

White Paper on Improving Public Health by Optimizing Salt* and Iodine Intakes

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Background

The International Council for the Control of Iodine Deficiency Disorders (ICCIDD) estimates that two billion people worldwide live in areas at risk of iodine deficiency. It states that among the methods to prevent iodine deficiency disorder (IDD), using salt as a vehicle to deliver supplementary iodine to the diet is most simple, practical and effective [1]. Together with WHO and UNICEF, it recommended in 1996 the iodine level at the point of production of 20-40 ppm, assuming an average per capita salt intake of 5-10 g per day [2].

In 2006, the report from a WHO Forum and Technical Meeting responding to the WHO Global Strategy on Diet, Physical Activity and Health recommended that average population level salt intake from all food sources be < 5g/day per person, in order to reduce the sodium intake to less than 2 g/d per person [3]. Salt added to food is a major factor increasing the blood pressure in normotensive and hypertensive people, whether adults or children [4,5,6]. Increased blood pressure is the leading risk factor for death worldwide and the second leading risk for disability by causing heart disease, stroke and kidney failure [7,8].

In 2007 a WHO Expert Consultation on “Salt as a Vehicle for Fortification”, taking into account both the status of IDD and the evidence of harmful effects of high salt diets, emphasized the need for and benefits of coordination between salt iodization and dietary salt reduction programs [9]. It concluded that

“Policies for salt iodization and reduction of salt to < 5 g/day are compatible, cost effective and of great public health benefit. At the country level, close collaboration between salt iodization and salt reduction programs as a coalition is urgently required so that their aims are congruent.” [9, p. 15]

Most recently, with dietary salt reduction mobilizing in the Americas, the PAHO/WHO Regional Expert Group guiding the initiative indicated in its 2009 Policy Statement [10] that

* For the purpose of the document the word **salt** was used to refer to **sodium** expressed as **sodium chloride**.

Salt intake can be reduced without compromising micronutrient fortification efforts. National governments are to review national salt fortification policies and recommendations to be in concordance with the internationally recommended target of < 5 g salt /day per person by 2020 or national targets if lower.

And the Iodine Network, in a resolution dated February 20, 2009 [11] stated

BE IT FURTHER RESOLVED THAT the World Health Organization is urged to share with the Network Board any data, when and if it becomes available, about the achievement of salt reduction in various countries and its projected trends of salt consumption to inform Board discussion and national salt iodization programs to enable ongoing efforts to calibrate iodine fortification levels to ensure appropriate population iodine intakes.

Currently underway on the advice of the WHO Nutrition Guidance Expert Advisory Group (NUGAG) is a review of the evidence on how varying levels of population salt intake can impact the effectiveness of salt iodization programs, intending that salt reduction and salt iodization strategies work efficiently and effectively together. The results will feed into future revised WHO/UNICEF/ICCIDD salt iodization program guidelines, to become the starting point for newly coordinated efforts between iodine nutrition and dietary salt reduction. Needed as interventions are readied for implementation are current accurate baselines of actual iodine and salt intakes (assessed as sodium in the urine) and of the main sources of dietary salt and iodine (i.e. table salt and processed and pre-prepared food sources), information that is lacking in most countries. This would be followed by rigorous simultaneous measurement of urinary iodine and sodium, and food consumption patterns to monitor the progress of and feed critical information back to both programs.

Synchronization of salt iodization and dietary salt reduction programs brings together several stakeholders at international and national levels: the agencies working to optimize iodine supplementation and those focused on cardiovascular disease prevention; national governments; and various sectors of the salt and food industries. When the knowledge and experience of the stakeholders involved in the two programs are coordinated, with the stakeholders playing their respective roles within a framework for action directed at a common goal of mutual benefit, cost savings can be realized for healthcare systems.

A group of technical experts and stakeholders in both IDD and dietary salt reduction programs, convened by PAHO, has developed this White Paper to facilitate a broad collaboration between the programs, having agreed to a common goal and a Framework for Collaborative Action. It is directed to stakeholders for the two programs active within countries as well as those operating at the international level.

