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Sodium Reduction in Health-Care Facilities

B.C.'s Experience



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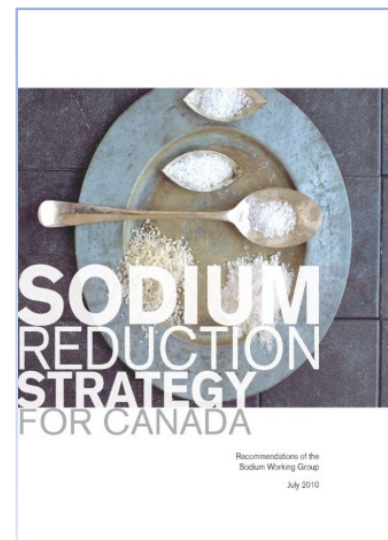
This document details the approach taken in developing provincial sodium guidelines and procurement policies for food service operations in health care facilities owned and operated by B.C. health authorities and the implementation of the policy across all health authorities by 2016.^a

This project has unfolded over several years and is described in three phases, from inception of the project to its current status. It is a chronological account of the challenges, considerations and decisions made over the course of the project, and the actions taken to meet the objectives of the initiative. This document acknowledges the effort and planning required to drive change in a large system and the value of a collaborative and thoughtful approach where all participants are given a voice and the opportunity to share their knowledge of regional challenges.

Situational Context

Sodium consumption is a major public health issue in Canada.^{1,2} The average Canadian consumes 3,400 mg of sodium per day, more than double what is needed, and this is a threat to good health. To address this public health issue, Health Canada established an expert Sodium Working Group in 2007 to develop and oversee the implementation of a population health strategy for reducing sodium intake by Canadians.

In 2010, Health Canada's Sodium Working Group released a series of recommendations aimed at all levels of government, as well as non-governmental organizations, consumers, industry and other relevant stakeholders. The recommendations were based on a three-pronged approach to reducing sodium consumption by Canadians: reduction of sodium levels in processed food products and foods; education and awareness of consumers, industry, and health professionals; and continued research. The goal set by the Sodium Working Group was to reduce the population average sodium intake to 2300 mg of sodium per day by 2016.^b For people 14 years of age and older, 2300 mg sodium per day is the tolerable upper intake level.³



^a Affiliated facilities have not been included in this initiative at this time.

^b The longer term goal was a sodium intake below 2300 mg per day and towards 1500 mg per day for those aged 9-50 years old, and less for those younger and older.

B.C.'s Response

One of the recommendations contained in the strategy was that all levels of government and stakeholders develop and integrate sodium reduction into their nutrition programs, guidelines and policies. The federal, provincial and territorial ministers of Health and Healthy Living (except Quebec) committed to achieving an interim population average intake goal of 2300 mg per day by 2016, and a Provincial and Territorial Task Group was established in support. This group released a report in June 2012, which outlined future actions that provinces, territories and multi-sector partners could take to work towards the stated goal.⁴

In B.C., sodium reduction is part of the healthy eating intervention stream, one of seven focused intervention streams that sets the policy direction for health authorities under the Healthy Families BC Policy Framework.⁶ B.C. has taken action in two key areas:

- Acting on Health Canada's Sodium Working Group's recommendation that common messages be developed for use by all stakeholders, the B.C. Ministry of Health worked with Dietitians of Canada, Ontario Dietitian Advisory Services/ EatRight Ontario and Health Canada to develop consumer messages on the amount of sodium compatible with a healthy diet and on ways to reduce sodium through food choices and food preparation. These messages have been incorporated into video clips, dietitian blogs and online tools such as Sodium Sense (an interactive tool that allows users to create a meal and tally the sodium content), all of which are available on the Healthy Families BC website.



