arena where food actually is produced, presented and eaten and where physical activity is conducted.

Promote health and nutrition literacy

To function in a complex society every individual needs a wide range of abilities and competences, *i.e.* 'literacies'. The term literacy can be defined as the ability to read and write so that one can communicate and understand also abstract ideas. If literacy refers to general skills needed to succeed in society, concepts like health literacy, food literacy and nutrition literacy requires some additional skills specific for the area and are built on ideas that both health, including food and nutrition, and literacy are critical resources for everyday life. For example health literacy includes the skills to find, integrate and evaluate health information in different contexts, a health related vocabulary, knowledge of the culture of the health system and action competence. The latter includes ability to act as an informed consumer, ability to navigate in a variety of contexts, and the ability to individually and/or collectively act for needs of development and changes through the political system or social movements.¹

¹ Nutbeam, 2000

Salutogenic approaches to health

It is important how society views (and talks about) health, risks and disease. This has been the focus of an on-going discussion of how to view the topics of sports and health in schools. There are those that argue that there has been a shift from primarily discussing and promoting activity and health to primarily discussing disease, weight and obesity. This is an unfortunate development. We would like to promote a salutogenic approach to health, which means viewing health as more of a dialectic process, where focus lies on health development (not on disease or ill-health) and resources should be focused on understanding, furthering and developing health. In the salutogenic approach the focus does not lay on whether a person has a good health or not, it lays on what advances or obstructs good health.²

The school setting

For school interventions to be effective they need to be multicomponent and aim at both the physical environment and the nutrition and health education. Examples of actions aiming at improving the physical school environment are establishing standards for healthy school meals, eliminating provision or sale of unhealthy foods such as for example sugar sweetened beverages and provide potable water. Actions in schools should also be designed to create a healthy preference learning environment.³ The nutrition and health education should stimulate learning, literacy, skills and action. It is important that school professionals, policy makers, health practitioners, and parents understand that healthy eating and combatting obesity is not about restricting food intake, but to encourage children to have a healthy approach to food and eating, and to enjoy healthy meals.

The expectations on schools are high and plentiful

Schools should promote public health (see for example *WHO School policy framework*) but there are many competing interests. Theoretical subjects have a higher status than subjects focusing on food, eating, physical activity and health issues. Furthermore there are a lot of different topics or interests that have identified the schools as a fundamental arena, for example promoting

equality, human rights etc. and they all become competing interest in addressing children within the school arena. Hence, there are many different stakeholders that compete for the attention of teachers, parents and children.

Furthermore, it is also important to empower teachers and school staff to promote healthy eating that is informed by science. What is healthy eating? What are reliable sources for information on what is healthy to eat? The importance of the media, and social media in particular, where many times views are circulated rather than facts need to be understood. Other strong forces, like commercial marketing also play an important role.

A combination of top-down and bottom-up approaches is needed

The importance of and mobilisation of public support for policy actions to prevent obesity is vital. A critique towards current strategies for child obesity is that they are top down, *i.e.* public health professionals speak to political leaders and together they design interventions. These approaches miss the importance of public mobilisation for successful implementation of the interventions and activities being proposed.⁴ Efforts are needed to increase *popular demand* for health and bottom-up actions. Furthermore, public health research is needed to find new and creative ways to truly engage and integrate the public in policy action. This will entail an overhaul of existing strategies, but also and equally important, it will entail a reprioritisation of resources⁵.

Policy tools need to be implemented

Policy tools with strategies for how to improve diet, physical activity and health in schools and to combat childhood obesity are available (*The WHO School policy framework* and *the WHO Report of the Commission on Ending Childhood Obesity*). However in order for policies to be successful they have to be implemented. In order to be able to take an active part in preventing obesity, and promoting health in general, schools must be given the right conditions. This requires political decisions and support at both the national and local level. In addition school professionals need appropriate and on-going training. Teachers and

² Quennerstedt, 2007

³ Hawkes et al, 2015

⁴ Huang et al., 2015

⁵ Huang et al., 2015

school staff are key players in promoting healthy food environments in and around the schools, from early childhood to adolescent education. Schools should teach children both theoretical and practical knowledge on healthy eating in order to improve nutrition literacy and provide the children with tools for healthy eating for life. How this can be successfully achieved needs to be further discussed and studied.

All sectors in society need to join forces in combatting childhood obesity

Childhood obesity is a complex problem that schools cannot tackle alone. All sectors in society, including parents and families, need to join forces in providing a healthy environment for all children. Collaboration between different sectors in society also includes the food industry. We need to discuss or even "reframe the narrative of responsibility for obesity".⁶ This means that when children's exposure to advertising is highlighted as an issue that needs to be tackled, the response can no longer be non-regulatory or voluntary. Identified problems need to be met with appropriate measures. An example of successful interventions is the effort and success of public health

officials (and others) to restrictions posed on the promotion of breast milk substitutes. The level of action needed regarding child obesity is no less argues Lobstein *et al* who mean that a *Code of Food Marketing to Children* is needed.

Collaborations between public health professionals and school professionals

Schools have an immense potential to create salutogenic environments and increase health literacy in children. The school can take the lead in implementing policies to improve diet and increase physical activity. The challenge is to identify how policy actions can be locally adapted and turned into action. Particularly important is to reach children from low-income families to reduce differences in health inequality, as schools reach almost all children.

Political leadership is needed and public health professionals and school professionals need to work closer together. Public health professionals speak of the importance of the schools but they need to sit down with school professionals and jointly design interventions informed by research and shaped after the school environment.

⁶ Lobstein et al., 2015

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The Need for Food Industry Actions and Innovations

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Poor diet, sub-optimal lifestyle choices and obesity are key determinants in many chronic diseases including type 2 diabetes, cardiovascular diseases and some cancers. This group of non-communicable diseases accounts for the vast number of deaths worldwide on an annual basis.

