

THIRTEENTH MEETING OF THE WHO ACTION NETWORK ON SALT REDUCTION IN THE POPULATION IN THE EUROPEAN REGION (ESAN) MEETING REPORT

Virtual meeting, 2 September 2021



ABSTRACT

To help to facilitate progress towards the globally agreed target to cut salt intakes by 30% by 2025, the WHO Action Network on Salt Reduction in the Population in the European Region (ESAN) was established in 2007. The 13th ESAN Meeting took place virtually on 2 September 2021. The Meeting welcomed 39 participants, including representatives of 18 Member States, invited speakers and WHO staff. The meeting learned about a WHO study on salt intakes in the WHO European Region, new WHO global sodium benchmarks for different food categories and from two presentations to support reformulation for sodium reduction. In addition, eight Member States provided updates on their national salt reduction efforts. These included new studies on population salt intake, updates on national food reformulation initiatives and results of monitoring of salt/sodium levels in foods.

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Background and introduction

The WHO Action Network on Salt Reduction in the Population in the European Region (ESAN) was established in 2007 under the auspices of WHO and with the support of the United Kingdom Food Standards Agency. Since May 2013 Switzerland has chaired ESAN.

ESAN was established as a response to concern about the increasing salt consumption of the population, in line with the WHO Regional Office for Europe's designation of salt reduction as a priority intervention for tackling noncommunicable diseases (NCDs) in the European population.¹ The main aims and objectives of ESAN are to:

- establish, within the WHO European Region, a network of countries committed to reducing salt intake and building international action on salt reduction;
- provide opportunities for information exchange on the implementation of salt reduction strategies, as well as on related activities and achievements;
- provide opportunities for information exchange on technological progress and developmental processes related to salt reduction; and
- develop guidance for Member States wishing to develop salt reduction strategies and provide technical expertise on the different aspects of a salt reduction strategy, such as setting salt targets, monitoring levels of salt intake and salt in products and communicating with the public.

Organization of ESAN

Since May 2013, the Federal Food Safety and Veterinary Office of Switzerland has chaired the ESAN. As of September 2021, ESAN consists of 34 of the WHO European Region Member States. Participants include governmental institutions (or those nominated by government) and representatives of WHO and WHO collaborating centres. ESAN usually meets once a year at a meeting organized by the ESAN leading country, in close collaboration with the WHO Regional Office for Europe. The ESAN meeting is an important arena for sharing and discussing experiences in salt reduction strategies.

The 13th ESAN Meeting took place virtually on 2 September 2021, hosted by the Federal Food Safety and Veterinary Office of Switzerland and coorganized by the WHO Regional Office for Europe. The meeting welcomed 39 participants, including representatives of 18 Member States, invited speakers and WHO staff. Annex 1 gives the meeting programme and Annex 2 the list of participants.

Welcome and opening remarks

Kremlin Wickramasinghe, WHO European Office for the Prevention and Control of NCDs (NCD Office), welcomed participants and particularly thanked Switzerland for its long-standing support of ESAN and fruitful collaboration.

Michael Beer, Chair of ESAN Switzerland, welcomed all participants to the meeting and thanked them for their engagement. He underlined the importance of the network as a platform for exchange of knowledge and experience, and as a mechanism of mutual support.

¹ Action plan for the implementation of the European Strategy on the Prevention and Control of Noncommunicable Diseases (2012–2016). Copenhagen: WHO Regional Office for Europe; 2012 (<https://apps.who.int/iris/handle/10665/352659>).

Session 1. Update on salt reduction tools

Salt intake levels in the WHO European Region

Stephen Whiting, NCD Office, presented an overview of a project on population salt intakes in the WHO European Region.

Population level average salt intakes are universally higher than recommended across the Region, where cardiovascular diseases (CVDs) are the leading cause of death, disability and premature mortality. This is also an equity issue because hypertension and CVDs are more prevalent in socioeconomically disadvantaged populations. In order to ensure health for all, salt intake needs to be addressed as a way to prevent hypertension and CVDs.

Up-to-date and reliable data are needed to guide these efforts. Since 2018, WHO has been collecting national salt intake data using primary data sources, often obtained through ESAN focal points. Data have been collected from sources including multinational surveys (for example, the existing ESAN survey and country capacity surveys) and individual studies and reports, including WHO-led STEPwise approach to surveillance reports, national surveys, published literature, grey literature and unpublished data. National programme leaders, WHO country offices and global salt reduction experts were also consulted. Data were reported as means and standard deviations (total population, males, females), with weighted mean and standard deviations calculated if not provided, and data not relating to adults excluded where necessary.

Data were obtained from 51 out of 53 Member States in the WHO European Region from studies conducted between 2004 and 2019. There were considerable differences in cohorts sampled, ranging, for example, from a cohort of 113 in Ukraine to 6962 in Germany. Proxy data, based on data from a neighbouring country, were used for the three countries without data: Kyrgyzstan, Monaco and San Marino.

