PRE-READ BRIEF

Scaling Low Sodium Salt

Cardiovascular Health Partner Convening 2026

This brief is a pre-read for the **sodium reduction: scaling low sodium salt** breakout group during the Write the Headline: Co-Creating the Future of CVH session on May 7th. It outlines why reducing discretionary salt intake is critical to improving cardiovascular health, how low sodium salt substitutes offer a practical and scalable solution, and what barriers must be addressed to enable widespread adoption in the next phase of CVH partnership work.

1. Problem

- The sodium-to-potassium (Na:K) ratio is more strongly associated with blood pressure than sodium intake alone, with higher Na:K ratios associated with higher systolic and diastolic blood pressure.
    - People on average consume more than 2x the recommended limit of sodium, globally.
    - People on average consume only 64% of the daily recommended value of potassium, with 86% of the population not meeting the recommended intake (3.5 g/day)
- Discretionary salt is the largest source of sodium intake in most LMICs.

We need a *sustainable, scalable* way to reduce discretionary salt intake and lower Na:K ratio, particularly in LMICs.

Potassium-enriched low sodium salt substitutes (LSSS) present a promising solution; however, despite growing evidence of its benefits, LSSS availability, awareness, and buy-in remain low, thus preventing scale up of this acceptable and cost-effective intervention.

What are low sodium salt substitutes

LSSS replaces a portion of sodium chloride, the primary component of table salt, most commonly with potassium chloride, an essential mineral that helps lower blood pressure (ideally at least 20% replacement to maximize health benefits). When formulated correctly, it tastes like regular salt and can be used at home, in restaurants, and in food manufacturing.

What do we know?

Using LSSS during cooking or at the table can save lives and is cost-effective.
When enriched with potassium, LSSS has a double benefit: lowering sodium and increasing potassium both work to decrease blood pressure and decreases the Na:K ratio.

Question	What We Know	Key Gaps
Does it work?	The SSaSS trial (N=20,995) in China found: stroke ↓14%, major adverse cardiovascular event (MACE)↓13%, death ↓12% (Neal et al., 2021), BP reductions sustained over 5 years (Li et al., 2025). Multiple meta-analyses (21–34 RCTs) confirm SBP ↓4–5 mmHg, mortality ↓12% (Tsai et al., 2022; Brand et al., 2022; Lai et al., 2026).	Mortality benefits driven by SSaSS trial (Lai et al., 2026).
Who benefits?	All sub-populations likely benefit from LSSS, especially older adults and those with hypertension. (Tsai et al, 2022, Kissock et al. 2026). LSSS likely even benefits those with early stage CKD (Trieu 2025). Enhances antihypertensive medications — MACE ↓19% in those on meds (Qi et al., 2024).	Nearly all evidence from Chinese populations with high discretionary salt use (Lai et al., 2026). Very limited evidence among children (1 small RCT, inconclusive) and none among pregnant women (Brand et al., 2022) – though no biological reason to assume higher risk.
Is it safe?	No increase in clinical hyperkalemia found in the SSaSS trial (Neal et al., 2021) including among patients on RAAS blockers (Yin et al., 2025). The "DECIDE-Salt" study observed no adverse clinical outcomes when 25% KCl LSSS was provided to residents in residential elderly care facilities. (Yuan et al., 2023) A Cochrane review found little to no difference in hyperkalemia, moderate certainty (Brand et al., 2022).	All major trials excluded advanced CKD and potassium-sparing diuretic users (Brand et al., 2022).
Is it available?	A 2021 review found very limited availability in many countries: 87 low-sodium salts identified in 47 of 195 countries worldwide, primarily in high- or upper-middle income countries (Yin et al., 2021)	The systematic review is now 5-years old. Products are largely unavailable in Africa. Country-level supply chain mapping is almost entirely absent Industry use of LSSS in processed foods is barely documented.
Is it affordable?	LSSS are between 1 and 15 times more expensive than regular salt, depending on the region and market conditions, with higher cost mostly driven by the higher cost of raw potassium chloride (Yin et al., 2021). LSSS is a cost-effective intervention; healthcare savings associated with lower rates of hypertension and related diseases outweigh the higher costs of LSSS over time. Cost-effective (better outcomes + lower cost) in both the SSaSS trial (Li et al., 2022) and DECIDE-Salt study (Lai et al., 2024). 95% probability of being cost-saving and >99% probability of cost-effectiveness.	Affordability and cost-effectiveness may vary across countries based on specific formulations, product costs, and health burden.
Is it acceptable?	High acceptability; 92% continued use at 5 years in the SSaSS trial. Subsidies sharply increase uptake (Kissock et al., 2025).	Consumer awareness is very low (0–32%); availability and cost remain barriers (Kissock et al., 2025).