- The B.C. government has made a strong commitment to public policy that creates supportive healthy environments. The commitment to healthy eating and sodium reduction has been actioned in several ways, including restrictions on the sale of unhealthy foods and beverages in schools and in vending machines in provincial government buildings and hospitals, and other programs such as the Informed Dining program, Food Skills for Families program, and school initiatives such as a revised teacher curriculum with greater emphasis on sodium. More recently, the federal government has signaled a reduction in sodium in processed foods as a priority.^{d,5}

^c In May 2011, the Ministry of Health launched Healthy Families BC – a prevention and health improvement initiative focused on four key areas: healthy eating, healthy lifestyles, resources for parents, and fostering healthy communities. The Ministry of Health is now building on that original platform to operationalize aspects of the ministry's strategic plan for public health.

Health Canada's Sodium Working Group recognized that governments could influence the environment in publicly-funded institutions and recommended that sodium guidelines and procurement policies be developed for use by food service operations in these settings.^e The B.C. Ministry of Health acknowledged the importance of institutions modeling best practices and, in addition to extending Informed Dining to health-care facilities, directed the development of provincial sodium guidelines and procurement policies for provincial acute and residential care facilities.

Taking Action on Sodium Reduction in Health-Care Facilities

PHASE 1: November 2011 to March 2012 - Developing sodium guidelines and procurement policies

During Phase 1 of the project, a team was brought together and the core elements of the Sodium Reduction in Health-Care Initiative were discussed and confirmed.

Identifying the team and scope of the task:

The B.C. Ministry of Health directed that a collaborative approach be used in developing the sodium guidelines and procurement policies and development of a plan for implementation, to ensure that health authorities would be well positioned to support the initiative and succeed in its implementation. The Sodium/Nutrition Guidelines and Procurement Policy Working Group (the working group) was established in November 2011, consisting of clinical and food service representatives from each health authority and Ministry of Health Population and Public Health staff. It was tasked with the development of these guidelines and policies, and developing an action plan that would achieve reduced sodium levels in provincial acute and residential care menus.

To support the working group's efforts on this initiative and clearly signal that this was a key priority of the ministry, a letter was sent to each health authority CEO requesting information on current sodium levels in general diets in acute and residential care facilities and certain menu items. Results of this scan revealed considerable variation in the sodium content of the general diet across the six health authorities (the adult general menus ranging from 2600 to 4061 mg sodium per day and the pediatric menus ranging from 1818 to 4142 mg sodium per day). See baseline data in Table 3.

^d "Promote public health by...bringing in tougher regulations to eliminate trans fats and to reduce salt in processed foods, similar to those in the United States."

^e RECOMMENDATION 1-10: The working group recommends that the federal government, together with provincial and territorial governments, develop more consistent sodium guidelines and procurement policies for use by food service operations in publicly-funded institutions such as schools, daycares, hospitals, care facilities, correctional institutions and for the armed forces.

Identifying potential challenges:

To get a sense of the potential impact of setting a target of 2300 mg per day for patient menus on health authorities, the working group discussed their potential challenges in implementing this policy. The following themes emerged:

- *Product availability* – Some regions might not have access to certain product lines or only at a cost premium. Facilities with on-site production might have better control over sodium levels if lower sodium products are available. Sites using contracted food services have had input into menu and recipe development, allowing some flexibility in reducing sodium levels. However, foods are ready made (out-sourced) at other sites, which greatly limits flexibility.
- *Nutritional analysis* – Nutrient analysis would be a challenge for those health authorities without a computerized nutrient analysis system in place, as analysis by hand is time-consuming and expensive.
- *Inherent sodium and special diets* – Inherent sodium in food items and some menus presents a challenge. Ham and deli meats are high sodium items. It is difficult to keep sodium levels down in some diets (e.g., teenagers' diets). Other specialized populations (e.g., palliative sites) would also require special consideration.
- *Buying groups* – Some health authorities purchase through buying groups.^f The impact of the guidelines and policies would need to take these buying groups into consideration.

