



# INTERSECTORAL CASE STUDY

## SUCCESSFUL SODIUM REGULATION IN SOUTH AFRICA

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Prof. Karen J. Hofman, MBCh, FAAP  
Director  
Priority Cost Effective Lessons for Systems  
Strengthening  
MRC, University of Witwatersrand  
Faculty of Health Sciences School of Public  
Health  
Johannesburg, South Africa

Richard Lee  
Intern  
PRICELESS-SA (Priority Cost Effective  
Lessons for Systems Strengthening – SA)

**Correspondence:**

Prof Karen Hofman  
Room 231, Wits School of Public Health  
Education Campus, 27 St. Andrews Road,  
Parktown 2193 Johannesburg, South Africa  
Landline: 011 717-2083  
Cell: 076 439-2486  
Email: Karen.Hofman@wits.ac.za

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## SUMMARY

Hypertension is neither unique nor novel to South Africa (SA), but the legislative actions undertaken by the South African government reflect a new approach to addressing this growing burden. Current levels of hypertension in SA affect a significant proportion of the population, in which some districts show a prevalence rate of over 40% in both men and women. Hypertension also adds a tremendous strain to the national health budget, as over South Africa Rand (ZAR) eight billion is spent on treating hypertension and other non-communicable diseases on an annual basis. Research has shown that a significant portion of hypertension is linked to sodium consumption, and a major proportion of sodium consumption in SA comes from bread—part of the staple diet. Aware of the burden of hypertension and the high levels of sodium in processed foods, Minister of Health Aaron Motsoaledi and the National Department of Health (NDOH) spearheaded legislative action to regulate sodium in food products at the manufacturing level. Based on the mixed results of voluntary regulation in other countries, the NDOH decided to initiate mandatory regulation to effectively curb sodium consumption.

Answers to a questionnaire distributed to food industry members showed that about half of the groups who answered preferred to have regulated rather than voluntary sodium, because they believed this could even the playing field. The government devoted a significant amount of time and effort to understanding the industry's concerns, many of which were considered in negotiations. Years of South African research and intersectoral interactions between government, academia, and industry culminated in successfully signed regulations. Even with this first successful step, the hypertension problem is far from solved. This report concludes with a discussion on plausible recommendations that calls for international collaboration across the African continent, in order to further address the growing prevalence of hypertension.

## Introduction

As a consequence of urbanization and shifts in consumption patterns, South Africa (SA) suffers from high hypertension rates previously prevalent in resource-rich settings and wealthier populations. Trends over time in SA reveal both a growing prevalence of hypertension and an exponential increase in the rate. Over a decade, records have shown a 100% increase in the prevalence of hypertension in men and 50% in women since 1998 (1). In the 33–44 year age group (a key working population demographic), the hypertension prevalence went from 22% to 40% in men and from 24% to 34% in women in just 10 years (1). These hypertension rates in SA have resulted in increased stroke and cardiovascular disease, adding a major strain to a fragile healthcare system and to the government health budget. Studies show that salt consumption levels are linked to the hypertension levels, and the average South African consumption of salt per person is about double the 5 g/day amount recommended by the World Health Organization (WHO) (2). Since the sodium in salt is the actual component linked to hypertension, the 5 g of salt/day translates to roughly 2000 mg of sodium (Na)/day, and the rest of this discussion will focus on and only refer to sodium.

In 2013, the South African National Department of Health (NDOH) passed new mandatory regulation limits on the quantity of sodium used in processed foods to be implemented starting in 2016. Mandatory regulation is essential especially for bread, which is a staple food that contributes to 25–40% of daily sodium intake (3). This report presents hypertension in the South African context and outlines the actions undertaken on a multisectoral level to address population health and improve life expectancy with mandatory regulation.