Successful strategies for reducing obesity rates need to target all age groups using a life-course approach where a multitude of stakeholder groups have roles in combating this major health challenge. Prevention should start already in early life phases as there is increasing evidence that prenatal and infant nutrition set conditions for health problems later in life. There is a need for a better un-

derstanding of the underlying mechanism and for translation into the public health domain. In many contexts, children drink and eat too much poor foods (rich in sugar and or fat, low in nutrients), furthermore, low socioeconomic groups are often more vulnerable. What are the possibilities to change this towards healthier alternatives through efficient consumer communications, actions and innovations?

Targets for the workshop are:

1. Identify and define actions, innovations and communication needed to combat childhood obesity and to facilitate healthy eating
2. Identify ways to get around perceived barriers for actions, innovations and communication in the food sector.



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In the WHO *Ending Childhood Obesity* commission report emphasis has been laid on simplifying and enhancing consumer information and communication. Evidence and experiences from ongoing projects in this area need to be translated into actions. An important strategy and intervention that has been proven successful for a transition towards healthier eating as an addition to the above is multi-stakeholder initiatives combined with food innovations.

Food innovation may refer to value-creating solutions, and processes enhancing the quality or contents of food products but also enhancing the taste experience. Innovation also concerns the entire food value chain, pointing to the needs to address a multi-stakeholder perspective to understand success factors for innovation. It is furthermore a question of innovations connected to products and the use of products and services.

Actions and innovations to improve healthy eating

In this workshop, the role of innovation and product development strategies to improve healthy eating will be discussed and illustrated in successful examples. These include reformulation to lower energy density and sugar content in different foods without losing consumer acceptance as well as innovative food packages that facilitates pre-defined portion consumption.

One specific example which will be highlighted in the workshop is the Danish Whole Grain Partnership¹ which is a broad public-private partnership initiative that developed a joint strategy with food innovation, to increase the amount of whole grain in palatable products. Together with information campaigns, this re-

¹ www.fuldkorn.dk/english/

sulted in changed food patterns which entailed a doubling of whole grain consumption, from 35 grams per day to 70 grams per day. This is expected to have a positive impact on at least three non-communicable diseases. The same strategy model may be adopted in regard to other public health actions to tackle childhood obesity.

Multinational food companies such as Nestlé, Unilever, Barilla, Coca-Cola, PepsiCo and Kellogg are invited to discuss their work in this area as well as their views on actions needed and obstacles to be overcome.

Perceived barriers for innovations

It is important to identify what perceived barriers there are for even more efficient actions and food innovations. Barriers that have been highlighted are the comparably low investments in research and development in the food industry (0.27–0.73% of total output in several European countries, Japan and the US²) where margins are substantially lower than in *e.g.* the pharmaceutical industry. Formal regulations on ingredients and health communication may also constitute barriers. For example, within the EU there are strong restrictions regarding what companies are allowed to say regarding health effects of their products. Domination of a few large multinational companies may restrict the possibilities for small enterprises to get through with novel concepts or ideas. The large risk to lose consumers upon reformulating towards healthier products is another barrier which may prevent companies to lower the energy content in products for example. An important prerequisite to meet barriers is the political will to enhance or incentivize more multi-sectorial co-operations. Understanding consumer behavior and how it can be affected may be one opportunity.

Nudging

An increased attention has been given to the area of *behavioural economics* during the past decade. Tools like *nudging*, manipulation through altering *choice architecture*, have been used to alter consumer behaviour by including the contextual variables for the consumption, making it easy to do something in a different way. This means for example placing vegetables first in the line of foods in a school cafeteria, presenting fruit in

attractive containers (see more examples in Patel et al 2015) and serving food on smaller plates. Nudging is a combination of four strategic tools: changes to the physical environment, changes to the default policy, simplification and framing of information, and the use of social norms.³

In essence, current research has shown that the evidence base for efficacy of nudging in itself is limited, but that nudging, as part of a set of interventions, mutually enhancing each other, is shown to be a valuable contribution.⁴ This may create new opportunities for innovations for food products and services.

Multiple strategy approach

Patel et al. present an example where professional chefs were recruited to schools “to help improve food palatability and teach culinary skills”.⁵ In addition various measures were taken to improve (from a perspective of healthy eating) the choices the school children made. The study showed an increased selection and consumption of healthier foods by the children. An interesting finding was also that the comparisons that were made showed that the combination of strategies as well as only enhancing the food served showed decidedly higher results than choice architecture as a sole intervention.

These findings are important for how to strategies against child obesity are designed; it is important to remember that adopting new habits is often easier than maintaining the new habits and as Patel *et al.* argue that new strategies are needed.

Competing interests

In many countries targeted marketing and product placement intended for children under the age of 12 is forbidden. However, in social media, marketing towards children and young people is not as restricted or regulated.⁶ As social media gains more power, communicational strategies for all stakeholders become crucial.

Competing interest is not just marketing and advertising of products that are rich in sugar and/or fat; it is also a question of what products

² Sources: OECD, STAN and Eurostat (National Accounts), FoodDrinkEurope calculations. Figures from 2009–2010

³ Lehner et al., 2015

⁴ Patel et al., 2015

⁵ Patel et al., 2015, p. 425

⁶ Ungerth, 2016

should be allowed to contain. In the United Kingdom the initiative *Action on Sugar*, where experts work actively to reduce the amount of sugar in food products, aims for a 20–30 per cent reduction during the coming 3–5 years.⁷ Both in the EU and in the US intense lobbying activities from stakeholders within the sugar or candy industry have recently been unfolded; parallels have been drawn to the measures taken and the intensity of the tobacco lobby in the 1990s. At the same time, many companies work intensively to provide constructive solutions.

