

# Salt Reduction

A Report on a  
High Level Salt Reduction Consultation Meeting  
Cape Town, South Africa  
2nd September 2016



# The problem...

## Introduction

South African and international health experts met with government officials and health organisations in Cape Town on 2nd September 2016, in a landmark meeting to discuss progress and challenges for South Africa's salt reduction strategy. South Africa's legislation, mandating maximum salt levels for a wide range of food products, is the first and most comprehensive example of such legislation in the world at this time. The first phase of the legislation came into effect on 30 June 2016 following a long lead-in period which allowed the food industry time to establish a dialogue with the government and to institute required changes. This work is coordinated by WHO and the University of Wollongong, in collaboration with North-West University, with support from the Bloomberg Philanthropies administered by the Centers for Disease Control and Prevention (CDC) Foundation in the USA.

Twenty-five high-level participants from government, NGOs, universities and research organisations attended the meeting, hosted by the Heart and Stroke Foundation South

Africa with funding from the Bloomberg Philanthropies. Co-chaired by Krisela Steyn from the Chronic Disease Initiative South Africa and Pamela Naidoo, CEO of the Heart and Stroke Foundation South Africa, the objective of the day was to take stock of progress in implementing the legislation in South Africa to date and to discuss ways of ensuring effective implementation and monitoring of salt reduction efforts locally and nationally. It was anticipated that the consultation would:

- 1) summarize current evidence related to salt reduction in South Africa;
- 2) reflect on the impacts of the ground-breaking legislation locally, regionally and globally;
- 3) initiate a platform for ongoing and open discussions on the legislative process (i.e. through to the next stage of targets in 2019); and,
- 4) develop a Roadmap to guide new and ongoing advocacy, education and research efforts.



## Background

High levels of salt consumption around the world are contributing to rising levels of high blood pressure, which is one of the biggest contributors to cardiovascular diseases and stroke.<sup>1</sup> Population wide salt reduction strategies are one of the most cost-effective interventions to reduce the growing burden of chronic diseases in most countries.<sup>2</sup> In view of this, Member States of the World Health Organization (WHO) have agreed to a target to reduce salt by 30% towards the WHO's recommended amount of 5 grams per day.<sup>3</sup> A recent review identified that 75 countries now have national programs in place.<sup>4</sup> Sixty-one of these include efforts to engage the food industry to reduce salt in manufactured foods, but relative few are mandated through legislation.<sup>5</sup> In its strategic plan for the prevention and control of NCDs (2013-2017), the South African National Department of Health (NDoH) includes the target to reduce the mean population intake of salt to less than 5 grams per day. South Africa is the first country to have a comprehensive suite of mandated targets for the main contributors to salt in the diet.<sup>6</sup> The first level of implementation was 30 June 2016, with the second level of implementation scheduled for June 2019.

## Opening

Krisela Steyn welcomed delegates to the meeting and congratulated the NDoH and research organisations for their efforts in this initiative.

## Global overview

Jacqui Webster, Director of the WHO Collaborating Centre on Population Salt Reduction at the George Institute, provided a global overview of progress on salt reduction. While acknowledging that some studies provide contrary results, she confirmed that the totality of the evidence supports the need to reduce salt and that salt reduction programs are working.<sup>7</sup> She highlighted the potential of state and community initiatives to complement national programs.<sup>8</sup> Dr Webster revealed that South Africa was

centre stage on salt reduction globally and highlighted the need to ensure that effective monitoring programs were in place, not only to assess salt intake and health-related outcomes, but also to measure changes in salt levels in foods. Lastly, Dr Webster demonstrated how the FoodSwitch mobile phone app and accompanying food database, developed by the George Institute and implemented by Discovery Vitality in South Africa, could be used to track progress based on labelling information. The importance of continued multi-disciplinary collaborations, open dialogue with the NDoH and industry, and advocacy to keep salt reduction high on the political agenda was stressed, as well as the need for increased support for ongoing research as a mechanism for monitoring the impact of the legislation.