## Methodology

For this report, we conducted literature reviews using PubMed to search for articles that discussed hypertension and sodium consumption within the South African context. Key search words included, "hypertension," "sodium," "South Africa," and "stroke." In addition, we searched for articles that covered hypertension and sodium consumption in other countries, using the same key words with the exception of "South Africa." We screened titles and abstracts and read full texts of articles that

we deemed relevant. This process was facilitated by using sources that we had previously referred to from our past publications. For government documents, we accessed public files available in the South African Government Gazette. We also referred to notes taken during the consultation/negotiation sessions between the NDOH and food industries. This was reviewed by Prof. Melvyn Freeman, Chief Director: Non-Communicable Diseases, National Department of Health SA.

## 1. General background

### 1.1 Burden of disease: hypertension and strokes

Hypertension, or high blood pressure (greater than 140/90 mm Hg), has become a worldwide health concern as a precursor to stroke and cardiovascular disease. In comparison to hypertension's global prevalence, Sub-Saharan Africa (SSA) has the highest rate of hypertension, affecting 46% of the region's population (4), and SA is no exception. For instance, data from a rural district in the Mpumalanga Province show that the proportion of males and females affected by hypertension are at 44% and 42%, respectively (5). Although these numbers are slightly below the SSA estimate, these proportions are much higher with respect to other rural districts in SSA. For all of SA, the prevalence translates to 75 000 strokes each year, of which a third are fatal within the first month (6). Records from 2007 showed that of the 350 000 surviving stroke victims currently living in SA, 35% have moderate to severe disability (6). Strokes are the most costly non-communicable disease (NCD), and their high annual prevalence and need for both acute and rehabilitation treatment place a significant burden on the SA's fragile health care system.

While there is a pressing need to combat hypertension, the South African health system has a lack of care continuity and experiences drug stock-outs at times (7). The health system is further stressed by a "quadruple burden of disease", consisting of HIV/TB, NCDs, maternal and child health complications, and injuries. Research shows that after HIV, cardiovascular disease and strokes are the leading causes of death in SA. Furthermore, universal health care does not yet exist there. Only 14% of South Africans are covered by private health insurance, yet they use 60% of the total national health care expenditure (8). Regardless of the imbalance in health spending, treatment on NCDs, according to the Council of Medical Schemes, is over South Africa Rand (ZAR) eight billion a year (9). Thus, reform in health policy regarding hypertension would not only save lives, but also relieve the government of a huge fiscal burden.

### 1.2 Hypertension's link to a high-sodium diet

Socioeconomic and demographic conditions in SA have shifted over the past decade. In terms of socioeconomic conditions, SA witnessed a steady rate of urbanization throughout its 1948–1994 apartheid era, with an increase in urbanization from 42% to 52% (10). However, during the decade from 2000–2010 alone, urbanization continued to increase from 52% to 62% (10). This rapid shift occurred with a simultaneous growth in the consumption of processed food products in both urban and rural areas. In particular, sodium consumption rose in South African diets and led to the rise of hypertension to levels previously confined to wealthy populations. A demographic shift is also taking place with reduced rates in fertility and an increased aging proportion of the population of 60 years and above (5). In SA, this is complicated by a growing number of HIV/AIDS-positive individuals on successful treatment.

There are several factors that account for hypertension. One of these is genetic sensitivity to sodium. In the United States, for example, 73% of hypertensive African-Americans are sensitive to sodium, compared to 30–50% in the rest of the population (11, 12). SA data showed that whites were 44% less likely to have hypertension than black South Africans (13). The effects of high sodium consumption appear to be exacerbated by an associated genetic predisposition. The majority of black South Africans also have a greater tendency to die prematurely from strokes. Some of this is due to under-diagnosis

and a lack of compliance with medication. The death or disability of breadwinners and caregivers in families from strokes creates a similar poverty cycle to people with HIV/AIDS.