Consumer communication

Labelling, *e.g.* symbols and health claims, may guide consumers towards healthier eating. However, it may also be confusing and there is currently a wide range of labels, symbols and claims in use. A suggestion is to use an easily recognised colour-coded scheme like traffic lights as the backbone in an information scheme, instead of presenting numerical information that need to be translated by the individual to nutritional value.

Research has proven the effectiveness of providing simplified information crucial for helping consumers make healthier choices. One example is the Swedish fast food restaurant, Max, that introduced a carbon footprint label. The result was a 16 per cent increase in sales of alternative hamburgers that lead to a lower carbon footprint. Another experiment showed the affect of

adding red-coloured crisps in a given interval in a packet of crisp, it led to a 50 per cent reduction in consumption. These examples show the effectiveness of drawing the consumers' attention to the visual markers, that gives them a *point of reference* for their own consumption and for many leads them to interrupt the consumption.⁸

It is also important to note the diversity of information and messages presented to consumers. In the report *Ending Childhood Obesity* the WHO-commission has emphasised the need to develop regulations on the marketing of complementary foods and beverages, in line with WHO's recommendation, to limit the consumption of foods and beverages high in fat, sugar and salt by infants and young children.

Labelling, symbols and claims may be used for efficient consumer communication to support healthy food choices. However, insights into how health symbols and claims are understood in real-world shopping situations are limited. What kind of labelling is desired to promote healthy eating to combat obesity needs to be further researched and discussed.

So, in conclusion, what are the concrete actions, innovations and communication needed, the perceived barriers to overcome in order to create possibilities to move towards healthier eating world-wide and in all socioeconomic groups?

⁷ Barns vikt och matvanor, 2016

⁸ Lehner et al 2015

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Innovations Needed in Retail and in the Food Value Chain

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Many studies link child obesity with the changes in food consumption due to the globalization of the world food trade. The nutrition transition in the developing world is associated with both over- and under-nutrition, while both phenomena are mainly observed among the poorest of the population. While the food and other markets of the developing countries are integrated into the global economy, their food value chains are becoming part of the global agri-food network.

The goal of the workshop is to find ways to bend global and local value chains towards (b)ending child obesity. This includes issues like; Where in the chain we can identify the source of child obesity? Where in the chain we can intervene with strategies, policies, and organizational innovations? Can these strategies/policies be such that they become instruments of sustainable development – say by inclusion of farmers, local industry etcetera?

The main focus areas for the workshop are:

- Understanding further the role of the global value chains in transforming food consumption patterns in developing countries.
- To explore alternative institutional innovations and organizational forms of these global food giants, in ways that will move towards reducing the trend of child obesity.
- To explore ways of involving the local food value chains – including farmers – into contributing to improve nutritional intake and food quality while at the same time making it profitable to farmers. In other words “bending” child obesity to a profitable business and a vehicle for rural development.



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Multinational corporations are rapidly entering the developing world, transforming not only trade, but also consumption and production systems in these countries. This affects agriculture, and hence farmers, as well as consumers and their consumption patterns. The expansion of retailing and foreign direct investments in primary agriculture and in food processing, and the expansion of food advertising, has severe implications on the dietary patterns and as a consequence on child (and adult) obesity.

The rise of supermarkets in developing countries

The changes over the past 5–10 years in the food retail sector in developing countries has gone at a tremendous pace state Reardon *et al.* These changes have been driven by both *demand* and

supply, on the demand side forces like urbanization, the increase of women entering the labour force, which has also led to a desire to make shopping and cooking more efficient (supermarkets and processed foods), an increase in real per capita income as well as reduced prices. The supply side is affected by the market situation in developed markets (saturation and competition), resulting in a belief in higher profit margins in developing countries, along with an increased market liberalization in many developing countries.¹

Supermarkets' share of national food retail varies over regions, but in the year 2000 their share

¹ For a good overview see for example Reardon *et al* 2004.

in Latin American countries was roughly 50–60 per cent and in the US and France close to 70–80 per cent. In East and Southeast Asia the development echoes the one in Latin America (Reardon *et al* 2004). As noted above the ready access to processed foods affects consumption patterns (it costs less, both calorie wise and in monetary terms, to consume more), which has serious implications on child and adult obesity. Furthermore studies have shown that low-income households are the most frequent consumers at supercentres.²

How this affects the local production of foods

The rise of supermarkets has had several implications on the local food markets, for both producers and suppliers. Reardon *et al* note four consequences that impact the suppliers situation and has led to an increased consolidation of the supplier market. These changes include technological developments (which includes physical production practices and management techniques), dedicated wholesalers (sometimes even specialized in a specific product category), the preferred supplier system (often in the form of an informal listing) and private standards.

What does this then mean for local suppliers? Reardon *et al* conclude that “retail concentration will cascade, sooner or later, into supplier concentration”³, because keeping up with the increasing demands will entail the need for credit. This type of fixed costs (sometime large) are difficult for small suppliers to meet. The need for development programmes to identify and assist the farmers that will be able to seize this opportunity as well as the ones who will need to transition into other sectors or type of labour is clear.⁴

The impact on human health of the expansion of supercentres

A lot of attention has over the past couple of years been focused upon the food environment and its impact on obesity. Reviews have shown that research on the role of supermarkets and especially the so-called supercentres is inconclusive, however individual studies have been able to link, for example, the *state-level density* of large supercentres to a decrease in consumption of

fruit and increase in obesity (percentage of obese adults).⁵ Furthermore we know that retailers spend a lot of resources on advertising and there is a logic to where products are placed in the store to increase sales (this is in general not the healthier options, since this is many times not where the largest margins are).

Even though the link between supercentres and human health has not been extensively studied, the fact that supercentres have led to lower prices and the fact that lower prices on food product have led to an increase in body mass index with 40 per cent in the US over a period of 20 years⁶ highlights the importance of further research. However, argue Taillie *et al* the relationship is most likely changing, at least in some countries, where some food retailers have been taking an initiative to offer healthier alternatives to aid consumers in making healthier choices.

