

REDUCING SALT CONSUMPTION FOR A HEALTHIER INDONESIA

Aang Sutrisna, Halik Sidikⁱ

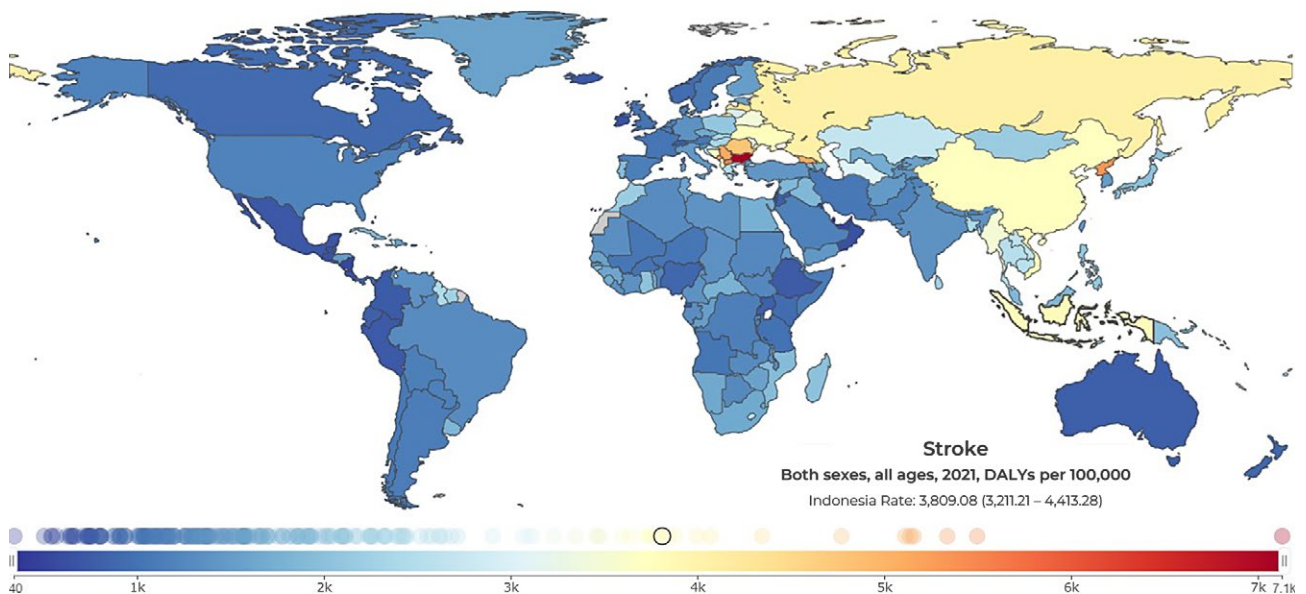
October 2024

INTRODUCTION

Indonesia is confronting a pressing public health challenge that extends beyond diet: the impact of non-communicable diseases (NCDs) driven by lifestyle factors, including high sodium intake. This issue is particularly concerning as many NCDs, such as hypertension and cardiovascular disease, are preventable yet contribute significantly to the country's morbidity and mortality rates. For instance, Indonesia's stroke burden remains substantial, with a Disability-Adjusted Life Years (DALYs) rate of 3,809 per 100,000 people in 2021,¹ one of the highest in Southeast Asia, reflecting the urgent need for targeted public health interventions.



Figure 1: Global Burden of Disease Data Reveals Indonesia's Urgent Stroke Challengeⁱⁱ



Globally, reducing sodium intake is recognized as one of the most cost-effective strategies to improve health and reduce the NCD burden. For every US\$1 invested in scaling up sodium reduction interventions, there is an estimated return of at least US\$12 in health benefits.² This impressive return on investment underscores the potential for sodium reduction strategies to bring substantial long-term savings while alleviating the healthcare burden on Indonesia's healthcare system.

ⁱ Adinkes (All Indonesia Public Health Services Association).