### **1.3 Efforts to prevent, monitor, and control hypertension in South Africa**

High salt intake in the form of sodium has been shown to explain the high prevalence of hypertension worldwide (12). The National Department of Health (NDOH) targeted non-discretionary sodium intake as the first step in the process to address the hypertension epidemic. In the past, the focus was mainly on curative services as opposed to their prevention. In 1996, the NDOH established the Directorate of Chronic Diseases, Disabilities and Geriatrics. In 2006, this directorate produced a set of national guidelines for the treatment of NCDs and promoted a cross-sectoral response on all levels against NCDs (5). However, the NDOH recently included a more cost-effective approach and focused on preventing hypertension through a population-level prevention of sodium consumption. High levels of sodium in bread are not unusual, but South African bread generally has a higher sodium content than bread in other countries, and this sodium level has gradually increased over the past two decades. In line with the Minister of Health's goals, SA researchers performed influential research and alerted the NDOH to the link between high blood pressure and salt in bread, how salt levels could be decreased without jeopardizing taste (14), and the number of lives that could be saved from strokes and their associated costs (23).

## **2. Initiation of the policy**

### **2.1 Global initiatives and experiences**

Attention towards a reduction in sodium in the diet is not unique to SA. A worldwide multifaceted holistic approach is increasingly gaining traction. Thirty-seven countries have developed approaches to reduce sodium content in processed foods, because for most people, a significant percentage of daily sodium intake comes from nondiscretionary consumption. Such approaches have included collaboration with food industries to negotiate voluntary regulation in production, creation of education programmes to address discretionary consumption, and use of labels and warnings to promote public awareness. The need to combat the damage of hypertension presents two viable forms of action: a reactive approach in the form of treating patients individually with medication, and a proactive approach in the form of population-level prevention and lifestyle changes to decrease discretionary sodium intake. Interestingly, direct patient treatment has been shown in Canada not to be cost effective, even if directed only at patients with the highest hypertension risks (15).

Of the 37 countries worldwide that implemented sodium-intake reduction plans in food products, only Portugal has enforced mandatory regulations (16). Most governments have relied on sets of voluntary regulations intertwined with industry "collaboration," believing that such methods would be sufficient. The results are mixed. Finland has been successful with voluntary programmes which have resulted in a 25% decrease in individual daily sodium consumption from 4800 mg Na/day to 3600 mg Na/day (17). While this is significant, the current 3600 mg Na/day intake level in Finland remains well above the upper acceptable level of 2300 mg Na/day recommended by the WHO (18). Other countries have not had similar "success" in terms of voluntary regulations. Hungary and Estonia, for example, expressed difficulties in sodium reduction programmes, particularly due to the lack of cooperation by food industries (19). For a comparison, Table 1 shows 32 countries with their respective sodium intake levels and method of regulation.

**TABLE 1: SODIUM INTAKE LEVELS AND REDUCTION INITIATIVES AROUND THE WORLD AS OF 2011**

Countries	Daily sodium intake per person (mg)	Type of sodium regulation	Target daily sodium intake per person (mg)
Argentina	5000	Mandatory (planned)	2400
Australia	2600–4800	Voluntary	2400
Barbados	4800–6000	Voluntary	2400
Belgium	4400	Voluntary	2400
Brazil	3840	Voluntary	2000
Bulgaria	4800	Voluntary	2000
Canada	3120	Voluntary	2400
Chile	4000	Planned	None
China	4800	None	2400
Cyprus	—	Voluntary	2000
Denmark	2800–4400	Voluntary	2000
Fiji	2080–2160	Voluntary	2000
Finland	3040–4000	Voluntary	2400–2800
France	3360	Voluntary	3200
Hungary	6400–7200	Voluntary	2000
Ireland	4000	Voluntary	2400
Italy	4320	Voluntary	None
Japan	5280	None	2400
Latvia	—	Voluntary	2000
Lithuania	4400	Voluntary	2000
Malaysia	2560	Voluntary	None
Netherlands	3040–3880	Voluntary	2400
New Zealand	2160–3040	Voluntary	None
Norway	4000	Voluntary	2000
Poland	—	Voluntary	2400
Portugal	4760	Mandatory	2400
Singapore	3520	Voluntary	None
Slovenia	4800	Voluntary	2000
Spain	2160	Voluntary	2000
Switzerland	3240–4240	Planned	3200
UK	3800	Voluntary	2400
USA	3440	Voluntary	2400

Adapted from Webster *et al.* (20).