Developing the sodium guidelines document:

The working group recognized that the sodium guidelines would lay the foundation for the initiative. Therefore, the working group reviewed several aspects of the proposed policy direction and made recommendations to the ministry regarding guiding principles, sodium reduction targets, measurement protocols and strategies to support the initiative.

Guiding principles: In addition to the overarching principles set by the ministry^g, the working group recommended the following menu specific guiding principles:

- Provincial sodium guidelines are intended for general acute and general residential menus in publicly funded health care facilities owned and/or operated by health authorities.
- Provincial sodium guidelines are not intended for specialized/therapeutic menus specifically established to meet the unique needs of a patient or resident.
- Quality of life is an important consideration and should be accommodated with respect to food choices. Menus should allow for special occasion meals that may contain higher sodium items; consider religious practices and cultural customs; and offer comfort foods for residential clients.

Sodium reduction targets: The ministry had developed draft targets at the beginning of the project, which were defined as a percentage of the total number of health facilities in each health authority meeting provincial standards by specific dates, with a target date of March 31, 2015. An alternative approach was put forward by working group members, whereby targets would be defined as a percentage reduction across all facilities in a health authority, based on the health authority baseline established in 2011. This approach was preferred by the working group because it would apply across

^f Examples of buying groups are Health Shared Services BC and HealthPro.

^g The Ministry of Health supports the goal of reducing the average sodium intake of Canadians to 2300mg per day; and health-care facilities should be positioned to model best practices in sodium reduction.

the board, would provide greater consistency across the health authority, and would be easier to implement since menus and procurement are often on a regional basis. Members also requested a target date of March 31, 2016.

Measurement protocols: The working group recommended that the average sodium levels of the general diet in acute and residential care be measured on a weekly basis (averaged over a menu cycle), rather than on a daily basis, to provide flexibility in meeting the varying needs of patients/residents.

The working group recognized that the value of periodic reporting would be linked to the pace of change. The group recommended annual reporting to the ministry. In addition to annual reports, the ministry also requested that health authorities submit an annual implementation plan for the upcoming year. At the request of the working group, the ministry developed reporting and implementation plan templates for health authority use.

Supporting strategies: The sodium guidelines document also addressed strategies to meet the sodium reduction goals. The ministry agreed to support health authorities' efforts by:

- Informing industry of the initiative, and making them aware of this mandated change where annual targets have been set which health authorities must meet,
- Supporting a forum where strategies on sodium reduction could be shared, and
- Establishing a communications strategy to inform both health authority personnel and industry at all levels on the sodium reduction initiative.

As a result of these discussions, the ministry set specific targets for sodium reduction by 2015/16 in acute and residential adult general menus for each health authority according to their baseline value decreasing by 10 per cent per year until reaching the target of 2300 mg sodium per day. The pediatric menu targets were set to not exceed 2300 mg of sodium per day but accommodated menus with already lower levels of sodium. The range of targets is outlined in Table 1.

Table 1: Sodium Reduction Targets (Acute and Residential Menus)

Menu Type	Target 2012/13	Target 2013/14	Target 2014/15	Target 2015/16
Adult (Acute + Residential)	2600-3700 mg	2300-3200 mg	2300-2800 mg	2300 mg
Pediatric (Ages 1-3 + 4-8)	1818-3700 mg	1818-3300 mg	1818-2900 mg	1818-2300 mg

The working group also discussed the need for guidelines on the procurement of specific high sodium menu items (shown in Table 2) and agreed that sodium standards should be considered for individual food categories and explored with industry. Therefore, in addition to a sodium reduction target, a second goal was added: if sodium standards were to be set for individual food categories, they would be consistent with other provincial nutrition standards for sodium (e.g., Guidelines for Food and Beverage Sales in B.C. Schools).^h

PHASE 2: April 2012 to March 2015 - Stakeholder Engagement and Taking Action on Sodium Reduction

Phase 2 earmarked the beginning of efforts to engage stakeholders in the conversation on sodium reduction. Throughout this phase, health authorities and working group members focused on reducing sodium in their acute, residential, and pediatric general menus. Health authorities made progress by removing sodium packages from trays, reformulation through recipe review and discussion with suppliers, and reduction of the frequency and/or portion size of higher sodium items.