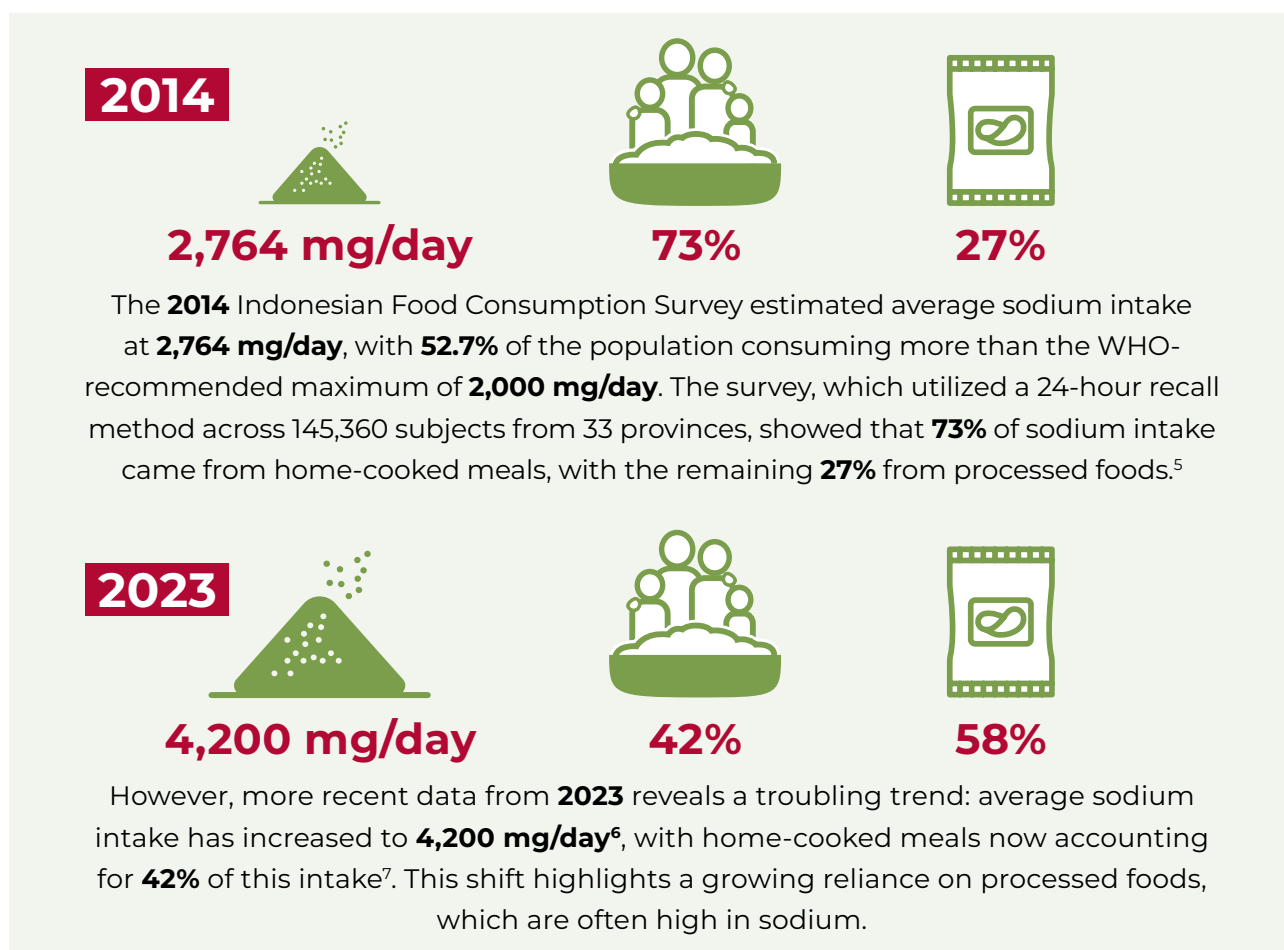
ⁱⁱ Institute for Health Metrics and Evaluation (IHME). GBD Results. Seattle, WA: IHME, University of Washington, 2024. Available from <https://vizhub.healthdata.org/gbd-results/>. (Accessed October 7, 2024).