There was a huge range of mean salt intakes reported across the Region, but levels almost universally exceeded the WHO recommended level of 5 g per day. In 45 countries the mean population salt intake was at least 7.5 g, and 23 countries had an average of at least 10.0 g per day. There were variations between different parts of the Region. The lowest levels were reported in Luxembourg (3.70 g) and Malta (4.92 g), while the highest were reported in Kazakhstan (17.24 g), Uzbekistan (14.88 g) and the Russian Federation (14.87 g). The lowest reported salt intakes are, however, likely to be significant underestimations due to collection methods. Regardless of method, every country reported higher salt intake for men compared with women (except Uzbekistan, which reported a negligibly higher salt intake for women), with more than half (33 Member States) reporting a difference of at least 2 g between sexes.

The quality of studies was assessed using a scale modelled after the grading scale developed by Powles and colleagues, with a slight modification to reflect the inclusion of spot urine collection as an accepted method of measurement in this paper. There are nine levels to this grading scale, with 9 being the highest possible score, reflecting the best evidence.

1. Household availability/budget survey.
2. Single short-term diet records/recalls.
3. Food frequency questionnaires.
4. Multiple (≥ 2) short-term diet recalls/records.
5. Other spot urine collection protocols without use of creatinine or not reported.

6. Spot urine collection with exclusions based on observed/expected creatinine ratio or total urinary creatinine.
7. Other strict 24-hour urine collection protocols without the use of *p*-aminobenzoic acid (PABA) or creatinine.
8. 24-hour urine collection with exclusions based on observed/expected creatinine ratio or total urinary creatinine.
9. 24-hour urine collection with PABA validation.

Significant underestimations are likely because non-gold standard collection methods were being used in over half of the Member States in the Region. It is, however, encouraging to have 50 out of 53 Member States reporting data on population salt intake in some form, and it is promising to note that 21 have conducted studies using the gold standard method of 24-hour urine collection to estimate salt intake.

In conclusion:

- wherever possible or feasible, 24-hour urine collection, as the gold standard, should be used to estimate population salt intake;
- methodological issues of reporting salt intake should be addressed in order to improve the quality of, and comparability between, studies;
- further support and training are needed for Member States in conducting regular and accurate surveys to monitor salt intake; and
- greater efforts will be required for countries in the WHO European Region to achieve the target of 30% relative reduction in salt intake by 2025, by effectively and successfully implementing monitoring strategies and salt reduction initiatives.

The WHO Regional Office for Europe is ready to support countries in these efforts.

Global sodium benchmarks and country adaptation

Chizuru Nishida, WHO headquarters, introduced an overview of WHO's work on sodium reduction. There are two sides to this work: (i) scientific advice and guidance and (ii) fostering political commitments. Following a number of scientific evidence reviews, WHO issued guidelines on sodium and potassium intake in 2012. To foster political commitments, initial dialogue with the food industry on sodium reduction began with a meeting at Chatham House, London, in 2018. At this meeting, WHO requested three commitments from industry: trans-fat elimination, sodium reduction and free sugars reduction. The sodium reduction requests were as follows.

- **Reformulation of foods to lower sodium concentrations.** All food industries should adopt standardized targets for sodium levels for food categories that are major contributors to sodium intake in diets and implement them by 2025 (this includes manufactured, retail and out-of-home and food services). A global common set of targets will be established through a dialogue with WHO.
- **Sodium content labelling.** All food services and manufacturers in every jurisdiction should provide the on-pack sodium information required by Codex Alimentarius (Codex), the organization setting international food safety standards. Food services and restaurant chains should also provide this information in-store, on packaging or online.

To follow on from this work, WHO has now developed global benchmarks for sodium levels for processed foods.

Rain Yamamoto, WHO headquarters, presented an overview of the WHO Global Sodium Benchmarks for Different Food Categories.² These benchmarks are intended to set upper limits for sodium in different categories. Harmonized global goals are important to eliminate regional disparities. The benchmarks are designed to be a guide for Member States, recognizing that there are considerable differences in country context in terms of current intakes, salt levels in foods and stage in the salt reduction policy process. Member States can, therefore, adapt the benchmarks to their own situation and set progressive targets with a phased approach, taking contextual factors into account.

The global benchmarks also serve as a basis for dialogue with the international food industry. WHO has been involved in dialogue with the International Food and Beverage Alliance to encourage adoption of the benchmarks.

The benchmark development process was initiated by a technical consultation in October 2020, followed by a series of expert meetings and consultations lasting until early 2021. The process drew on previous experience with salt reduction in 41 Member States, one WHO region and one WHO subregion. On the basis of the targets previously adopted in these countries or regions in principle, the lowest target value was identified for each subcategory and then reviewed on a case-by-case basis by experts to ensure that the target was appropriate for the subcategory in question. This approach ensured that benchmarks were feasible, while still being challenging and ambitious.