## 2.2 Decision for mandatory sodium regulation

The mandatory regulation approach can be controversial because it raises political and ethical debates on the roles and limitations of government intervention. In 2009, Portugal became the first country to pass legislation to curb the maximum limits of sodium in breads to 1.4 g salt/100 g, or 560 mg Na/100 g (16). Studies in Australia conducted by Cobiac *et al.* reached a conclusion that “the health benefits could be 20 times greater [than voluntary action] with government legislation on moderate salt limits in processed foods” (21). The Portuguese example and the Australian findings, combined with the limited results of voluntary actions in other countries, directed the South African NDOH towards the path of mandatory legislation. In line with the Portuguese example, Minister Motsoaledi pushed for regulations on the sodium levels in South African food products.

One of the targets was the baking industry due to the role of bread as a staple food for much of the South African population. Local research showed about 25–40% of an average South African’s daily intake of sodium comes from bread (22). Any target maximum level of sodium content in South African bread needed to be reasonably quantified, in order to account for the technical production concerns raised by the baking industry in terms of sodium necessary for the baking process.

## 2.3 Forecast outcomes of mandatory sodium regulation

To find a reasonable and yet optimal target sodium level, the Department of Health relied on data provided by research entities in SA that suggested that the outcome of the regulations were feasible and could be implemented (23). This local research was key to the Minister's initial decisions. Studies estimated the potential effects of sodium reduction specific to the South African context. According to the data, the average sodium intake per person from bread alone was 1600 mg Na/day due to the high sodium content of about 650 mg Na/100 g in South African bread (23). Further study showed that a reduction of sodium content in bread to 350 mg Na/100 g would consequently decrease daily sodium consumption by 730 mg Na/day (23). As a result, 8% of strokes, 6.5% of ischaemic heart disease and 11% of hypertensive heart disease could potentially be prevented, meaning 7400 fewer deaths from cardiovascular disease and 4300 fewer non-fatal strokes per year (23). The impact would decrease the burden of both physical disability, as well as the household economic disability created by hypertensive related NCDs.

The results of a reduction in sodium-intake would also have national fiscal benefits in addition to the number of lives saved. Data show that the direct costs of treating a single patient with a stroke add up to ZAR 76 000, which does not account for additional rehabilitation costs (24). As a result of preventing 4300 non-fatal strokes per year, SA would save over ZAR 350 million a year from direct hospital fees, which does not account for further savings made from avoiding household costs and lost income from disability. Focusing on the reduction of sodium content in bread alone to 350 mg Na/100 g would account for 80% of fiscal savings for the government (23).

## 3. Description of the policy

### 3.1 Target foods, dates, and sodium levels

The newly signed regulation to the Foodstuffs, Cosmetics and Disinfectants Act of 1976 was printed in the Government Gazette on 20 March 2013 and entitled, "Regulations relating to the reduction of sodium in certain foodstuffs and related matters" (25). There were a number of products targeted by the NDOH. The sodium reduction goals were targeted across several industries that utilized high sodium levels. Mandatory guidelines for sodium levels only limit specific foods with high consumption rates in SA, including bread, margarine, and soup mixes. A few high-sodium products such as biltong and soy sauce were exempted due to their low relative consumption (26). By regulating sodium reduction, SA is the first country in the world to regulate sodium consumption at the manufacturing level for several industries. The new regulation will be enacted to reduce sodium levels in certain food products in two waves, defined by their respective deadlines of 30 June 2016 and 30 June 2019. The summary of the sodium reduction legislation is provided in Table 2.