Currently, NCDs account for approximately 73% of all deaths in Indonesia³, with many being premature and preventable. These untimely deaths profoundly impact families and communities, creating lasting emotional and financial voids. The economic toll of NCDs is considerable; treating hypertension and related cardiovascular conditions is a major strain on the healthcare system. For example, the direct annual cost of treating coronary heart disease (CHD) alone averages \$5,720 per patient, and over the lifetime of Indonesian workers, CHD is estimated to incur \$33.3 billion in productivity-adjusted life years (PALY) costs and \$139 billion in total healthcare expenditures.⁴

A significant driver of this NCD burden is the high sodium consumption in Indonesia, primarily from salt added during food preparation and increasingly from processed foods. As the nation continues to urbanize, dietary patterns are shifting towards increased consumption of processed foods, which are often high in salt. This shift further compounds the issue. Addressing sodium intake is therefore essential to alleviate the health and economic burden of NCDs on Indonesia. The following problem statement delves deeper into the specific role of high salt consumption in Indonesia's health crisis and highlights the need for targeted interventions.

PROBLEM STATEMENT

Excessive salt consumption is a major driver of sodium intake in Indonesia, contributing directly to high rates of hypertension and cardiovascular diseases.

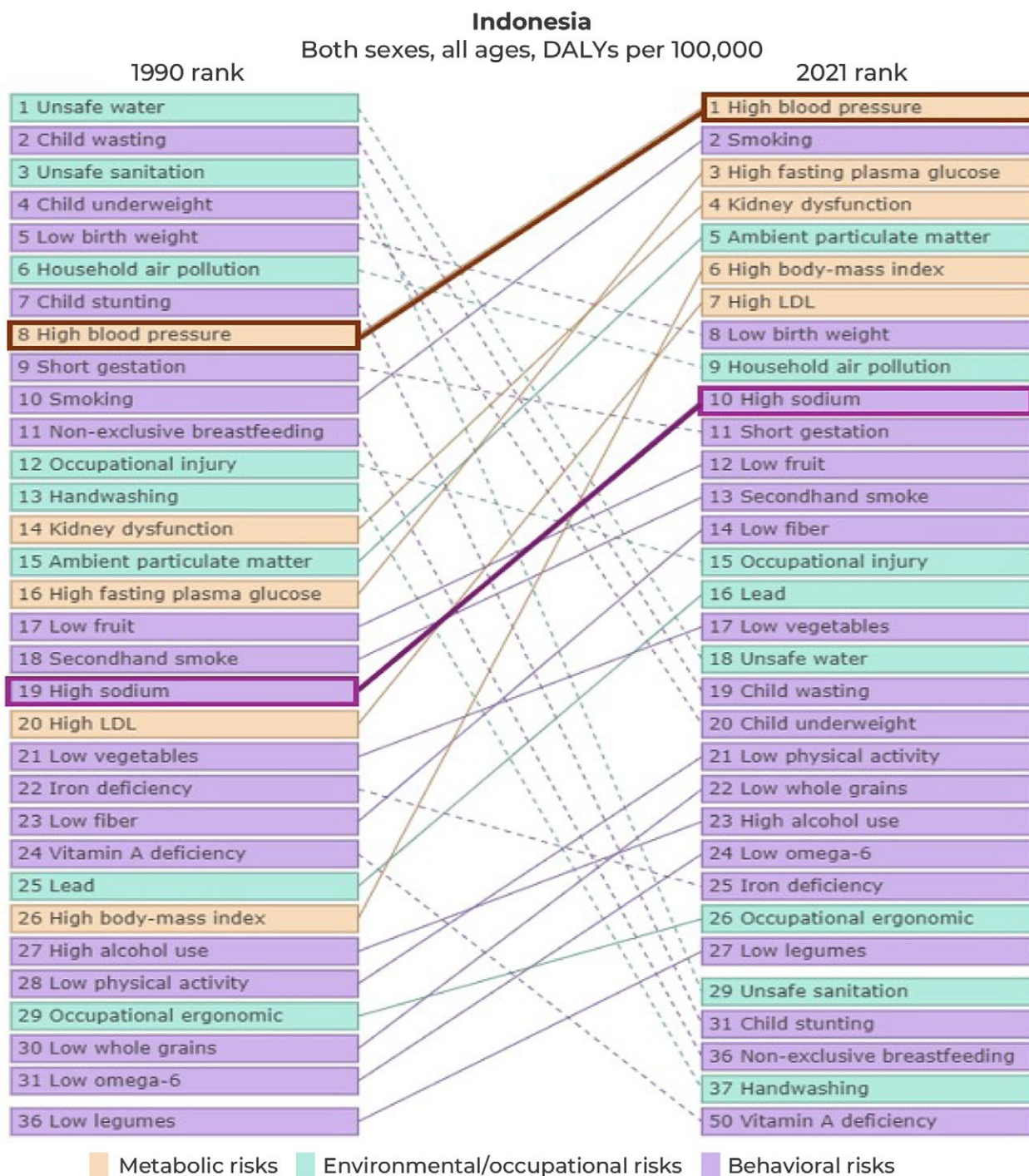


It is important to distinguish between salt and sodium, as sodium is a component of salt (sodium chloride)ⁱⁱⁱ, and it is the sodium content that primarily drives elevated blood pressure and related health issues. Indonesia's average salt intake is estimated to be around 10.5 grams per day – more than double the WHO-recommended maximum of 5 grams.⁶