The WHO European Region is well advanced on salt reduction and many of the global benchmarks are taken from targets in use in the Region.

Discussion

It was noted that some countries are considering using the global benchmarks to check progress with salt reduction and identify the best way forward.

The question of whether the targets used as the basis for the benchmarks have been achieved in practice was raised. It was clarified that some targets have been achieved while others have not yet been reached. One reason is that some of the targets are very new and, therefore, companies are still working towards achieving them.

It was clarified that the food industry was not involved in the development of the benchmarks, but that there is ongoing dialogue between WHO and the International Food and Beverage Alliance (IFBA). As part of this, the finalized benchmarks were shared prior to publication, and there will be further discussion to encourage adoption of the Benchmarks by IFBA member companies.

There was some discussion of the food safety challenges associated with sodium reduction in some categories. It was noted, for example, that there are likely to be changes in the near future regarding use of nitrites/nitrates in processed meats. It was clarified that national sodium targets had been assessed for technological feasibility and current food safety considerations at the time of target setting by the countries. Additionally, whether products with the target level of sodium already existed on the market was taken into consideration.

The importance of including sodium levels on nutrition labels was discussed. The Codex guidelines require mandatory labelling of sodium in nutrient declarations. It was noted that countries can also decide to additionally include salt on labels. Some countries consider that

² WHO global sodium benchmarks for different food categories. Geneva: World Health Organization; 2021 (<https://apps.who.int/iris/handle/10665/341081>).

salt information is more understandable for consumers. It is clear that labelling needs to be accompanied by consumer education to improve understanding of nutrition labelling and the salt/sodium content in food products.

There was discussion of the need for clarification on whether sodium declared on labels only refers to sodium from sodium chloride or encompasses all sources of sodium (for example, from food additives). This appears to vary between jurisdictions, and individual companies may also vary in their approach. It was clarified, however, that the global benchmarks relate to all sources of sodium.

The year 2021 was an important year for nutrition, featuring both the United Nations Food Systems Summit in New York in September and the Nutrition for Growth Summit in Tokyo in December. In the run-up to a side event to the Nutrition for Growth Summit, countries were encouraged to make commitments to implement the global benchmarks and develop national targets. A progress assessment is planned at the occasion of the 22nd Congress of the International Union of Nutrition Sciences scheduled to be held in Tokyo in December 2022.

Reformulation manual

Kremlin Wickramasinghe outlined WHO support to Member States on salt reduction. A country support package has been developed³ and this highlights reformulation efforts as a priority area. Several consultations and workshops were undertaken in various Member States, revealing that levels of salt/sodium in products remain very high in many countries and that there are several common challenges that impede successful reformulation. These challenges include:

- the need for gradual reduction so that consumers would not notice differences in taste;
- the need to engage the food industry to support the process early and to set targets; and
- the issue of small and medium-sized companies, which may not have the capacity and resources to reformulate immediately and need support for reformulation; meanwhile, companies that do have the resources may not want to share their technical solutions with competitors.

To help to address these common challenges an expert group was convened to develop a food reformulation manual. This online interactive manual will start with salt but eventually also cover fat and sugar. As part of the development of the manual, expert guidance was needed on sodium reduction in some high-priority categories (as outlined in the following presentation).

Sodium reduction in smaller product groups: soups and sauces

Martijn Noort, Wageningen Food and Biobased Research, the Netherlands, presented an overview of issues relating to sodium reduction in soups and sauces.

There are two major sources of sodium in soups: added salt and monosodium glutamate.

There are three types of sodium functionality in food products: processing and texture; shelf-life and stability; and taste perception. In soups, the functionality of sodium relates to taste, because safety and preservation are usually ensured through pasteurization and heating.

Strategies to reduce sodium content in soups include:

³ Accelerating salt reduction in Europe. Copenhagen: WHO Regional Office for Europe; 2021 (<https://apps.who.int/iris/handle/10665/340028>).

- stepwise gradual reduction over time, without compensation of flavour (consumer taste adaptation);
- recipe development (e.g. vegetables, herbs and spices);
- salt replacement by substitutes (e.g. non-sodium ions such as potassium chloride);
- taste–taste interactions (e.g. saltiness enhancement by umami or acidity);
- taste enhancers (e.g. nucleotides, peptides/amino acids);
- multisensory interactions: enhancing taste perception by aroma, colour, sound and texture (viscosity); and
- amplifying taste perception: sensory contrast or enhanced sodium delivery to the taste buds (only in fresh preparations).

The complexity of culinary products essentially requires complete recipe formulation. Reduction of the cheapest ingredient (salt) requires substantial increase of costly ingredients such as meat, vegetables, herbs/spices, salt replacers and flavours/aromas. It is important to acknowledge, therefore, that this can result in a substantial increase in cost and the potential implications of such a price increase for consumer demand.