Inverse relationship between energy density and energy cost

“Consumer food choices are driven by taste, cost, and convenience, and to a lesser extent by health and variety”.⁷ We know that poverty and lower levels of education affects obesity rates among population groups. Furthermore there is an inverse relationship between *energy density* and *energy cost*. Despite this knowledge, argue Drewnowski *et al*, the link between *dietary energy density* and *diet cost* has not been sufficiently (or at all) addressed in the scientific discussion of obesity.

The implications of the fact that an overall healthier diet may be more expensive has several policy implications argue Drewnowski *et al*. This links to the ideas behind *sugar or fat taxes*, and whether economic incentives can nudge people in healthier directions. Another important question is however if it is possible to reduce the *energy density* in products and diets, and if so, how this affects both cost and palatability.

How to incentivize the retailers?

Given the importance of supermarkets on quality of food and energy intake, as well as the positive results of individual cases of initiatives to implement healthier food alternatives, how do we incentivize the retailers to aid in the fight

² Taillie *et al*, 2015

³ Reardon *et al*, 2004, p. 180

⁴ Reardon *et al*, 2004

⁵ Taillie *et al*, 2015

⁶ Taillie *et al*, 2015

⁷ Drewnowski *et al*, 2013, p. 14

on obesity? It is important that we try to understand better how to leverage the retail sector to improve the nutritional quality of food. As noted above, several retailers have been part of initiatives to promote healthier food alternatives which can provide an important opportunity to improve consumption patterns. Taillie *et al* especially emphasize the importance of this in relation to low-income households' consumption patterns.

We need to direct research and policy actions towards both food demand and supply initiatives, to better understand how retailers can be incentivized, how to direct education funding towards target groups, so that demand will drive supply towards healthier alternatives.

From problem to solution

Interventions need not always be directed to where in the value chain the problem arises. For example, if the problem is the soft drinks sector, or food processing, we could still intervene at other nodes of the food value chain, such as the retail level by proper advertising and marketing strategies, or at consumers by education at

schools, or by farm policies at the primary production level.

The recommendations in the WHO report *Ending Childhood Obesity* stress the issue of the importance of and the opportunity to engage retailers in ending childhood obesity. In this workshop we like to address the issue of the role of the retail and the entire food value chain on (b)ending child obesity in both rich and developing countries. In the developing countries in particular, the initiatives concerning childhood obesity could be streamlined with initiatives concerning the *sustainable development goals* (Agenda 2030). Here is *possibly* an opportunity to kill two birds with one stone. We would in this workshop like to turn the whole issue of obesity in developing countries around on its head – from problem to solution. The question is: Can we make the fight against child obesity a sustainable development tool? Turning to fresh and local foods could potentially give local farmers and other local food chain actors the opportunity to provide locally produced healthier nutritious foods. This will potentially (b)end child obesity and boost sustainable development.

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Empowering Towards Healthy Behaviours

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This workshop will focus on how societies can empower families and children to navigate the increasingly complex food environment around them and maintain healthy food behaviours.

We are exposed to multiple and often conflicting messages on a daily basis from different sources. On one hand we have public health messages, medical advice and education as part of school curriculum focusing on healthy foods. On the other hand, we are exposed to powerful and consistent environmental cues every day in the form of types of restaurants and other food joints in an area; content of vending machines; choice architecture of retail stores; and the implied and underlying messages in food advertisements; the default mode here is predominantly unhealthy. As individuals and families, what we need is a way to sift through this information overload, pick out what is relevant and modify or adapt it to our needs. This process of navigation entails multiple components of which the most crucial one perhaps is to empower individuals and families to help themselves in a way that relates to their day-to-day life.

Adopting and maintaining healthy food behaviours includes elements of behaviour change, and the use of a wide range of strategies such as mindfulness, competence building, autonomy support, and user-enabled technology. A key challenge is to see these multiple strategies as linked and mutually supportive. While technology, or individual behaviour change strategies can be stand-alone interventions in a research environment, in real life they are best used in combination; where individual or family needs are the primary focus but multiple stakeholders have a significant role. That's a real challenge and one we aim to address in this workshop.

The main focus areas for the workshop are:

1. Promoting user autonomy in complex food environments: Who are the relevant stakeholders in the process? What are the immediate actions needed at policy and local levels?
2. Addressing user needs for technologies aiding in behaviour change: Why, how and what type of technologies can help? How can we identify and promote models that address user needs?



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Behaviour change is a term that encompasses many aspects including modification of existing behaviours, adoption of new ones and their long-term maintenance. Behaviours and changes in behaviour are *automatic* or *reflective* responses, which are the result of interactions between an individual's internal cues such as attitude, self-efficacy and perceptions and external cues such as those from the environment. A combination of approaches or strategies that address both internal and external cues is essential to create a positive behavioural outcome, with a potential to be sustained. These include: 1) a constructive and supportive social environment that empowers children and their care-givers, thereby enhancing their autonomy; 2) fulfillment of knowledge and skills requirements needed to make the change; 3) an enabling physical environment that makes the change possible; 4) supportive

technology to aid in the process of behaviour change; and 5) integrated efforts from multiple actors such as municipalities, schools, retailers, parents, healthcare and civil society as human behaviours occur in a continuum, and are not compartmentalized within specific interactions alone.

Behaviours developed and maintained through childhood and adolescence affect the risk and disease profile of individuals in adult life. This is one of several reasons why sustaining healthy food behaviours across the different stages of life is important to address childhood obesity. A life course approach where healthy behaviours start before conception and go all the way till old age is being recognized as necessary to address non-communicable diseases. Behaviours and related diseases (including high-risk states) occur

in a continuum and are not isolated events. They are interconnected and therefore must be addressed as a “part of the whole” rather than separately. This also explains why childhood obesity cannot be seen as a “new” phenomenon and prevention efforts need to be integrated with other non-communicable disease prevention strategies and programmes.