## Local situation

Melvyn Freeman, NCD Chief Director for the NDoH, provided an update in relation to the implementation and monitoring of the salt legislation. He provided an ideal world scenario and then juxtaposed this with the actual situation in South Africa, based on the challenges that needed to be overcome in order to ensure that implementation of the legislation occurred as planned, on 30 June 2016. Close consultation and involvement of the food industry during the development of the legislation had helped to foster a working relationship so that collaborative problem-solving could be used later to overcome challenges at various stages. He highlighted that whilst some amendments had to be made to the original salt target levels for some food categories, the changes were minor and would not adversely affect the public health impact of the legislation. There were noted inconsistencies between industry self-reported sodium levels in foods and independent chemical analysis thereof, in relation to compliance with the new targets. The next step for the NDoH was to meet with both laboratory managers and food companies to better understand methodological issues with salt content food analyses, with a view to strengthening implementation, monitoring and

remedial processes over the next year. It was also pointed out that salt was part of a much broader program of NCD prevention and treatment plans and that reduction of sugar intake targeting sugar sweetened beverages was now also a key focus as part of the multi-pronged strategy to prevent and manage the obesity epidemic in South Africa.

### New data on South African salt intake

Much needed new data on salt intake by the South African population was presented through two different studies that used 24-hour urinary sodium collections. Bianca Swanepoel from North-West University outlined the results of a local study that established the sodium and potassium excretion levels of three different South African populations.<sup>9</sup> In total, 692 complete 24-hour urine collections were analyzed for sodium and potassium. The median sodium excretion was 122.9mmol/day (7.2g salt) and potassium excretion was 33.5mmol/day, with a median sodium-to-potassium ratio of 3.5. The majority (92.8%) of the population did not meet the recommended potassium intake per day and 65.6% consumed more than 6g of salt per day. While the results are most relevant for adults in the location of data capture, these findings also provide support

for the South African government's sodium reduction legislation. It was suggested that more consideration be given to promoting the intake of potassium-rich foods, including fresh fruits and vegetables, as this may have a greater public health impact than focusing on dietary sodium reduction alone.

Karen Charlton, from the University of Wollongong, presented the preliminary results from a salt study conducted in 2015 as part of the multi-country, longitudinal WHO Study on global AGEing and adult health (SAGE).<sup>10</sup> The objective of the salt study nested in SAGE South Africa Wave 2 was to provide a nationally representative baseline measurement of salt intake and blood pressure from which to monitor progress towards the WHO salt intake target and any associated changes in blood pressure.<sup>11</sup> The final subsample who provided 24-hour urine samples consisted of 574 older adults and 312 adults aged 18 – 49y. The study showed that 53% of adults aged 50+ years of age and one third of 18-49 year olds had hypertension. Of those adults with hypertension, two out of three people in the older group and 75% of the younger group were not aware of their condition. Only one in four people with hypertension received any blood pressure medication, with only one in



**South Africa passes legislation as the first country in the world to regulate salt levels in a comprehensive range of processed foods (30 June 2016).**

Government Gazette, 20 March 2013, no 36274.

## *“...South Africa is the first country to have a comprehensive suite of mandated targets for the main contributors to salt in the diet...”*

every ten taking effective blood pressure medication that kept their blood pressure under control.

Sixty-five percent of individuals were consuming levels of salt above the target of 5g/day, with a median intake of 5.8g/day (older adults) and 7.7g/day (younger adults). Of particular concern was the finding that 40% of younger adults had very high intakes - above 9g salt per day. This data, together with information on the low levels of awareness of hypertension further support the need to change the food supply to reduce salt intake. This work is supported by the WHO, the University of Wollongong, North-West University, and a grant from Bloomberg Philanthropies administered by the Centers for Disease Control and Prevention (CDC) Foundation in the USA. Wave 3 follow-up of respondents in South Africa will be implemented as a post-legislation measure in 2017.

### **Measurement and proficiency testing of sodium levels in foods**

Beulah Pretorius, from the University of Pretoria, provided some useful insights into measurement and proficiency testing in relation to sodium. She reminded the group about how the two terms “sodium” and “salt” are often used interchangeably, and the importance of communicating the differences clearly when indicating the substance analysed. It is clear that further attention needs to be given to development of appropriate sampling procedures for foods in order to obtain representative mean values for individual nutrients, including sodium. A sampling plan can be found on the Medical Research Council’s website (<http://safoods.mrc.ac.za/sampling.htm>). In the government’s regulation (R.214), both flame atomic absorption spectroscopy (FAAS) and inductively coupled plasma (ICP) are allowed as quantification methods. However the biggest challenges found in the laboratories with regard to sodium analyses are: (1) using different matrices because not all foods are homogenous; (2) vastly differing concentrations of sodium in various foods which require different dilutions; and, (3) developing standardized, robust sample preparations in the laboratory. It was recommended that dry ashing and