iii Sodium (Na) to salt (NaCl) conversion: 1 gram of sodium is equivalent to 2.5 grams of salt. Therefore, 5 grams of salt contains approximately 2000 milligrams of sodium.

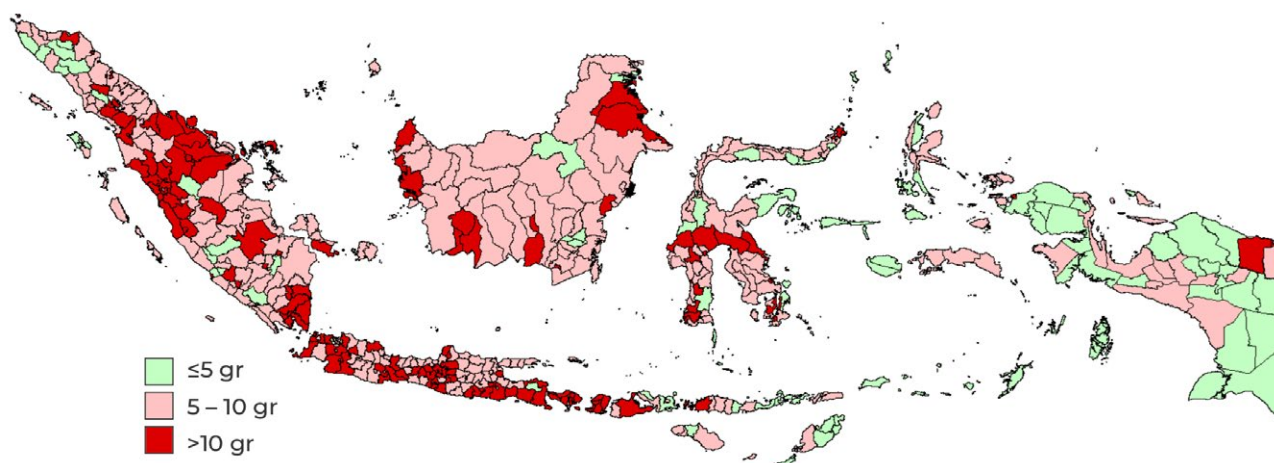
Globally, the average salt intake is around 10.8 grams per day, and excessive sodium consumption is responsible for an estimated 1.89 million deaths annually.² In Indonesia, the health impacts are particularly severe. Since 1990, a high-sodium diet has emerged as a leading risk factor for Disability-Adjusted Life Years (DALYs) lost, rising from the 19th to the 10th position by 2021. This reflects a 27% increase in DALYs associated with sodium intake. Similarly, high blood pressure – primarily driven by high sodium intake – has become the top health risk in Indonesia, with a 73% increase in its DALY burden over recent years.¹

Figure 2: Shifting Health Risk Factors in Indonesia: Rise of High Sodium Hypertension from 1990 to 2021ⁱⁱ



Geographic disparities in salt consumption also highlight areas of concern. **Figure 3** illustrates average daily salt intake per capita across various Indonesian districts in 2023. Districts shaded in dark red represent areas where salt intake exceeds 10 grams per person daily, especially in regions like Sumatra, Java, and parts of Sulawesi, indicating a widespread public health risk. Conversely, districts shaded in green align with the WHO recommendation of 5 grams or less.

Figure 3: Average Daily Salt Intake per Capita by District in Indonesia 2023^{iv}



Additionally, the use of iodized salt is suboptimal, further complicating health outcomes in Indonesia. Despite efforts to promote iodized salt, only 37% of households currently use adequately iodized salt, increasing the risk of iodine deficiency disorders⁹. This combination of high sodium intake from both salt and processed foods and low iodized salt coverage underscores the urgent need for comprehensive public health interventions to reduce sodium consumption and improve overall dietary habits in Indonesia.