Here, we briefly elaborate some of the key issues that could serve as a background for the workshop on ‘*Empowering towards healthy behaviours*’.

To go from *why* to *how*

Behaviour change cannot be achieved by an individual (child or adult) or a family alone. Socioeconomic factors and environmental cues and opportunities affect children’s (and adults’) chances of attaining and maintaining healthy behaviours. A majority of the public health interventions today, including many of the national nutrition recommendations and guidelines are heavily focused on the *why* or the awareness component through health education and promotion campaigns. Yet, evidence clearly shows that awareness alone is not enough to change behaviour, let alone sustain it over a life-time. While it is important to know *why* one should change behaviour, it is equally important, if not more for one to figure out *how* the change can be made. Knowledge does not always have to precede the action as the *why* and *how* can often go hand in hand.

The shift from *why* to *how* also implies a shift from a more passive process of imparting or acquiring knowledge, to its practical day-to-day application.¹ So, apart from accessing the right information, it also requires a critical skill-set and a step-wise process to combine knowledge and skills to enable the best ‘fit’ into our regular lives.² This includes an in-built process of navigation with and within infrastructures of information.³ The information and information provision also needs to be compatible with our information behaviour – the way we generally acquire and use health related information – while taking into consideration that the techno-

logies and infrastructures of information impact information behaviour, and vice versa.⁴

There are many approaches for addressing the *how* – from structured pre-determined formats to flexible co-created ones. While the former is a predominantly top-down approach with very little role for individual participants and even less room for change; the latter is more participatory and flexible, and places an equal responsibility on the participants. What we need in practice may be something in between – a middle-ground so to say – an agreed-on framework with flexible components. A classical example of the structured programme is the traditional knowledge-centred school curriculum, where the knowledge requirements and core activities for each year group are fixed through a syllabus, structured lesson plans and assessment methods and the teacher is the primary provider. Here, the special needs or baseline knowledge or skill levels of the concerned students are often of no consequence. In contrast we have the learner or student-centred curriculum where the teacher becomes the facilitator and the individual student’s growth and development becomes the primary focus. It is therefore a co-development process where both teachers and students have an active role. This approach is also highly relevant for food behaviours, as a process that considers and tailors goals to individual or family needs and facilitates the co-creation of strategies to achieve these goals will result in a better ‘fit’ between the behaviour and day-to-day life.

Co-creation is both motivating and empowering as demonstrated by the success of *The Growth Mindset*, an approach proposed and developed by psychology professor Carol Dweck and colleagues from Stanford University. It focuses on mental toughness and growth-oriented rather than judgmental self-monologues and facilitates individual growth through tailored learning goals and constructive action. *The Growth Mindset* is being increasingly used in businesses and schools to improve productivity and learning outcomes respectively.

Advising is easier than empowering

Empowerment is a difficult concept that is often misinterpreted. Andersson *et al* argues that,

¹ Hargreaves 2011

² Daivadanam et al 2013, Huvila, 2012

³ Huvila, 2009

⁴ Enwald 2013, Huvila 2009

“Empowerment is the antithesis of compliance”⁵, with the aim of getting individuals to think *critically* and make *informed decisions*. It has nothing to do with *convincing*, *persuading* or *doing* anything to individuals. This approach represents a paradigm shift, particularly in healthcare as most medical and allied medical professionals are trained to elicit compliance to medical advice and adherence to medication regimes from their patients. Hence, it is not surprising that such an approach generates resistance from healthcare professionals as it means changes in current healthcare practices. This is also true for population or policy approaches where the system or the state is seen as the primary provider. *Empowerment by its very definition shifts the locus of control from professional, or the system, to the individual(s)*. This makes the understanding and the application of the empowerment a challenge in any context.

Over the last decade or so, there has been a major shift in dietary behavioural interventions, moving away from external rules and diet restrictions to helping persons navigate eating behaviour by reinforcing internal cues, as for example in *intuitive eating*. Eating behaviour is conditioned by many more stimuli than mere hunger. We learn to eat at certain times and places as well as in certain social contexts. A history of emotional eating behaviour patterns may also make it difficult for the individual to distinguish physical hunger with emotions such as loneliness, boredom or sadness. Thus conditioned stimuli may evoke the desire to eat even in the absence of actual hunger and many different stimuli may be confused with and interpreted as hunger, thereby triggering an eating response.⁶ In intuitive, as opposed to controlled eating, the behaviour is steered by natural contingencies such as the individual’s physical hunger and satiety signals,⁷ thereby centering the locus of control within the individual rather than his or her physical, social or emotional environment.

Nudging is another approach which builds on theories in psychology and sociology, and is described as promoting non-forced compliance through a combination of indirect suggestions

and positive reinforcements.⁸ Small nudges in particular are more effective than sudden or large changes. Using smaller plates to reduce portion size is an example of nudge, where the plate size is used to subconsciously reduce the amount of food consumed. *Nudging* has been heavily criticized as being manipulative and promoting predominantly automatic behavioural responses. However, it does not really take away individual autonomy as you are still free to take a second serving of food, irrespective of plate size. *Nudging* has been shown to work with respect to advertising, packaging and presentation of different foods and has become increasingly popular among policy-makers. Nevertheless, the question is, what effect can it have in improving population health and reducing health inequities? The evidence for this is still weak,⁹ but nudging as a strategy has the potential to influence large sections of the population, particularly in combination with other strategies.

Technology as an *aid* to promote healthy behaviours

There is a virtual explosion in the number of technological application available today for promoting health – from eHealth services for patients to health and wellness applications such as fitness apps. However, quite often, they do not meet the expectations of either the developers or the users, thereby reducing their ‘shelf life’ considerably. There are potentially several reasons for this outcome. They are often too complicated and too complex; they may be too technology-oriented rather than people-oriented; or they may lack a support-structure that works around these technologies.