microwave digestion be used for sample preparation. The importance of using certified reference materials (CRM) as quality control (QC) samples, include between five and seven calibration points in the calibration curve to cover the range of sodium concentrations, and to perform analyses in duplicate. A recent study conducted by University of Pretoria researchers on the sodium content of 58 processed pork meat products<sup>12</sup> has triggered the need for an inter-laboratory study (and cross-lab calibration procedures) on processed meat which is currently underway in eight laboratories. The results of this study will inform debates about methodological issues related to monitoring industry compliance with salt legislation.

### **Advocacy and awareness**

Edelweiss Wentzel-Viljoen, from North-West University and the Salt Watch Research Advisory Group, presented the results of the evaluation of the Salt Watch awareness campaign. The four month national campaign was launched in 2014, with a view to changing knowledge and behaviours of people relating to discretionary salt intake. Television and radio advertisements combined with distribution of pamphlets, newsprint editorials, and a low-salt recipe book, amongst other activities, were used to convey the message. A community-based in-home survey was undertaken with 477 black African women (18-55 yr) before and after the intervention. A significant positive change in reported knowledge, attitudes and behaviours of the women was found including significant shifts in reported actions to reduce salt intake. The findings strongly suggest that mass media campaigns complement the legislation and other NDoH efforts to reduce salt intake in South Africa.

# The discussion...

## Discussion

The South African legislation targets 60% of salt in the diet that comes from processed foods.<sup>13</sup> Participants at the meeting highlighted the need to extend the number and involvement of industry partners to a broader range of food manufacturers and also to catering and fast food restaurants, reflecting the fact that an increasing proportion of food was eaten out of the home. There was some discussion about whether targets were the best approach for this sector or whether advocacy and engagement through surveys and meetings might be a more effective first step. Another key issue arising from the discussions was the challenge of addressing discretionary salt (salt added during cooking and at the table) which was higher in South Africa (41%)<sup>13</sup> than in many other countries and the

importance of ensuring that iodine levels were monitored and necessary adjustments made to the concentration of iodine levels in salt, as salt intakes are reduced.

Christelle Crickmore, from the Heart and Stroke Foundation South Africa, facilitated feedback from small group discussions: (1) Research; (2) Monitoring and Compliance; and, (3) Communication and Advocacy. In relation to research, the main issues raised included increased support for studies like SAGE South Africa, as well as the potential for integrating measurement of population sodium intake into other planned national surveys, and linking with state-based programs, such as Kick-Start in schools to broaden the reach in relation to evidence. The need to consider measurement of salt intake in children was raised, as well as in adults of all ages. The importance of continued dietary



The discussion in progress

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surveys that include better ways of measuring discretionary salt intake, overall diet and health and wellbeing was also highlighted, as was the need for more research into effective labelling approaches.

The main priorities identified by the monitoring and compliance group included validation of existing protocols for laboratory analysis of sodium content of foods, and consultation and feedback to the industry on the current analysis. The capacity problem regarding labs, resources and expertise was discussed. It was felt this could be addressed in some part through stronger collaboration of academics with the Directorate of Food Control and the NDoH, for example on the measurement of salt levels in foods. Once sodium content on food labels was known to be reliable, monitoring of nutrition information on labels

may provide an additional and more cost-effective strategy for monitoring food industry compliance with the salt legislation.

The communication and advocacy group highlighted the short term nature of the campaign to date and the need to implement strategies that move from improving consumer awareness related to the effect of salt on health to those that encourage actual behaviour change. The need and plans for a co-ordinated multi-sector strategy on health communication bringing together the Salt Watch Working Group with the NDoH and Heart and Stroke Foundation SA was discussed.