Similarly, in sauces, dressings and condiments the primary function of sodium is to provide taste. This is a highly diverse category, and some products require a long shelf-life after opening. In this category, sodium reduction is possible by complex reformulation. The solutions are highly product specific, depending on the texture, taste balance and salt replacers used. It has been shown to be possible, however, to reduce the sodium in tomato ketchup by 50%, and to produce ketchup with no added salt.

In dressings and sauces there are challenges for sodium reduction associated with the effect on emulsions, because sodium chloride affects protein/surfactant functionality. Potential negative effects can be compensated by increasing the protein/surfactant concentration, combining different surfactants or using processing techniques such as homogenization. Some of the solutions, however, are technologically very complex, so they may not yet be in common use. In general, the same strategies as used for soup can be used to reduce sodium content in sauces while ensuring that products remain tasty. A reduction of about 30% has been shown to be feasible without use of any salt replacers.

In conclusion, there are many possibilities for reduced sodium products with good quality and sensory properties. The tools are available, but the complexity and diversity of soups, sauces and dressings makes reformulation complicated. Consumers accept food with substantial sodium reduction when applied in small steps and/or when the product is properly reformulated. However, sodium reduction is often a competitive disadvantage for food producers because of higher costs, increased use of additives, slight compromise of taste and quality, and limited or no consumer drive for salt reduction.

Session 2. Update on salt reduction activities in countries

A number of countries gave updates on recent initiatives or progress with salt reduction strategies.

Belgium

Stefanie Vandevijvere, Sciensano, presented new results on urinary sodium and iodine concentrations from Belgium.⁴ Prior to this study, iodine data from 2010–2011 were available for pregnant women, women of reproductive age and school-aged children; urinary sodium data from 2009 were available for adults; and dietary salt consumption survey data were available for 2004 and 2014–2015.

The Belgian Health Examination Survey (BELHES) 2018 was a population-based survey with questionnaires, physical measurements and collection of biological samples among a representative sample of Belgian adults. The survey was complementary to the Health Interview Survey (HIS) and was conducted among a subsample of 1100 participants from HIS 2018. The survey included spot urine collections and analysis for iodine and sodium excretion. Both the Tanaka and the INTERSALT (without potassium) equations were used to estimate 24-hour sodium excretion from the spot urine samples.⁵

For males and females combined, mean daily salt intakes were 8.3 g using the Tanaka method and 9.4 g using the INTERSALT method. Average intakes were 8.6 g and 8.0 g for males and females, respectively, using the Tanaka equation, and 2.0 g and 7.6 g, respectively, using the INTERSALT equation. These findings appear to suggest that intakes had decreased from 10–11 g per day in 2010.

The strengths of this study include the representative sample of Belgian adults, inclusion of measured weight and height data and the linkage with the HIS study. The limitations include use of spot urine samples, lack of data on urine volume over 24 hours, a limited sample size which does not allow for data disaggregation and underrepresentation of people with a low level of education.

Germany

Editha Giese, Federal Ministry of Food and Agriculture, presented an update on salt reduction efforts in Germany.

The strategy was adopted in December 2018 and implementation started in 2019, with continuous product monitoring as well as consulting and support by an advisory body. The main elements of the strategy include self-commitments of the food sector to reduce levels of sugar, fats, salt and energy in processed foods (with a focus on products targeted at children and adolescents), the funding of innovative research in the context of food reformulation, and information campaigns to improve food literacy.

In addition to previous self-commitments of the bakery trade on artisan bread and of the frozen foods industry on frozen pizza, two new self-commitments have been obtained since the 2016 ESAN Meeting:

- industrial bakeries have committed to achieving an average salt content of 1.1 g per 100 g in packaged bakery products by 2025; and

⁴ Vandevijvere A, Ruttens A, Wilmet A, Marien C, Hautekiet P, Van Loco J et al. Urinary sodium and iodine concentrations among Belgian adults: results from the first national Health Examination Survey. *Eur J Clin Nutr.* 2021;75(4):689–96. doi: 10.1038/s41430-020-00766-5.

⁵ Tanaka T, Okamura T, Miura K, Kadowaki T, Ueshima H, Nakagawa H et al. A simple method to estimate populational 24-h urinary sodium and potassium excretion using a casual urine specimen. *J Hum Hypertens.* 2002;16(2):97–103. doi: 10.1038/sj.jhh.1001307; Intersalt Cooperative Research Group. INTERSALT: an international study of electrolyte excretion and blood pressure. Results for 24 hour urinary sodium and potassium excretion. *BMJ.* 1988;297:319–28. doi: 10.1136/bmj.297.6644.319.

- the meat industry intends to considerably reduce salt contents above the third quartile (based on product monitoring results 2020) in heat-treated meat products by 2023 and to disseminate information on salt reduction via training courses.