Take the case of technology aids that promote healthy behaviours, the knowledge and logic behind behaviour change should ideally inform the development process. However, the technology aspect often becomes the primary focus and overshadows the psychological and social aspects of behaviour change.¹⁰ The models used for building software for supporting interventions rarely take the user perspective into account.¹¹ Numerous studies have shown that the sociotechnical perspective is often considered as

⁵ Andersson et al 2010, p. 279

⁶ Lowe & Butryn 2007

⁷ Tylka 2014

⁸ Thaler & Sunstein 2008

⁹ Marteau et al 2011

¹⁰ Mettler 2015

¹¹ Cockton et al, 2016

too vague and therefore seen as less important. Developers are often too focused on the technology side and on the new ‘cool’ gadget which may result in a product that does not support people in the way they want to be supported.

MealLogger, one of many mobile applications that promote healthy eating, was developed in collaboration with end-users. Designed primarily as a coaching platform for health professionals such as dietitians, it uses health behaviour theories and behaviour change strategies as the basis for its interactions with users. *MealLogger* is one of several services that utilize images of food and combine it with feedback from professionals. The developers work closely with a psychologist and users in different behaviour change programmes to adapt the application to actual needs while keeping the application itself fairly simple. The social media element opens opportunities for the users, *e.g.* to get help and support 24/7. When integrated with face-to-face counseling, the combination of application and the live contact may boost adherence to and impact of both. Of course, only long-term evaluations will tell the whole story!

In addition to individual apps, there are umbrella services that help users identify the best available services or apps based on individual goals and needs. *The Tool Box* is one such service that helps adolescents identify apps that could help them to have a healthier mind and body. There are also behaviour support systems that help individuals with specific conditions, like *My Diabetes Coach (MDC)*. MDC is the modification of an original telephone-linked care program and uses a virtual coach to support individuals in regular self-monitoring and care. It is currently being evaluated through a research trial and is set to be made widely available in Australia with the support of Diabetes Australia.

The strength in multi-sectoral partnerships

Partnerships among relevant stakeholders at multiple levels is widely recognized as necessary to tackle most of the global health challenges today. However, in reality we tend to work in silos, making inter- and multi-sectoral partnerships rather difficult. The range of influences that shape individual responses and behaviours occur across different time- and place-slots of an individual's life. Everything from parental behaviours to school curriculum, peer influences,

urban planning, social security and healthcare provisions shape our behaviours. These exposures occur in different domains such as home, school, social circle or physical environment spanning multiple sectors both private, public and the in-between. Since spaces and time-points of exposure are also potential spaces and time-points for intervention – the need to work with multiple sectors and partners is a given. The complexity of influences in such an approach, however also highlights critical challenges that need to be addressed to make such partnerships truly functional. Effective and transparent communication, strategic financing plans that include co-investment options, meaningful engagement of the target population to facilitate co-creation of interventions are only a few.

The Pacific Obesity Prevention in Communities (OPIC) project is a good example of one such partnership. OPIC was a large, innovative, multi-site and multi-setting approach for the prevention of adolescent obesity. It was conducted between 2004 and 2009, in four countries – Australia, Fiji, New Zealand and Tonga – where adolescents from eight ethnic and cultural groups participated in a complex community-based intervention. In addition to 18,000 secondary-school children (aged 12–18 years), the intervention also included 300 stakeholders and partner organizations, and about 90 multi-professional research staff including research students. Through a guided participatory process, each community developed an action plan to address obesogenic behaviours and build community capacity to promote healthy eating and physical activity.¹²

The cost of ‘no action’

A challenge when discussing obesity and other related risk factors and diseases is that prevention, especially primary prevention, is not prioritized, despite the cost of prevention (both system and individual costs), being much cheaper than the cost of care. In an effort to help countries prioritize prevention efforts, WHO has highlighted a set of ‘best buys’, defined as “interventions with compelling evidence for cost-effectiveness that is also feasible, low-cost and appropriate to implement within the constraints of the local health system”. The cost of implementing a prevention package of WHO’s ‘best buys’ for

¹² WHO 2012

non-communicable diseases was estimated to be rather low, ranging from 1–4 % of current health spending in low- and middle-income countries.¹³ Socially disadvantaged groups are at higher risk of developing unhealthy behaviours and related diseases; consequently, the cost of illness is also borne disproportionately by this group. However, the cost of illness is also borne by the society and state in terms of loss of productivity and cost of treatment. The World Economic Forum and Harvard School of Public Health have estimated the anticipated economic burden (cumulative output loss) of the major non-communicable diseases to be around USD 30 trillion for the period 2011–30.¹⁴ As a society, we cannot afford the cost of inaction.

Let's explore together

This workshop aims to discuss and address practical issues, challenges and next steps

¹³ Bloom et al. 2011

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Initiate, Manage and Evaluate Multi-stakeholder Interventions: *ECHO-zones*

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The number of overweight and obese children has increased substantially during recent years. Attempts to curb the development have shown that the problem is complex and intervention strategies need to be based on integrated efforts. In their recent report *Ending Childhood Obesity* the WHO outlines a strategy, which involves several aspects for prevention and treatment of childhood obesity. This workshop will focus on a way to move from policy to action by establishing so called ECHO-zones (**E**nding **C**hildhood **O**besity-zones).

The aim of the workshop is to initiate the establishing of ECHO-zones in specific geographical areas. During the workshop attendees, who have started activities towards ending childhood obesity, will share their experiences. The aim is also to initiate building networks between the ECHO-zones and initiate a structure for evaluating ECHO-zones.