To support discussions with stakeholders, a discussion paper was developed which provided a situational context, outlined the guidelines that had been developed by the working group and the approach that would be employed to support health authorities in this initiative. In addition, the working group developed a communication plan, outlining the different approaches to stakeholder engagement and the tools that would be needed to support these efforts.

Stakeholder Engagement – Health Sector Staff and Facilities:

The communication plan for health sector and facilities staff had several components:

- A policy communiqué was sent from the Ministry of Health to all health authority CEOs that outlined the initiative, rationale and reporting requirements. It was also forwarded internally to food company/distributors and manufacturers as part of the industry engagement strategy – see “*Stakeholder Engagement - Industry.*”
- Information sessions for health authority executive were arranged, the need for which was determined by the working group member representing the particular health authority. Information sessions were offered by the ministry to health authority staff, again as determined by the working group member.
- Communication material was prepared and distributed as requested by each working group member for use in their health authority: a tray card (see Figure 1), a poster, a newsletter and frequently asked questions.

Figure 1: Example of Communication Material



^h The issue of setting specific sodium targets for specific products was considered several times in this phase; however, given that different health authorities had different needs and as Health Canada had already established guiding benchmark levels for industry on reducing sodium in the food supply, it was agreed that the strategy would not be pursued as yet.

Stakeholder Engagement - Industry

The working group determined that the first step in engaging the food industry was to meet with their food company contractors and food distributors. A meeting was held in November 2012 with invited guests, along with the working group members and other health authority staff. The purpose was to inform stakeholders of the ministry's sodium reduction initiative, and to discuss how best to support health authorities in meeting their targets. The discussion focused on two key questions:

- 1) *What did food service companies and food distributors see as their role in supporting health authorities to meet their sodium reduction targets?*

Large food service companies, contracted by health authorities, saw their responsibility as working as part of a team with the health authorities to achieve the stated targets through recipe reformulation and looking for lower sodium items beyond their current efforts. Distributors saw their role as supporting food service companies and health authorities in sourcing lower sodium products.

- 2) *What specific strategies might be effective in supporting implementation of the sodium targets?*

Attendees commented specifically on the need for a manufacturer/vendor engagement strategy, since manufacturers are a key player in reducing sodium in menus. Attendees suggested a communication be sent from the ministry to health authorities on the sodium reduction initiative. Health authorities could forward it to their food service contacts (food service companies and distributors) for further dissemination by them within their industry. In addition, attendees also requested that specific food items that are high volume/high sodium be identified for the purpose of targeted manufacturer engagement.

In response, the working group and key food industry contacts began to analyze product velocity reports (frequency of use and volumes), looking at what products and brands were being used, the portion size served, package size, sodium per portion size served and sodium per 100 g (as shown in Table 2).

Table 2. High Sodium High Volume Food Items

<i>Food Item</i>	<i>Actual Range – mg Sodium per 100g</i>	<i>Food Item</i>	<i>Actual Range – mg sodium per 100g</i>
Bread	360-530	Breaded Chicken Products	340-580
Buns/Rolls	450-500	Gravy	200-225
Deli Meats	420	Tomato Pasta Sauce	100-390
Sausage	700-900	Ready to Eat Breakfast Cereal	660-930
Bacon	740-1560	Breaded or Battered Fish Products	250-590
Tomato & Vegetable Juices	160-270	Salad Dressing	700-1650
Soups	170-330		

Source: Canadian Nutrient File

In addition to having conversations with specific manufacturers, the working group had discussed holding an information webinar session, open to any food manufacturer, for the purpose of educating manufacturers on the sodium reduction initiative in British Columbia. A webinar was not pursued because it was not clear who within the industry to target. It was agreed that the first step would be to enter into discussions with specific manufacturers, educate them on this initiative, and learn more about what they are already doing or can do to reduce sodium levels in their products.