Product monitoring is carried out by the Max Rubner-Institut, Federal Research Institute of Nutrition and Food. It determines changes in sugar, fat, salt and energy contents of processed foods over time and is the basis for the identification of any need for further action and/or adjustment of the measures implemented. Baseline data were collected in 2016, with follow-ups in 2019 and 2020 for selected categories. Nutrient and energy contents were determined from information obtained on websites, requested from companies or by purchasing or photographing products in stores. Two separate analyses are conducted: one covering the entire range of products on the market and one focusing on products most frequently purchased by a representative consumer panel.

In 2020 follow-up monitoring covered, among other food categories, packaged bread and bread rolls and packaged meat products.

The follow-up monitoring of packaged bread and bread rolls analysed 913 samples and found significant salt reductions (of 4.0%) from values in 2016. Greater reductions were found in some subcategories, such as toast (reduction of 8.3%) and wheat/spelt bread rolls (reduction of 6.0%), both of which are frequently purchased subcategories. Furthermore, a shift in consumer preference for products with lower salt contents was observed.

The packaged meats category is very diverse and so it was split into sausage products (2212 products) and other meat products (410 products). There was no overall reduction compared with 2016 in either of these product groups. However, there were significant salt reductions in three subcategories: reduction of 10.6% in snack salami 10.0% in diced raw ham and 15.0% in precooked meatballs. However, there is still potential for salt reduction in this sector. The results also showed that salt levels in products targeted at children were similar or lower compared with equivalent products that were not aimed at children.

The next product follow-up monitoring is scheduled to be carried out in autumn 2021 and reported in April 2022. The products to be covered include meat substitutes, biscuits and waffles, frozen ready meals, cold sauces and pasta sauces. Other planned next steps include an intensification of consumer information. A decline in iodine intake has been noted in Germany and, in order to address this, awareness-raising campaigns regarding iodine intake and use of iodized salt (at home and in food processing) are planned. In addition, there are plans to address salt intakes from the out-of-home sector.

Discussion

In discussion, there was clarification that the reasons were not known as to why consumers in Germany tend to buy more packaged breads with lower salt levels.

It was also clarified that the product categories that are part of product monitoring are known by the food industry, as the leading association of the German food sector is kept informed. The Max Rubner-Institut usually contacts the specific food sector associations prior to publication of the monitoring results in order to finalize the classification of products into subcategories. It was clarified that results are published on the level of subcategories rather than individual products.

Hungary

Eszter Sarkadi-Nagy, National Institute of Pharmacy and Nutrition, presented results of a study on sodium and potassium intake among older people in Hungary.⁶

The Biomarker2019 study combined a questionnaire, anthropometric measurements, laboratory measurements from blood and urine and three-day dietary records. In total, there were 189 participants (99 men and 90 women) aged over 60 years. Prevalence of overweight or obesity was 86% in men and 76% in women. According to the three-day dietary records, average daily salt intake was 11.7 g (13.4 g in men and 9.9 g in women). When adjusted for energy intake, salt intake was still higher in men than women. Results from the 24-hour urine collection were 11.0 g overall, and 12.5 g for men and 9.5 g for women. The vast majority (93%) of both men and women consumed more than the recommended salt intake. Average daily potassium intakes were 3.2 g for men and 2.9 g for women, and only 34% of men and 28% of women were meeting the recommended potassium intake levels.

In this study, contrary to many studies worldwide, the results obtained from the 24-hour urinary study were higher than those obtained from the three-day diary. This suggests that the food composition database needs to be updated.

Ireland

Clare O Donovan, Food Safety Authority of Ireland (FSAI), presented an update on salt reduction in Ireland.

The FSAI has been monitoring 11 food categories since 2003, usually publishing results on two or three categories per year. In 2019, 107 samples in five subcategories of processed cheeses were collected. Levels of sodium in the subcategory "blocks, strips and slices" had reduced by 39% since 2009. There were no statistically significant reductions in the other subcategories where comparison over time was possible.

In 2020 the feasibility of assessing salt content of meals available in out-of-home eating locations was investigated. In the context of the lockdowns during the COVID-19 pandemic, a convenience sampling approach was adopted to assess the salt content of takeaway lunch options. A sample of 20 pre-packaged sandwiches was selected from a range of stores. Two market-leading types of sandwiches were collected: bacon lettuce and tomato (BLT) and ham and cheese. Average sodium content of the BLT sandwich was 0.47 g per 100 g and of the ham and cheese sandwich was 0.55 g per 100 g (no significant difference between the two subcategories). For potassium, the levels were 0.21 g and 0.18 g in the BLT and ham and cheese sandwiches, respectively. Data collection has since started on items purchased in fried fish and chip shops.