The focus areas for the workshop are to define conditions for:

- An ECHO-zone.
- Initiating an ECHO-zone.
- Sustainable ECHO-zones.
- Evaluating ECHO-zones.



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The number of overweight and obese persons has increased substantially during recent years. Persons that are overweight are more likely to develop complications including both metabolic and cardiovascular conditions like type 2-diabetes and myocardial infarction but also cancer.¹ Obesity has therefore become a global health threat. Rise in prevalence among children, based on national and international initiatives to monitor, is in this perspective especially worry-some.² It is important to remember that children do not choose their up-bringing and society should not pre-dispose children to illnesses later on in life. The UN Convention on the Rights of the Child states that all children have

the right to a healthy start in life.³ Health equity is a foundation for all forms of policy-making on childhood obesity.

The WHO report *Ending Childhood Obesity* calls for integrated intervention strategies and approaches. Multi-sectorial partnerships need to aim to jointly work towards ending childhood obesity. Studies have shown that it is early interventions, when the children are relatively young, that show the best results in the long-term. Creating ECHO-zones is an attempt to convert the recommendations in the WHO report to concrete actions.

To implement ECHO-zones requires a multi-sectorial approach involving multiple stakeholders. Experiences from such work will be dis-

¹ Riobó Serván 2013, Deng *et al* 2016

² www.euro.who.int/en/health-topics/disease-prevention/nutrition/activities/monitoring-and-surveillance/who-european-childhood-obesity-surveillance-initiative-cosi

³ www.unhcr.org/protection/children/50f941fe9/united-nations-convention-rights-child-crc.html



MEASUREMENT OF NEGOMBO SCHOOL CHILDREN FOR THE PROJECT MONITORING.

cussed in the workshop by attendees who have initiated the work of establishing ECHO-zones.

What are ECHO-zones?

“ECHO” stands for **E**nding **C**hildhood **O**besity and “zone” refers to a geographical area, where the aim is to prevent and treat childhood obesity in a multi-faceted way. This involves physical activity, food products and eating behaviour as well as environmental and psychosocial factors. The aim is to bring together relevant actors and stakeholders within a geographical area to decide how to bring about change for children and adolescents. The focus is on prevention, but also on treatment of already overweight or obese children and adolescents. This is an ambition to end childhood obesity with a systems approach.

How are ECHO-zones created?

To initiate an ECHO-zone inter-sectorial and multidisciplinary strategies and interventions

need to be planned and executed by multiple stakeholders.

In Negombo, Sri Lanka, healthcare professionals have combined efforts with politicians and professionals within the school sector. Negombo has a *double burden*, which is characterized by having both under- and over-nourished children within the same geographical area. This creates greater demands on public health messaging and other strategic interventions addressing both the food environment and physical activity and adapting them to address both target groups.

How are ECHO-zones made sustainable?

To make ECHO-zones sustainable, networks within and between ECHO-zones need to be created. Contacts between different actors in society are critical for the effectiveness of an ECHO-zone. Also, the experiences from building an ECHO-zone in one place may be im-

portant for building an ECHO-zone in another place.

At the workshop the Global Obesity Prevention Center at John Hopkins School of Medicine, Baltimore, USA, will be presented. At the centre, research with policy impact is conducted.⁴ The key notion is the systems and global approach. A systems approach means that the issue is viewed from a multi-scale perspective that involves “a complex network of factors and interactions”, which allows for an interconnection of fields, sectors, communities and countries.⁵ At the Global Obesity Center many and varying causes of childhood obesity are addressed, including policy, economics, food environment, social influences, behaviour and physiology. Furthermore, untraditional partnerships are formed, with the ambition to find new answers, for example by combining computer science, mathematics and engineering in projects with traditional approaches. In addition, the centre involves experts, stakeholders and projects to ensure that the preconditions needed for their findings to inform policy change and actions are created.

How are ECHO-zones evaluated?

To determine the effects of ECHO-zones using different intervention strategies, plans for monitoring the zones need to be implemented. Also, a monitoring system, which allows comparison between ECHO-zones should be implemented.

⁴ www.globalobesity.org

⁵ www.globalobesity.org

Many countries have long-standing traditions and systems for measuring and monitoring children's growth during pregnancy, infancy, childhood and adolescence. Children's height and weight are routinely measured. Together with other physical and psychological aspects, these results will build base-line data in the ECHO-zone.

In many low- and middle-income countries these routines are not at hand and basic prevalence data are missing. Inventory of what infrastructure is required to conduct monitoring of the children and mothers from pregnancy to adolescence to collect baseline data is required.

Establishing ECHO-zones in this framework provides good opportunity to follow obesity development in children in a systematic way in different places. Once established, the monitoring system in the ECHO-zones can be used for evaluating specific interventions.

With these evaluation tools in place the understanding and effectiveness (or lack of effectiveness) of different interventions can be evaluated. Such experiences can then be communicated and experiences exchanged.

Concluding remarks

Creating sustainable, interconnected ECHO-zones, where persons from different sectors of society join and learn from each other's mistakes and successes, is proposed for achieving the aim of ending childhood obesity.