The Common Goal

The achievement of optimal intakes of sodium and iodine

A Framework for Collaborative Action

- 1. Common and coordinated messaging** at global, regional and national levels to
 - a. policy and decision makers
 - b. the salt and food industries
 - c. stakeholders among the health professions
 - d. the public and consumers

- 2. Common advocacy platforms** to
 - a. integrate the development/adjustment of iodine fortification of salt and dietary salt reduction policies and programs
 - i. at national or sub-national levels taking into account localized food supplies and dietary practices
 - ii. noting the need for collaboration among the diverse sectors and groups within the sectors involved in both initiatives
 - b. implement effective and regular quality assurance and monitoring programs for iodization of salt and iodine nutrition
 - c. synchronize national efforts to monitor iodine as dietary salt is reduced and where iodine deficiency is a concern, advance policies for the voluntary or mandatory use of iodized salt or iodine-containing premixes in commercially produced food at levels appropriate to population iodine needs
 - d. harmonize wherever possible cross country approvals processes to admit new food products with low salt content and an adequate amount of iodine
 - e. emphasize the importance of optimal iodine intake
 - f. emphasize the importance to health and the cost savings to health care systems of reduced dietary salt intake

- 3. Concurrent surveillance** of salt and iodine intake where feasible to inform salt iodization and dietary salt reduction programs including but not limited to
 - a. methods that optimally assess and monitor salt and iodine intake including potassium where a public health concern
 - b. comprehensive food surveys to distinguish the main sources of salt and iodine in the diet (including potassium where a public health concern) with questions to assess:
 - i. the discretionary use of iodized salt at the table and in household cooking
 - ii. salt intake through the consumption of processed foods, restaurant meals and street food and
 - iii. the proportion of iodine in the diet contributed by each source

- c. methods that account for vulnerable and diverse populations
- d. establishing, promoting and supporting laboratory proficiency for iodine and sodium analysis, (and potassium where a public health concern)
- e. knowledge, attitudes and behavior surveys on salt consumption
- f. monitoring the plans and patterns of the processed food industry with regards to
 - i. provision of sodium (and/or salt) data on food labels
 - ii. the feasibility of including iodine on labels
 - iii. the markets where new salt-containing products are being or will be supplied/imported, especially in countries undergoing nutrition transition, to anticipate changes in salt intake levels and whether the products use iodized salt or are otherwise a source of iodine

4 Coordinated evaluations of national salt iodization and dietary salt reduction programs

- a. applying a common set of principles including transparency and minimized conflicts of interest
- b. committed to information sharing
- c. independent of food and salt industries
- d. demonstrating the link between action and disease outcomes

5. Strategic joint research to fill knowledge gaps relevant to both salt iodization and reduction of dietary salt that emphasizes but is not limited to pilot and case studies in countries of differing economic and cultural make-up on

- a. how to most effectively optimize sodium and iodine intake
- b. the most effective and feasible collaborative surveillance methods to determine sodium and iodine intake and the sources of salt and iodine in the diet

6 Shared forums with relevant sectors of the food industry to deal with iodine and sodium additives and promote

- a. the voluntary or mandatory use of iodized salt or iodine-containing premixes in commercially produced food
- b. improved capacity and technology of the salt industry to ensure consistent and high standards of iodization of salt of small and medium sized salt producers
- c. calibration of iodization levels in salt based on the different salt intake levels with
 - i. the food processing industry and the restaurant and catering sectors consistently using iodized salt
 - ii. the food processing industry and the restaurant and catering sectors reducing the salt content of processed and pre-prepared foods
 - iii. joint technical assistance and knowledge sharing between sectors

- iv. compatible positions on issues held in common e.g. international trade agreements and regulatory or voluntary frameworks governing the sectors such that both salt iodization and dietary salt reduction programs can achieve their goals in the established timeframes

7 Coordinated mapping of existing and needed resources and mobilization of resources towards but not limited to

- a. Concurrent surveillance, policy development, advocacy and consumer education.

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Disclaimer: The findings and conclusions in this meeting summary are those of the authors and do not necessarily represent the official position of their organizations or of the Pan American Health Organization.

References

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- 10 Pan American Health Organization. Policy Statement on Dietary Salt Reduction. Accessed April 4, 2011 at http://new.paho.org/hq/index.php?option=com_content&task=view&id=2022&Itemid=1766.
- 11 Personal communication, Lucie Bohac, 2011, from unpublished Minutes of the Meeting of the Board of the Iodine Network on February 20, 2009 in Jaipur, India.