A salt excretion study is underway, as a collaboration between University College Cork and FSAI, to estimate daily urinary excretion of sodium and potassium in Irish adults. As part of this, a systematic review to determine the efficacy of global salt reduction initiatives on socioeconomic inequalities among adults is being completed. The urinary excretion component of the study has been delayed because of the COVID-19 pandemic and is expected to be complete in 2022.

A progress report by the FSAI on salt reformulation is in preparation. This report aims to (i) review the latest evidence relating to monitoring of salt and associated minerals (potassium

⁶ Sarkadi-Nagy E, Horváth A, Varga A, Zámbo L, Török A, Guba G et al. Dietary sodium and potassium intake in Hungarian elderly: results from the cross-sectional Biomarker2019 survey. *Int J Env Res Public Health*. 2021;18(16):8806. doi: 10.3390/ijerph18168806.

and iodine) and reformulation; and (ii) provide recommendations to stakeholders in terms of effective salt reduction strategies including reformulation, and monitoring best practice in Ireland.

Discussion

There was interest in the practical aspects of monitoring salt levels in out-of-home foods. There was clarification that the current priority of the reformulation programme is processed food, but this is the beginning of a process to address the out-of-home sector. Sodium levels in the sandwiches were determined by laboratory analysis, and the same approach should be applicable to salads and other composite dishes. It will require collection of a few samples of each item. It was noted that this is a costly approach.

Lithuania

Marius Miglinas, Vilnius University, provided an overview of a study on sodium and iodine status in the Lithuanian population.

Vilnius University Hospital Santaros Klinikos and Vilnius University Faculty of Medicine carried out the assessment of sodium and iodine status in the Lithuanian population and development of public health policy guidelines project (NATRIJOD project) between 2018 and 2020. The study aimed to assess the consumption of sodium (salt), potassium and iodine, to inform the public about the inequalities in salt and iodine consumption and to prepare recommendations on how to reduce salt consumption and achieve adequate iodine consumption for the Lithuanian population.

Training on the organization and implementation of 24-hour urinary sodium excretion methodology was provided by WHO in 2019. Following a period of project planning, implementation started in October 2018. The project was then extended to October 2020, and in the context of the pandemic further extended to February 2021.

The sample comprised registered patients in primary health centres in three geographical regions in Lithuania, drawn from the database of the national Health Insurance Fund. The sample was stratified for age and sex and was nationally representative. The survey was carried out in three steps: (i) questionnaire survey, (ii) physical measurements, and (iii) 24-hour urine collections. In total, 1036 individuals provided suitable data for inclusion in the survey analysis.

The final sample for urinary sodium excretion comprised 888 individuals aged 18–69 years. Average daily salt intake was 10 g, and only 12.5% of the population consumed 5 g or less per day. The average was 11.7 g for men and 8.4 g for women. Average intakes of potassium were 73.8 mmol per day, and only 23.1% of the population was consuming the recommended amount. Median urinary iodine was 95 µg/l, below the limit of 100 µg/l recommended by WHO, and around half (52.3%) of the population had inadequate iodine intake according to WHO criteria for median urinary iodine concentration.

Netherlands

Eveline Martens, National Institute for Public Health and the Environment (RIVM), provided an update on food product improvement in the Netherlands.

A national agreement to improve product composition was in place between 2014 and 2020.⁷ This aimed to reduce the levels of salt, saturated fat and calories in foods, and to make it easier for people to consume less than 6 g per day of salt. Individual agreements relating to specific sectors, and signed by the relevant industry bodies, were introduced between 2014 and 2020.

Several methods were employed to monitor progress, including monitoring of food composition through the RIVM reformulation monitor, a scenario analysis to estimate the impact on intake, and food consumption surveys to provide data on intakes and sodium status research (using 24-hour urinary excretion studies).⁸

The most recent estimate of population daily salt intake, in 2020 suggested that a reduction of around 0.5 g per day had occurred in adults since 2011.⁹ Reduced salt levels in bread appear to be the largest contributor to this decrease.

A new National Prevention Agreement 2019–2040¹⁰ is in place, which – in addition to other actions on smoking, problematic alcohol use and overweight – includes a new national approach for product improvement and introduction of front-of-pack nutrition labelling. The new approach to food product improvement has several elements, including development of stepwise criteria by product group, incentives for businesses, a monitoring plan and a governance structure.

The use of stepwise criteria for products contributing salt, saturated fats and sugars to the diet aims to stimulate more improvement. This approach sets cut-offs at the 25th, 50th and 75th percentile of current sodium levels within a category and aims to have less than 10% of products above the 75th percentile and more than 50% of products below the 25th percentile by 2030. There are a number of challenges associated with this approach, including the need for better data quality and transparency, the need for improvements in food group categorization, the lack of data on food served out of the home and the need for data that introduce weighting to take into account product market shares.

Slovenia

Urška Blaznik, National Institute of Public Health, presented an update on salt reduction in the country.