Meetings were arranged with five manufacturers, selected on the basis of the results of the high sodium/high volume analysis. The results of these meeting were positive in that a) a direct contact was established between the ministry and a local company representative; b) companies were directly informed of the sodium reduction initiative happening in B.C. and obtained confirmation that this information would be channeled back to the appropriate people in each company; c) the ministry obtained up to date information on the efforts of these companies to reduce sodium in their products.

Connecting with industry organizations:

Meetings were also held with Food & Consumer Products of Canada, Bakers Association of Canada, BC Food Processors Association, and Small Scale Food Processors Association. Food & Consumer Products of Canada agreed to share information on the B.C. initiative at their standing committee meeting and relay the working group's interest in engaging with manufacturers. The Bakers Association of Canada felt that the B.C. initiative was too small in scope for their national organization, but the local B.C. chapter expressed interest and a presentation was made at a chapter meeting.

The ministry pursued other conversations with the BC Food Processors Association and the Small Scale Food Processors Association. These groups offered several opportunities to provide information to their members through newsletters, seminars, and conferences.

Phase 3: April 2015 to March 2016 - The Final Push to Reach the Sodium Reduction Targets

Phase 3 encompassed the last year of the initiative, where the working group celebrated the achievements, and revisited the goal and strategies employed to reach the goal.

Revisiting the Goal and Strategy:

At the April 2015 best practices session, working group members commented that while results over the first three years of the initiative were very encouraging (see Table 3 for results), there were operational challenges that health authorities faced as they approached the last year to reach the target. Some members also reported increasing patient and resident dissatisfaction and raised concerns regarding potential reduced food intake due to low palatability of low sodium products and potential negative impact on quality of life, particularly for long term care residents.

Given that one of the guiding principles of the initiative was to consider patient and resident quality of life, the ministry suggested that these concerns be investigated and that health authorities not further reduce the sodium in their menus until further notice. Table 3 shows that health authorities did further reduce their sodium levels in 2015/16 but not to the target level of 2300 mg of sodium per day.

Information on client dissatisfaction and the specific challenges being encountered in meeting the target was gathered through an online survey of working group members and follow up interviews. The information gathering process revealed that:

- Dissatisfaction attributed to sodium typically comes as complaints about ‘bland food,’ ‘not enough salt’ or the removal or reduction of higher sodium favourites from the menuⁱ. In addition, patient satisfaction survey tools and schedules differ across the health authorities, and reports of patient dissatisfaction are inconsistent across health authorities. Further to this, a comparison of patient satisfaction before and after the initiative was not possible because of a lack of representative sampling.
- In general, facilities with production kitchens report less difficulty in meeting the sodium reduction targets compared to those reliant on ready-made foods. Lack of a production kitchen is reported as a major constraint for some facilities, making these sites dependent on pre-prepared products which are higher in sodium than food produced on-site.
- Health care facilities and authorities are unable to push the development of lower sodium products (the retail market drives product formulation, not the health care market).
- The information gathering process also included requests for additional supports:
 - a relaxation of the sodium targets,
 - a review of recent research studies and updated provincial sodium reduction guidance/rationale,
 - continued advocacy for reduced sodium in the food supply via relationships with food manufacturers and a role in federal/provincial/territorial groups,
 - sample menus using pre-prepared products that meet all requirements and are tested for acceptability,
 - increased access to education resources for families that explain why sodium has been reduced in health-care facilities, and
 - funding for kitchen equipment and staff.

In response to the requests for additional supports, the ministry met with the working group in February 2016 to share results of the information gathering process and to discuss next steps. An evidence review confirmed that while there are still limitations to the available research, leading expert reviews, including a 2013 report from the U.S. Institute of Medicine,⁶ continue to support efforts to reduce sodium intake in the general population. Therefore, the ministry continues to support the population reducing sodium consumption to the 2300 mg level, but does not advise lowering the level beyond this at this time. The ministry will continue to follow Health Canada’s guidance on appropriate sodium targets for the population.