POLICY RECOMMENDATIONS

- 1. Public awareness campaigns.** Educating the public on the dangers of high salt intake and promoting healthier alternatives is crucial for reducing salt consumption in Indonesia. Despite the known health risks, many Indonesians are unaware of the recommended daily salt intake limits. A comprehensive public awareness campaign can bridge this knowledge gap. For instance, the Indonesian Ministry of Health has successfully implemented campaigns to reduce tobacco use and promote physical activity.⁹ Similar strategies can be employed to educate the public about the risks of high salt intake, emphasizing the link between excessive salt consumption and hypertension, cardiovascular diseases, and stroke. Globally, countries like Finland and the United Kingdom have seen significant reductions in salt intake through sustained public awareness efforts.¹⁰ These campaigns should leverage multiple platforms, including social media, television, health services, and community outreach programs to reach a broad audience.
- 2. Implement healthy public food procurement and service policies.** These policies should set strict nutrition standards for food served in public institutions such as schools, hospitals, and government offices. Best practices include mandating lower sodium content in meals, providing clear nutrition labeling, and promoting the availability of healthier food options. For instance, the World Health Organization (WHO) supports such initiatives, highlighting their potential to significantly lower non-communicable disease rates.¹¹
- 3. Regulation of processed foods.** Implementing stricter regulations on the salt content in processed foods is essential to control salt intake at the source. Indonesia has recently taken steps in this direction with Government Regulation No. 28 of 2024, which limits sugar, salt, and fat levels in ready-to-eat processed foods. This regulation mandates that processed food producers comply with these limits and include nutritional information on packaging. Globally, the World Health Organization (WHO) has established sodium benchmarks for various food categories to guide countries in setting their regulations.¹² Countries like South

^{iv} Estimated from Household Expenditure Data from National Socio-Economic Survey (SUSENAS) 2023.

Africa and Argentina have successfully implemented mandatory sodium reduction targets for processed foods, resulting in significant decreases in population salt intake.¹³ By enforcing these regulations, Indonesia can reduce the sodium content in commonly consumed processed foods, lowering overall sodium intake.

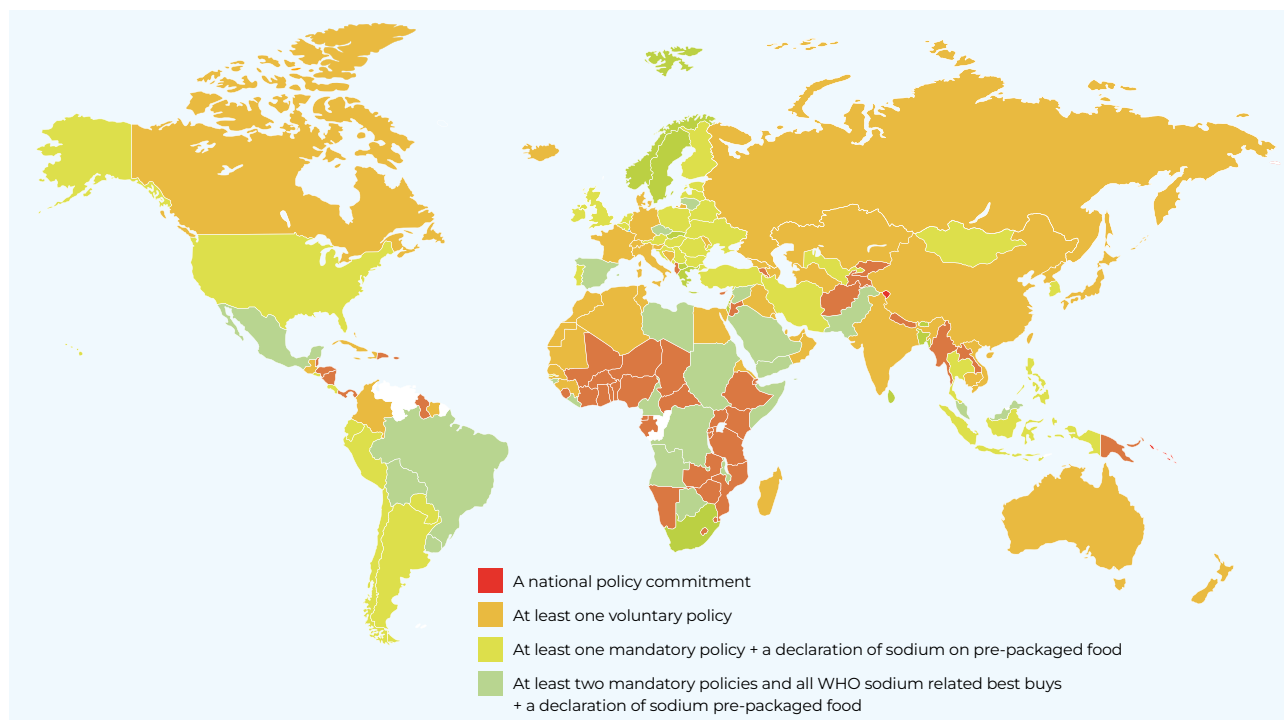
4. Labeling Requirements. Mandating clear labeling of sodium content on food packaging empowers consumers to make informed dietary choices. Indonesia's recent regulations require processed foods to include nutritional labels that detail the content of sugar, sodium, and fat.¹⁴ This transparency helps consumers identify high-sodium products and opt for healthier alternatives. Globally, front-of-package (FOP) labeling has proven effective in countries like Chile and Brazil, where warning labels on high-sodium products have reduced purchases of unhealthy foods.¹⁵ Similar FOP labeling in Indonesia can enhance consumer awareness and drive demand for lower-salt products. Additionally, educational campaigns can teach consumers how to interpret these labels and make healthier choices.¹⁶