The National Action Plan for Reducing Salt Intake in the Diet of the Population of Slovenia for the period 2010–2020 had four strategic goals: (i) to achieve permanent participation of various stakeholders for the gradual lowering of salt contents in food groups that are important source of salt in the Slovene diet (bread and pastries, meat products, pickled vegetables and cheese); (ii) to improve the supply of meals in work organizations, catering and tourism establishments, public catering establishments, educational institutions, hospitals, homes for elderly people and other organizations; (iii) to raise public awareness of the importance of

⁷ National agreement to improve product composition 2014–2020. Amsterdam: National Institute for Public Health and the Environment; 2014 (<https://www.akkoordverbeteringproductsamenstelling.nl/en>).

⁸ Food reformulation. Amsterdam: National Institute for Public Health and the Environment; 2021 (<https://www.rivm.nl/en/food-reformulation>).

⁹ Het geschatte effect van het akkoord verbetering productsamenstelling op de dagelijkse zout- en suikerinname in Nederland: eindrapportage 2014–2020 [The estimated effect of the national agreement to improve product composition on daily salt and sugar intake in the Netherlands: final report 2014–2020]. Amsterdam: National Institute for Public Health and the Environment; 2020 (in Dutch; <https://www.rivm.nl/bibliotheek/rapporten/2020-0173.pdf>).

¹⁰ The national prevention agreement. Amsterdam; Government of the Netherlands; 2019 (<https://www.government.nl/documents/reports/2019/06/30/the-national-prevention-agreement>).

reducing salt intake; and (iv) to achieve coordinated participation of health professionals in the reduction and more effective management of high blood pressure and other risk factors for CVD and other diseases associated with excessive salt intake.

Evaluation of the Action Plan is ongoing. Average population salt intake was assessed in 2012 using a 24-hour urine study as 11.8 g per day, and a new 24-hour urine study is planned for 2022. In terms of the salt content of food products, available data suggest that the goals were not reached for bread and pastries or for meat products.

The National Programme on Nutrition and Health-enhancing Physical Activity 2015–2025 includes ensuring healthier food products in cooperation with stakeholders in the food industry, along with goals to reduce the intake of salt by 15% and to reduce average daily intake of salt to 10 g by 2025.

Some voluntary reformulation commitments by the food industry were signed in 2015, 2017 and 2019, including the commitment to reduce the added salt content of bread by 5% by the end of 2022 from a 2019 baseline (1.24 g/100 g).

Consultation with stakeholders on preparation of a national reformulation strategy 2021–2031, requested by the Minister of Health, began in autumn 2021. National targets are being defined, along with an implementation and monitoring plan.

A dietary study conducted in 2017–2018 estimated that average daily salt intakes were 6.3 g for adolescents, 7.5 g for adults (18–64 years) and 6.4 g for older adults. These data are based on dietary survey data, but a new 24-hour urine study is planned in a nationally representative sample of the adult population in 2022. Monitoring of salt content in food products will also be implemented, drawing on experience and learning from the EU Best-ReMaP project.¹¹

Switzerland

Steffi Schluechter, Federal Food Safety and Veterinary Office, presented an overview of monitoring of salt levels in soups and salad dressings in Switzerland.

In 2015 the Milan Declaration on Sugar Reduction was signed by 10 national and international food producers, agreeing to reduce sugar levels. In 2019 it was decided to expand this to cover salt reduction. It is hoped that in 2022 it will be possible to agree goals for sugar reduction in milk-based beverages and quarks, sugar reduction in sweetened beverages and salt reduction in soups and salad dressings.

Monitoring of salt levels in soups and salad dressings was conducted in 2020. Data were extracted from information available online or provided by food companies, then cleaned before being evaluated on a per 100 ml ready-to-eat basis.

Of 357 soups and stocks assessed, the median salt level per 100 ml was 0.92 g. There was great variation between products, ranging from 0.5 g to 1.6 g and between the seven food companies whose products were included. The median level in stocks ($n = 91$) was higher (0.94 g) than for other soups ($n = 266$; 0.90 g).

Salt levels of 136 salad dressing products were assessed. The median level was 2 g per 100 ml and, once again, there was wide variation, ranging from 0.9 g to 4.8 g. Asian style dressings tended to have considerably higher levels ($n = 12$; 2.5 g) than those based on oil and vinegar

¹¹ Best-ReMaP is a Europe-wide joint action that seeks to contribute to an improved quality of food supplied to citizens of Europe by facilitating the exchange and testing of good practices regarding food provision and consumption.

($n = 38$; 1.9 g) or emulsions ($n = 86$; 1.96 g). As with soups, there was also considerable variation by company.