**TABLE 2: MAXIMUM LIMITS OF SODIUM CONTENT IN TARGETED FOOD PRODUCTS BY RESPECTIVE DEADLINES (25)**

Foodstuff category	2010 Baseline	30 June 2016	30 June 2019
Bread	528 mg	400 mg	380 mg
Breakfast cereals and porridges	638 mg	500 mg	400 mg
Butter and spreads such as margarine	867 mg	550 mg	450 mg
Savoury snacks (excluding salt and vinegar flavour)	1000 mg	800 mg	700 mg
Flavoured potato crisps (excluding salt and vinegar flavour)	1067 mg	650 mg	550 mg
Salt and vinegar flavoured savoury snacks and potato crisps	1730 mg	1 000 mg	850 mg
Cured processed meat	1596 mg	950 mg	850 mg
Raw processed meat sausages and similar products	1061 mg	800 mg	600 mg

Although limits are set as to the content of sodium in food products, the new regulations do not include any mention or restrictions on the use of alternate ingredients and possible chemical substitutes. However, according to Professor Melvyn Freeman, Chief Director of Non-Communicable Diseases, at the NDOH, the use of substitutes is discouraged in order for the population to adapt to a less salty taste (27). South African specific research shows that the palate is able to adapt to lower-sodium foods, especially if reductions in sodium levels are made in small steps over a period of time (28). For this reason the NDOH plans to address sodium reduction levels in two phases as indicated by the deadlines of 30 June 2016 and 30 June 2019. The timeline had originally been set for 2014 and 2016 as a sense of urgency, but after negotiations with industry, initial adjustments were made with timelines changed to 2016 and 2018. The extra two years will be used to reconfigure recipes and explore technical adaptations. As industry remained concerned with the 2018 deadline, the NDOH deadlines were finalized at 2016 and 2019.

### **3.2 Enforcement of regulation**

The new legislation also specifies methods of testing for sodium levels in order to check for compliance from industries. For bread, specifically, the NDOH will utilize chemical analysis via atomic absorption spectrometry with a toleration level (RSD) of 10% (25). All other targeted food categories will be checked by flame atomic absorption spectroscopy (AA) and/or Inductively Coupled Plasma (ICP) analyses (25). Fines, enforcement methods, and penalties with respect to non-compliance with the new regulations are included in the legislation and will be undertaken by a combination of safety environment officers at the municipal level. It is unclear if the capacity to perform this is sufficient.

## **4. Process of Intersectoral actions:**

### **4.1 Overview of the process**

The process towards sodium reduction policy might not have gained as much traction without intersectoral collaboration between government, academia, and industry. First, the interaction between academia (ranging from universities to non-government organizations) and the government provided an information link for the production and presentation of local research. Such context-specific evidence served as a crucial guide to understanding hypertension in the South African context and the feasibility of adopting regulations and decreasing sodium especially in bread (23). Interaction between these two sectors took place early on when the NDOH first began to debate the prospect of a national sodium-reduction policy. More recent research in South Africa focused on the effects of sodium reduction and its potential to save thousands of lives, as well as the millions of Rand. While research institutions served to guide policy-makers through data and recommendations, policy-makers in turn helped guide these institutions as to what data they needed. Furthermore, international experts on sodium reduction, such as Professor Graham MacGregor from World Action on Salt and Health (WASH)—a non-governmental organization dedicated to reducing the sodium intake in diets around the world—visited South Africa and provided detailed advice to the NDOH.

Although firmly determined to regulating sodium levels, the South African government showed good faith and willingness to debate the process from all perspectives. The NDOH initiated a consultation process with nutrition and hypertension-related academics, representatives of the food industry, and non-governmental organizations such as the Heart and Stroke Foundation of South Africa. The NDOH devoted a significant amount of time and effort in order to understand industry concerns and provided an inclusive and respectful approach. Joint meetings over 14 months revealed a communal interest in the preservation of South African health, but industry representatives noted objections to government regulation over the manufacturing process.