5. Support for Local Food Producers and Retailers in Reducing Salt Content. Engaging local food producers and retailers in offering lower-salt options is essential for Indonesia's salt reduction strategy. The Indonesian food industry, supported by a vast network of small and medium-scale producers, plays a crucial role in supplying a wide range of products to the population. With approximately 7,868 large and medium-sized producers and 1.6 million micro and small-scale producers, the industry employs around 3.75 million people. Food retailers, from large supermarket chains to smaller local stores, also play a pivotal role in shaping consumer choices and can be instrumental in promoting lower-sodium products. Offering technical assistance and incentives to these food producers and retailers can help them reformulate their products and prioritize healthier, lower-sodium options on store shelves. For example, the Indonesian government could implement subsidies or tax breaks for manufacturers who meet sodium reduction targets and incentivize retailers to stock and promote these lower-sodium products. Globally, programs such as the WHO's support for national salt reduction initiatives have shown that engaging both producers and retailers is crucial for successful implementation.^{17,18} By supporting food producers and retailers in offering and promoting lower-sodium options, Indonesia can make substantial progress in reducing overall salt consumption, enhancing public health, and fostering sustainable food industry practices.

6. Policy recommendations focusing on actions that district governments and district health offices and Adinkes (All Indonesia Public Health Services Association) can undertake:

- **Launch Targeted Public Health Campaigns:** Launch local media campaigns to educate the public on the risks of high sodium intake and promote low-salt dietary choices.
- **Local Food Regulations:** Enforce regulations requiring restaurants and school canteens to display sodium content on menus, helping consumers make informed dietary decisions.
- **Educational Workshops:** Conduct workshops for food vendors and restaurant owners on reducing salt use and substituting with healthier alternatives, enhancing local culinary practices.
- **Health Monitoring Programs:** Strengthen community health monitoring to track health metrics affected by salt intake, like hypertension and CHD, using the data to refine public health strategies.
- **Public-Private Partnerships:** Partner with local businesses to promote low-sodium products and support community health initiatives, maximizing outreach and impact.