These results suggest that there is considerable scope for improvement in both categories. The next steps will be to define the salt reduction steps and goals, focusing on reducing the salt levels of existing products and ensuring that new products are below the median value. In 2022 the intention is to obtain further commitments from companies under the framework of the Milan Declaration and monitoring of these food groups will be conducted next. Ideally, companies would agree not to use salt replacers in order to encourage changes in consumer preference for less salty products.

Discussion and closing remarks

Michael Beer thanked all presenters for their contributions and underlined the value of hearing about concrete progress in countries. Once again, it can be seen that Member States face similar challenges and ESAN is a valuable platform for exchange of experience and sharing of lessons learned.

Kremlin Wickramasinghe reiterated these comments and thanked the Chair and Secretariat of ESAN and WHO colleagues for the meeting preparation. He also informed participants that WHO has completed work on the NCDprime model, which can estimate the numbers of lives that can be saved by implementing national NCD policies.¹² Details of the modelling exercises completed in six Member States will be shared via email.

The next ESAN meeting will take place in 2022.

¹² NCDprime: modelling the impact of national policies on noncommunicable disease (NCD) mortality using PRIME: a policy scenario modelling tool. Copenhagen: WHO Regional Office for Europe; 2019 (<https://apps.who.int/iris/handle/10665/346459>).

Annex 1. Programme

Online 2 September 2021, 13:00–16:30 (CEST)

12:50–13:00	Participants' log-on
13:00–13:10	Welcome and opening remarks
	<p><i>Michael Beer</i>, Chair of the European Salt Action Network, Switzerland</p> <p><i>Kremlin Wickramasinghe</i>, a.i. Head of the WHO European Office for the Prevention and Control of Noncommunicable Diseases (NCDs)</p>
13:10–14:10	Session 1. Update on salt reduction tools Moderator: Kremlin Wickramasinghe
	<p>Salt intake levels in WHO European Region <i>Stephen Whiting</i>, WHO European Office for the Prevention and Control of Noncommunicable Diseases (NCDs)</p> <p>Global sodium benchmarks and country adaptation <i>Chizuru Nishida/Rain Yamamoto</i>, Nutrition and Food Safety Department, WHO headquarters</p> <p>Reformulation manual <i>Kremlin Wickramasinghe</i>, WHO European Office for the Prevention and Control of Noncommunicable Diseases (NCDs)</p> <p>Sodium reduction in smaller product groups: soups and sauces <i>Martijn Noort</i>, Wageningen Food & Biobased Research</p>
14:10–14:20	Short break
14:20–16:20	Session 2. Update on salt reduction activities in countries Moderator: Steffi Schlüchter
	<p>Belgium Urinary sodium and iodine concentrations among Belgian adults: results from the first national Health Examination Survey. <i>Stefanie Vandevijvere</i></p> <p>Germany Update on salt reduction programme <i>Editha Giese</i></p> <p>Hungary Salt intake study based on 24 hour urine in the elderly <i>Eszter Sarkadi-Nagy</i></p> <p>Ireland Update on salt reduction programme</p>

	<p><i>Clare O'Donovan</i></p> <p>Lithuania Results from study on sodium and iodine status in Lithuanian population <i>Marius Miglinas</i></p> <p>Netherlands Update on salt reduction activities <i>Eveline Martens</i></p> <p>Slovenia Update on salt reduction activities <i>Urska Blaznik</i></p> <p>Switzerland Monitoring of salt levels in soups and salad dressings <i>Steffi Schliichter</i></p>
16:20–16:30	Q&A and closing remarks
	<p><i>Michael Beer</i>, Chair of the European Salt Action Network, Switzerland</p> <p><i>Kremlin Wickramasinghe</i>, a.i. Head of the WHO European Office for the Prevention and Control of Noncommunicable Diseases (NCDs)</p>

Annex 2. List of participants

Belgium

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Scienscano

Croatia

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University Hospital Centre Zagreb "Rebro"

Georgia

Lela Sturua
National Centre for Disease Control and Public Health of Georgia

Germany

Editha Giese
Federal Ministry of Food and Agriculture

Greece

Georgios Marakis
Hellenic Food Authority

Hungary

Eszter Sarkadi-Nagy
National Institute of Pharmacy and Nutrition

Ireland

Aideen McCann
Food Safety Authority of Ireland

Clare O'Donovan
Food Safety Authority of Ireland

Sinead O'Mahony
Food Safety Authority of Ireland

Israel

Ronit Endevelt
Ministry of Health

Italy

Pasquale Strazzullo
Federico II University of Naples

Lithuania

Indre Makarskiene

Ministry of Health of the Republic of Lithuania

Marius Miglinas
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Netherlands

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Ministry of Health, Welfare and Sport

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Portugal

Maria João Gregorio
Directorate General of Health

Mariana Coelho Santos
National Institute of Health Dr Ricardo Jorge

Slovenia

Urška Blaznik
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Rapporteur

Karen McColl

The WHO Regional Office for Europe

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

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