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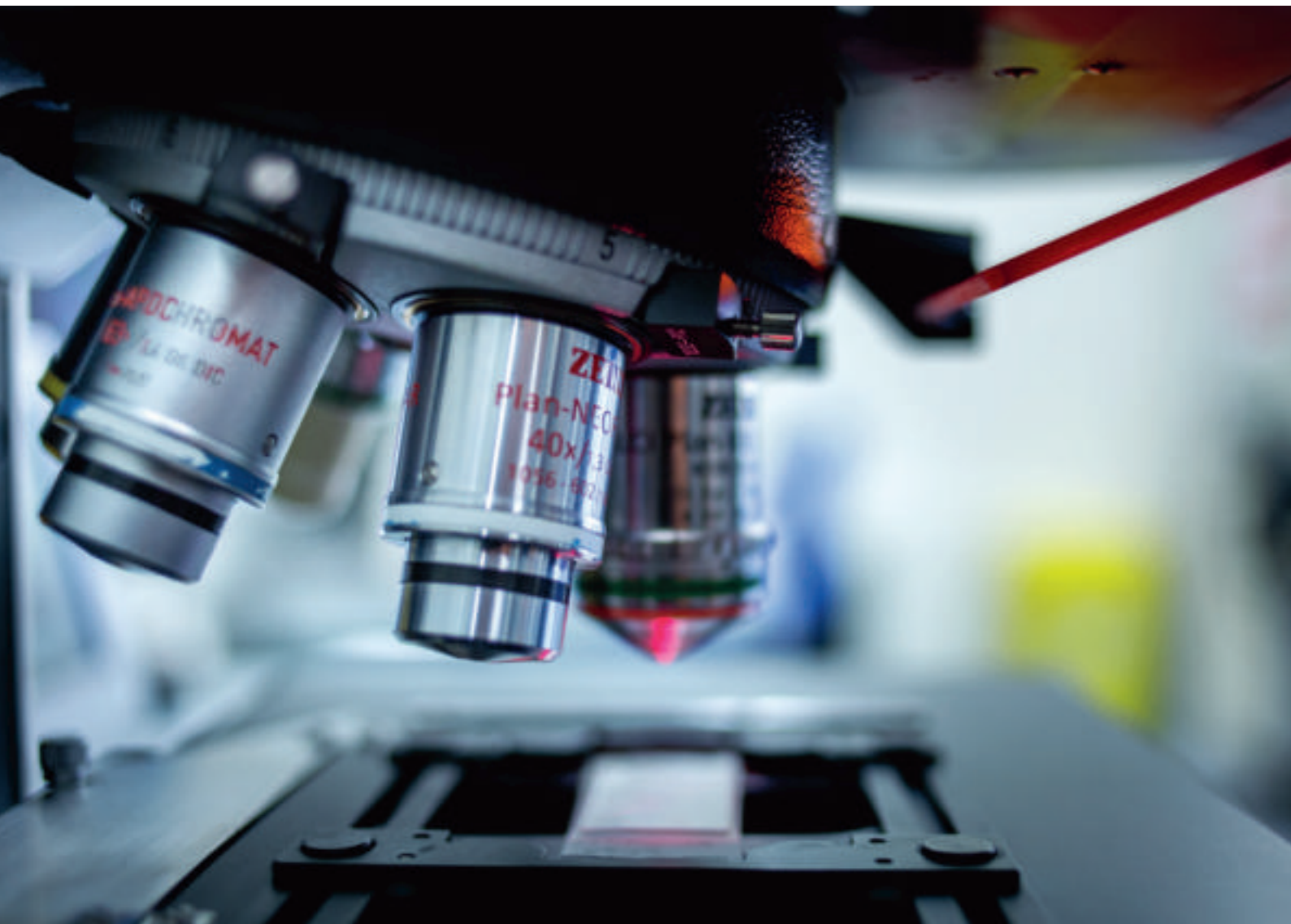


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Novo Nordisk is one of the sponsors of the Uppsala Health Summit. To gain their perspectives and insights on the subject of childhood obesity we have interviewed Dr Christina Östberg Lloyd, Clinical Medical Regulatory Director at Novo Nordisk, Sweden.

Why is Novo Nordisk interested in reducing obesity?

We see more and more children becoming affected by obesity and running high risks of complications such as diabetes type 2, fatty liver and heart conditions. It is a very worrying trend, which will require a broad collaboration to stop.

As a pharmaceutical company with 95 years of experiences in diabetes care, we want to play our part and contribute with our experience. To fully understand diabetes, its linkages and underlying mechanisms, we have had to invest a lot of research into obesity. So now, as obesity has become pandemic, we feel that we are well placed to use this knowledge to make a difference – we feel it as our responsibility to share our knowledge in this field.

How can you make a difference?

From our side, we can contribute with our knowledge about treatments and inform what is available, and continue the stride to explore

more through early stage clinical development to late stage “Real World Data” capturing.

The private sector, healthcare systems and academia have to work together though. For example, the knowledge about the patient’s experience of their disease and treatments need to come from the healthcare system; they are best placed to capture this information from their patients because in the end: patients themselves are the real experts on their disease. There may be a small change that makes a big difference to the everyday life of somebody who is chronically ill, and we need to learn what it is. So we all have our very important roles to play.

I feel that we are getting better though – at least in Sweden – at realizing that this complex chronic disease can only be defeated through working in partnerships, but we need to keep asking ourselves what we can do and how can we do better and fill in the unknowns, because still there are many.

Where do we start?

One of the major goals of Novo Nordisk’s engagement in obesity is to have the condition recognised as a chronic disease in its own right and get away from the stigma. In society, we don’t really tell smokers it is their own fault if they develop lung cancer, so why do we put blame on people who are obese? This is particularly a concern for the children who are very much victims of their circumstance. Maybe their mother was poorly fed during pregnancy, or maybe they are growing up in families with habits that are detrimental for health.

Unfortunately, in Sweden 2016, the stigma and lack of knowledge is also reflected in the quality of care. Many times, obese children do not get adequate help until complications have developed and it is too late.

So, we need to start by giving advice about exercise and food, but if it doesn’t work, we need to be there and follow up and intensify the treatment to avoid complications.



Christina Östberg Lloyd, Head of Clinical Medical Research Novo Nordisk Sweden.

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This leads me back to my point about the much needed long-term perspective. We must stop looking at health expenses short-term and really consider obesity as an extremely complex disease that needs time. There are no quick fixes, the body will always try to re-set the weight after weight-loss so the response has to be long-term.

It is critical that obesity is recognized as a chronic disease and that healthcare professionals identify people at risk and act while there is still time.

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