Figure 4: Implementation of sodium reduction policies and measures
(WHO global report on sodium intake reduction. Geneva: World Health Organization; 2023)



WHO “best buys” for reducing NCDs through sodium reduction: 1) Reformulation of Food Products, 2) Supportive Environments in Public Institutions, 3) Front-of-Pack Labelling, 4) Behavior Change Communication and Mass Media Campaigns

IMPLEMENTATION STRATEGY

- 1. Stakeholder Engagement.** Effective reduction of salt consumption in Indonesia requires robust collaboration among various stakeholders, including health organizations, the food industry, and local governments. Engaging these stakeholders ensures a comprehensive and coherent policy implementation and public health improvement approach. The Indonesian Ministry of Health has previously collaborated with organizations like UNICEF and GAIN to promote iodized salt usage, demonstrating the potential for successful partnerships. Globally, countries such as the United Kingdom and Finland have shown that multi-stakeholder engagement is crucial for the success of national salt reduction programs.¹⁹ These countries have involved health organizations, food manufacturers, and government bodies to create and enforce regulations, conduct public awareness campaigns, and monitor progress. By fostering similar collaborations, Indonesia can leverage the expertise and resources of various stakeholders to reduce salt consumption and improve public health outcomes effectively.
- 2. Monitoring and Evaluation.** Establishing a robust framework for monitoring salt consumption and evaluating the effectiveness of interventions is essential for achieving long-term success. In Indonesia, the Ministry of Health has initiated plans to collect population-based data on knowledge, attitudes, and behaviors related to salt intake.¹ This data collection is critical for developing targeted strategies and assessing the impact of implemented policies. Globally, the World Health Organization (WHO) recommends regular monitoring and evaluation as part of national salt reduction strategies.⁶ Countries like South Africa have implemented mandatory maximum salt levels in food products and established rigorous monitoring systems to track compliance and measure the impact on population health.²⁰ By adopting similar practices, Indonesia can ensure that its salt reduction initiatives are effective and make necessary adjustments based on ongoing evaluations. This approach will help identify successful strategies, understand challenges, and continuously improve efforts to reduce salt consumption.

CONCLUSION

Call to Action

The urgency to implement comprehensive policies to reduce salt intake in Indonesia cannot be overstated. With Indonesia's average daily salt consumption significantly exceeding the World Health Organization's (WHO) recommended limits, the country faces a growing public health crisis. High sodium intake is a significant contributor to hypertension and cardiovascular diseases, which are among the leading causes of death in Indonesia. Immediate and decisive action is required to address this issue. In collaboration with health organizations, the food industry, and local governments, the Indonesian government must prioritize developing and enforcing policies to reduce salt consumption. These policies should include public awareness campaigns, stricter regulations on processed foods, mandatory labeling requirements, and support for local producers to reformulate their products. By taking these steps, Indonesia can significantly improve public health outcomes and reduce the burden of non-communicable diseases.

Future Outlook

The potential health and economic benefits of reducing salt consumption in Indonesia are substantial. Adopting low-sodium substitutes and implementing comprehensive salt reduction policies could prevent millions of cardiovascular and chronic kidney disease cases, saving thousands of lives annually. Additionally, these measures could lead to significant healthcare cost savings. For instance, a recent study estimated that replacing regular salt with low-sodium alternatives could reduce health expenditure by up to US\$2 billion over ten years.²¹ Beyond the economic savings, reducing salt intake will enhance the quality of life for millions of Indonesians, reducing the prevalence of hypertension and related health complications. By committing to these policies, Indonesia can pave the way for a healthier future, ensuring that its population enjoys longer, healthier lives free from the debilitating effects of excessive salt consumption.

REFERENCES

- 1 Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2021 (GBD 2021). Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2024
- 2 World Health Organization. "Sodium Reduction" 2023, <https://www.who.int/news-room/fact-sheets/detail/salt-reduction>.
- 3 World Health Organization. (2018). Noncommunicable Diseases (NCD) Country Profiles: Indonesia
- 4 Health and cost burden of CHD high in Indonesia. *PharmacoEcon Outcomes News* 862, 14 (2020). <https://doi.org/10.1007/s40274-020-7132-7>
- 5 Sri Prihatini, Dewi Permaesih, Elisa Diana Julianti. Sodium Intake among Indonesian Population: Analysis of Individual Food Consumption Survey 2014. *Gizi Indonesia* 2016, 39(1):15-24
- 6 WHO global report on sodium intake reduction. Geneva: World Health Organization; 2023
- 7 Badan Pusat Statistik. "Household Expenditure Data from National Socio-Economic Survey (SUSENAS) 2023." 2023, Jakarta, Indonesia.
- 8 Bappenas and Unicef, 2023. Briefing Notes. Fortification of Salt in Indonesia
- 9 WHO 2019. National capacity for prevention and control of NCDs in SEA Region: Indonesia Profile