Guidelines and recommendations

Guideline bodies are now specifically recommending LSSS*: WHO (2025), multiple clinical guidelines in China, American College of Cardiology/American Heart Association (2025), Hypertension Australia (2025), and European Society of Hypertension (2023).

WHO's 2025 guideline is the first global public health recommendation, framing LSSS as a population-level strategy rather than a clinical tool for hypertensive patients only.

"If choosing to use table salt, WHO suggests replacing regular table salt with lower-sodium salt substitutes that contain potassium (conditional recommendation).

This recommendation is intended for adults (not pregnant women or children) in general populations, excluding individuals with kidney impairments or with other circumstances or conditions that might compromise potassium excretion."

- Conditional recommendation is based on strong evidence showing that low sodium salts can significantly reduce blood pressure, cardiovascular disease, and deaths without adverse health effects in adults in the general population.
- LSSS should be implemented in settings with adequate access to healthcare and where kidney disease would not go undiagnosed for long periods.
- LSSS are particularly effective in settings where discretionary salt is a major source of sodium intake.

** Xu X, et al. Potassium-enriched salt substitutes: a review of recommendations in clinical management guidelines. Hypertension. 2024 Mar;81(3):400-14.*

2. What can we do?

4 strategies to address 4 key challenges

	Challenges	Strategies			
		1 Demand Generation	2 Policy and Regulatory	3 Supply Side	4 Advocacy
Availability	• Lack of availability in the global market • Production and regulatory challenges • Distribution and supply chain issues (potassium is a key component of fertilizer)	X	X	X	X
Awareness	• Lack of awareness and demand from both consumers and healthcare providers	X			X
Affordability	• LSSS often significantly higher cost than regular salt		X	X	
Advocacy	• Concerns with hyperkalemia (affects those with advanced CKD, those on certain medications) • Lack of political will	X	X	X	X

1. **Demand Generation**: consumer awareness and mass communication, clinical guidelines; physician engagement and prescriber tools; CKD safety framework and pharmacovigilance; free sample distribution through health channels; social marketing and point of sale promotions in retail settings, community and school-based awareness generation.

2. **Policy and Regulatory Enablers**: National standards (KCl % minimums, labeling, iodine retention); consensus statements and clinical guidelines; public procurement; CKD warning requirements; integration into NCD strategy; regulatory compliance and enforcement.

3. **Supply side interventions**: Producer engagement and negotiation; KCl supply chain development; production adaptation and QC; retail and distribution; price strategy (e.g., reduce retail markups; taxation of salt/subsidies for production or retail and remove import duties for KCl).

4. **Advocate** for buy-in and support from policymakers and other key government and industry stakeholders, as well as within sectors such as the medical field, nutrition groups, and civil society.

A Model in Action: Singapore

In 2022, Singapore launched the first national-level strategy for scaling low-sodium salt, aiming to cut sodium intake by 15% over five years by replacing half of all salt sold with low-sodium alternatives. The three-pronged approach includes (1) expanding low-sodium salt availability in the market, (2) incentivizing reformulation of sauces and seasonings, and (3) investing in public education.