**TABLE 3: OVERVIEW OF PROCESSES LEADING UP TO SODIUM REGULATION**

Dates	Actions
March 2010–May 2011	Initiation and meetings with industry
July 2012	Draft regulations gazetted
December 2012	All comments to draft regulation reviewed
March 2013	Regulations passed

## 4.2 Challenges to the process

### 4.2.1 Industry response

Aware that the vast majority of global initiatives for sodium reduction utilized voluntary compliance rather than mandatory regulation, some industry representatives drew attention to already existing voluntary measures undertaken by South African baking companies. For instance, one South African food conglomerate stated that its bread division had already taken the initiative to reduce its sodium levels, which are currently between 470 mg Na/100 g and 520 mg Na/100 g (29). But such examples of voluntary action failed to show sodium levels that matched the 380 mg Na/100 g level recommended for optimal effects in population health. Industry representatives also pushed for a move away from legislative action to behavioural action, shifting the bulk of responsibility from industry to the consumer. This may prove challenging, especially in SA, where the majority of the population has low nutritional literacy and may lack the luxury of alternatives to discretionary salt in terms of tasty, dietary options. However, the NDOH has engaged the SA Heart and Stroke Foundation to prepare a discretionary salt use campaign that will run simultaneously to the regulations.

Interestingly, industry's opposition to government intervention lay not only in the political debate of the encroaching powers of a "nanny state" government, but also in the practicality of the proposed measures. In July 2012, the Minister of Health published a proposed draft of sodium level limits and a 2016–2018 timeframe in the government gazette for industry and the public to comment. This three-month comment period was utilized by industry leaders to make known their criticisms to the proposed draft. Two main aspects that attracted opposition were a) the specific sodium reduction levels and b) the time provided to reach those levels. First, industry representatives expressed their beliefs that the first proposed level of 400 mg Na/100 g used in bread would jeopardize the texture, taste, and shelf-life of bread loaves. In addition, the baking industry remained steadfast in its belief that bread at a maximum level of 380 mg Na/100 g could not be done by 2018, or at all due to technical and technological shortcomings. Another important concern related to a potential lack of enforcement of the new regulations.

### 4.2.2 The media

In general, the media was relatively favourable to these proposed regulations. However, there was some backlash in which it sensationalized the situation as an illustration of a potential, coercive role of a South African "nanny state." The media also focused on the expected rise in bread prices by 8.91 cents per loaf as a consequence of reconfigurations in bread manufacturing (3). Although this may be a small burden on the consumer, it is overshadowed by the much larger fiscal gains for a South African health system that is pressured by the rise of hypertension rates. The media is responsible for shaping public perception with respect to public health. Much education is still needed to ensure that journalists understand the sodium debate in the larger context of high hypertension rates and NCD prevalence in SA. It will also be important over time to spread the NDOH's message of the need to change the SA palate rather than allowing the food industry to retain the salty taste with chemical substitutes.



### 4.3 Addressing the challenges

In response to the baking industry's stance against the plausibility of manufacturing low-sodium bread, researchers at the University of Cape Town showed that it was possible to bake breads with sodium content below the 380 mg Na/100 g limit (30). In addition, companies outside of SA served as examples of successful manufacturing, such as one of Canada's baking companies and its white loaf products with 360 mg Na/100 g (31). Such global comparisons allowed for further examination even between the same products sold in different countries by multinational companies. One multinational company, for instance, manufactures a brand of cereal in SA with a sodium content level of 647 mg Na/100 g (32), while it makes the same brand at 467 mg Na/100 g (33) in the United States—a level well below SA's 500 mg Na/100 g 2016 cereal sodium threshold.

Answers to a questionnaire distributed to food industry members showed that about half of the groups preferred to have regulated sodium reductions rather than voluntary sodium reduction, since they believed this could even the playing field (26). After the three-month comment period and responses from over 30 companies and organizations, the NDOH spent another three months reviewing and making changes to its proposed draft. Hearing the concerns from industry, the NDOH pushed back the second 2018 deadline to 2019, but the first 2016 deadline and the original bread sodium target level of 380 mg Na/100 g limit remained unchanged.