ⁱ Reasons for patient/resident dissatisfaction also included non-sodium related issues (e.g., food service type, menu choices, food presentation).

Given the above, the ministry will maintain an ongoing policy target of 2,300 mg of sodium in order to maintain progress made towards lower sodium levels. However, the target date will be extended by five years (March 31, 2021) to allow time for national action on sodium reduction in the food supply. During the interim period, sodium targets will be relaxed to 2,300 – 2,700 mg. This is expected to improve patient satisfaction and alleviate some of the pressure faced by health authorities to procure lower sodium foods. Health authorities will be asked to report on the sodium content of general menus annually, and this will be revisited in 2021.

Sodium Reduction Results:

Table 3 shows the yearly average reductions in sodium among the health authorities. By 2014/15, there was a reduction of about one-third in both adult and pediatric general menus, with the adult menu reaching an average of 2400 mg sodium, very close to the 2300 mg target. In 2015/16, health authorities continued to reduce the sodium in their adult acute and residential general menus but not to the target level. However, they had begun to relax the sodium levels in their pediatric general menus.

Table 3. Sodium Reduction compared to Baseline

Menu type		Baseline	YEAR 2012/2013	YEAR 2013/2014	YEAR 2014/2015	YEAR 2015/2016
Adult (Acute + Residential)	Average sodium (range)	3372 mg (2600-4061)	2790 mg (2426-3192)	2502 mg (2232-2897)	2400 mg (2113-2716)	2372 (2023-2609)
	[% change from baseline]		[16%]	[23%]	[27%]	[28%]
Pediatric (Ages 1-3 + 4-8)	Average sodium (range)	2935 (1818-4142)	2171 (1409-2937)	2049 (1580-2681)	1951 (1580-2212)	2150 (1717-2846)
	[% change from baseline]		[22%]	[27%]	[30%]	[20%]

Next Steps:

The ministry has committed to this initiative through the ministry's Healthy Families BC Prevention and Promotion Strategy, and will continue to work with the working group to support achievement of the stated goal of 2300 mg of sodium. Next steps will include:

- Updating the education materials previously prepared for the initiative and exploring where these can be housed virtually for easy access (completed);
- Sharing the findings of the Sodium Reduction in Health-Care Facilities Initiative with federal, provincial and territorial partners, and highlighting challenges in procuring low-sodium products; and
- Supporting efforts by the federal government to pursue possible regulations that would reduce sodium levels in processed foods, particularly those foods with high sodium levels and high use in health-care settings.

Summary of Key Lessons Learned:

- 1) It is possible to reduce sodium in patient menus without impacting patient satisfaction or quality of life.
- 2) Collaboration between the health authorities and the Ministry of Health allowed for integrating strategic and operational considerations into the policy, and allowed for a responsive relationship that could troubleshoot and course correct, as well as meet both operational and strategic needs to support the policy.
- 3) A co-ordinated, phased approach was preferred by health authorities and proved to be achievable (until reaching a level of sodium where procurement and patient satisfaction became barriers to further reductions, which are attributed to external factors outside of provincial control).
- 4) It is important to take the time to build understanding and support by health authority staff, families, and the food industry of the need for a sodium reduction strategy to gain buy-in.
- 5) Without a reduction in sodium in the national food supply, patients will continue to experience a large difference in sodium content (and therefore flavor) in health-care facilities compared to their free living diets and this will continue to contribute to patient dissatisfaction with meals in health care.
- 6) Without a reduction of sodium in the national food supply, the food service operators in B.C.'s health-care systems will continue to face difficulties in procuring sufficient lower sodium products to meet the 2300 mg sodium target.

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For more information, please visit: www2.gov.bc.ca/gov/content/health/managing-your-health/healthy-eating.