# Our recommendations...

## Closing and action points

Pamela Naidoo, CEO of the Heart and Stroke Foundation South Africa summed up the day and thanked everyone for their contributions. She said the key message from the day was that there is sufficient evidence locally and globally that salt reduction strategies work, with additional evidence from South Africa that stronger drivers are needed to initiate and sustain needed changes. Population-level salt intakes are currently between 7-8 grams in South Africa, and there was clear agreement on the need to continue to focus on salt reduction strategies in order to reach the 5g/day target. Monitoring and evaluation of the salt legislation is essential, not only to demonstrate the impact of its effectiveness on salt intakes, but also to ensure compliance by industry. .

## Roadmap for action

*Five priority areas for further action were identified by this group as the basis of a Roadmap for continued action on salt reduction in South Africa:*

- 1. Support full compliance with the existing legislation and increase broad multi-disciplinary and multi-agency efforts to prepare for the 2019 legislative thresholds:** including through strengthening of methodological protocols for monitoring, continuing engagement with the food industry and reaching out to broader industry groups, including the informal food production sectors.
- 2. Target foods eaten out of the home:** by understanding the contribution to foods eaten out of the home to total salt intake in order to develop a strategy to address this



Participants of the High Level Salt Reduction Consultation Meeting, Cape Town, South Africa

# *“...South Africa’s health policy will reduce 11% of deaths from heart disease per year and save the government US\$51.25 million per year in health care costs...”*

sector, including quick service restaurants. This could include encouraging food outlets to remove salt shakers from the table, undertaking surveys to demonstrate different salt levels in prepared foods, and development of communication activities to target this sector.

**3. Implement the next stage of the campaign to change consumer behaviours:** identify salt-specific targets and key messages for behaviour change related to salt intake and then implement by integration into broader behaviour change strategies, for example using the Food-Based Dietary Guidelines as a framework to address salt reduction within a whole-of-diet approach. Work with broader food industry (not just food manufacturers) to reduce barriers to delivery/distribution of affordable fresh fruit and vegetables across the country, which will also help address the problem of low potassium intake.

**4. Address health inequalities:** ensure that effective measures are in place so that efforts do not inadvertently exacerbate health inequalities between rich and poor. Upstream interventions that influence the food environment, including food regulations, are less likely than individual-focused policies (for instance, nutrition education) to result in such disparity. However, it is acknowledged that both strategies are complementary and this is the approach undertaken in South Africa. Campaigns need to target lower-socioeconomic groups, rural and township areas, and those with the worst health outcomes.

**5. Identify additional funds for research and monitoring:** build capacity to continue to monitor changes in salt intake and salt-related behaviours. This may include integration of salt monitoring into national surveys and identifying opportunities to measure children’s salt intake. Given that salt is fortified with iodine in South Africa, it is essential to continue to monitor iodine intakes and adjust iodine levels in salt accordingly.

In addition to national actions, there were discussions about a number of global actions that could support ongoing activities in South Africa and other countries. One was the need to focus additional efforts on increasing potassium intake of the population. A second was the need to engage multi-national companies (including manufacturing and fast foods) to encourage salt reduction across products at a global scale. Salt reduction has the potential to save 3-4 million lives a year globally.<sup>14</sup>

The South African legislation to limit salt levels in manufactured foods is an example of what a progressive government can do to improve public health, with an increasing number of countries following suit.<sup>5</sup> This multi-country and multi-agency consultation reflects the importance of this issue in South Africa, but also of South Africa taking the global lead in pressing for change. As well as the potential impact on the improved health of the South African population, the salt legislation also has the potential to have knock-on effects in neighbouring Southern African countries that rely on South Africa for imports of processed foods.

The efforts of South African food companies can provide the impetus for multinational food companies looking at their own corporate social responsibilities to contribute to reformulate their products to improve the healthfulness of the food supply, particularly in low-middle income countries. Advocacy by health professionals, health researchers and government officials is required to encourage these companies to reduce salt levels in their products, even in the absence of legislation in other countries.

It has been estimated that South Africa’s health policy will reduce 11% of deaths from heart disease per year and save the government US\$51.25 million per year in health care costs. At the individual level, healthcare cost savings could prevent 2000 South African households being pushed into poverty annually.<sup>15</sup>

# Thanks to...

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*“...The South African legislation to limit salt levels in foods is an example of what a progressive government can do to improve public health and an increasing number of countries are following suit...”*

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THE HEART  
AND STROKE  
FOUNDATION  
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UNIVERSITY  
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