### 4.4 Growing support for regulations

To complement the new sodium regulations in food products, community intersectoral activities have arisen in support of population health reform. The Public Health Association of SA (PHASA) has publicly voiced its support of Minister of Health Motsoaledi's actions to use policy to promote the health of the people (34). The Heart and Stroke Foundation formed a lobby group called Salt Watch in March 2013 to raise public awareness about appropriate sodium consumption levels, as well as health/nutrition choices (35). The Foundation has also endorsed a health logo which is labelled on the packages of foods that meet levels of approval in their respective health criteria. These complementary movements show a growing support and understanding of the dangers of hypertension. Intersectoral collaboration has proven essential for the adequate and optimal decisions regarding public health and health policy.

## 5. Conclusion

### 5.1 Lessons learned

Even with regulatory success, the hypertension problem is far from solved. Sodium from processed foods (based on pre-regulation levels) accounts for only 50% of the daily sodium intake per person in SA (14). This means that the remaining half of sodium consumption comes from discretionary sodium use both in the kitchen and at the table. In addition to policy and regulatory changes, changing dietary behaviour is important. The decision to enforce mandatory regulation on food industries was not a blind decision, but a careful process spearheaded by the government. The NDOH examined other international situations and consulted with academia, industry, and international organizations, in order to move towards an effective solution to the hypertension explosion in SA.

Industry proved to be a big challenge to the creation of a regulation framework, but its greatest objection was not as much to the issue of mandatory regulation, as it was to the timeline of the regulation, as well as the expected levels in sodium reduction. The NDOH understood the need for intersectoral collaboration and called on academics and industry representatives to achieve a pragmatic policy plan that accounted for the concerns presented by all sides. The success of the negotiations can be attributed to the firm dedication of the NDOH, and although it pushed back its original timeline in response to requests from food industries, it did not compromise its target sodium levels, due to its commitment to saving lives and reducing health costs.

## 5.2 Recent global developments

In June 2013, just three months after SA passed its regulations, the Pan American Health Organization (PAHO) held a “Salt Smart” consultation to reduce sodium consumption by half in the Americas (36). Since the plan’s deadline is set for 2020—similar to SA’s 2019 deadline—this might be beneficial to both SA and to PAHO due to the timeline overlap that will allow for communication and collaboration on a global scale to see which methods are working most effectively in real time.

## 5.3 Moving forward: considerations for the future

SA continues to face tough challenges in this area of health promotion, and the NDOH will work hard to ensure that its new regulations are strictly adhered to, as concern and skepticism remain on the part of both domestic and multinational companies. If other SSA nations are considering mandatory action, a gradual intersectoral process might be useful. This could follow the SA process that starts with consultation and later moves to a draft plan, comments and negotiations, and then revisions (37). Whether a voluntary or mandatory approach is considered, the governments should maintain a strong position and commitment to monitoring industry’s compliance, especially as the food industry increasingly markets its products across the continent.

The PAHO example also serves as an example for SSA and WHO AFRO might wish to consider a similar strategy. The PAHO publication (38), “Salt Smart Initiative,” provides guides for action on both the domestic and international level. On the domestic front, national surveys and local data are crucial to a context-specific understanding of how sodium affects the population. Low- and middle-income countries have too often relied on secondary international data sources, which do not necessarily apply. SSA nations should focus on the collection of local epidemiology as well as health-economic data, in order to weigh future benefits and prepare the evidence needed to promote action against high sodium consumption in each country. This will likely require collaboration between the government and researchers in order to effectively negotiate with the industry. Although the PAHO publication does not explicitly support mandatory regulation over voluntary regulation, it presents cases in which voluntary actions have failed to meet target levels and states that mandatory regulations are proven to be more effective (36).

The PAHO approach provides a regional response template for comparisons of national baselines and progress over time (36). An African network may contribute to better industry regulation when neighbouring countries with existing policies are used as examples. Shared policies and timetables can be used as guides. A strong network across Africa will ensure good communication and sharing of information to facilitate a universal rate of progress against the burdens of hypertension. Some of the lessons learned in SA can serve as a regional example for the rest of the continent for mandatory regulations and to ensure that the reduction of sodium consumption can be accomplished (37).

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