- 10 Joseph Alvin Santos, et al. A Systematic Review of Salt Reduction Initiatives Around the World: A Midterm Evaluation of Progress Towards the 2025 Global Non-Communicable Diseases Salt Reduction Target. *Advances in Nutrition* Volume 12 Issue 5 2021, ISSN 2161-8313, <https://doi.org/10.1093/advances/nmab008>.
- 11 Action framework for developing and implementing public food procurement and service policies for a healthy diet. Geneva: World Health Organization; 2021
- 12 WHO global sodium benchmarks for different food categories, second edition. Geneva: World Health Organization; 2024. License: CC BY-NC-SA 3.0 IGO.
- 13 Webster J, Santos JA, Hogendorf M, Trieu K, Rosewarne E, McKenzie B, Allemandi L, Enkhtungalag B, Do HTP, Naidoo P, Farrand C, Waqanivalu T, Cobb L, Buse K, Dodd R. Implementing effective salt reduction programs and policies in low- and middle-income countries: learning from retrospective policy analysis in Argentina, Mongolia, South Africa and Vietnam. *Public Health Nutr.* 2022 Mar;25(3):805-816. doi: 10.1017/S136898002100344X. Epub 2021 Aug 13. PMID: 34384514; PMCID: PMC9991649.
- 14 Peraturan Pemerintah Republik Indonesia Nomor 28 Tahun 2024 tentang Peraturan Pelaksanaan Undang-Undang Nomor 17 Tahun 2023 tentang Kesehatan
- 15 Jáuregui, A., Vargas-Meza, J., Nieto, C. et al. Impact of front-of-pack nutrition labels on consumer purchasing intentions: a randomized experiment in low- and middle-income Mexican adults. *BMC Public Health* 20, 463 (2020). <https://doi.org/10.1186/s12889-020-08549-0>
- 16 Rimbawan, Eny Kurnia Sari, Aang Sutrisna. Adjustments to Indonesia's "Healthier choice logo" food labeling scheme could promote healthier choices. *GAIN*, 2022.
- 17 Webster, J.; Trieu, K.; Dunford, E.; Hawkes, C. Target Salt 2025: A Global Overview of National Programs to Encourage the Food Industry to Reduce Salt in Foods. *Nutrients* 2014, 6, 3274-3287. <https://doi.org/10.3390/nu6083274>
- 18 WHO global sodium benchmarks for different food categories, second edition. Geneva: World Health Organization; 2024
- 19 Trieu K, Neal B, Hawkes C, Dunford E, Campbell N, Rodriguez-Fernandez R, et al. (2015) Salt Reduction Initiatives around the World – A Systematic Review of Progress towards the Global Target. *PLoS ONE* 10(7): e0130247. doi:10.1371/journal.pone.0130247
- 20 Tekle, D. Y., Santos, J. A., Trieu, K., Thout, S. R., Ndanuko, R., Charlton, K., Hoek, A. C., Huffman, M. D., Jan, S., & Webster, J. (2023). Monitoring and implementation of salt reduction initiatives in Africa: A systematic review. *Journal of Clinical Hypertension*, 25(3), 123-134.
- 21 Cost-effectiveness analysis of low-sodium potassium-rich salt substitutes in Indonesia: an equity modeling study Aminde, Leopold Ndemnge et al. *The Lancet Regional Health – Southeast Asia*, Volume 26, 100432

This brief has been produced through the Nourishing Food Pathways programme which is jointly funded by the German Federal Ministry for Economic Cooperation and Development; the Ministry of Foreign Affairs of the Netherlands; the European Union; the government of Canada through Global Affairs Canada; Irish Aid through the Development Cooperation and Africa Division (DCAD); and the Swiss Agency for Development and Cooperation (SDC) of the Federal Department of Foreign Affairs (FDFA). The findings, ideas, and conclusions contained presented here are those of the authors and do not necessarily reflect positions or policies of any of GAIN's funding partners.

Healthier Diets. For all.

GAIN Indonesia

Menara Palma,
Lantai 7 Unit 705,
Jl. HR Rasuna Said,
Kav. 6 Blok X-2
Jakarta 12950, Indonesia

🌐 www.gainhealth.org/
gainindonesia@gainhealth.org
✉️ @gain_alliance_id
✂️ @GAINalliance_id
☎️ +622 157 956 031

