

THE POTENTIAL HEALTH IMPACT AND HEALTHCARE COST SAVINGS OF DIFFERENT SODIUM REDUCTION STRATEGIES IN CANADA

High dietary sodium is the main dietary risk factor for non-communicable diseases due to its impact on cardiovascular diseases (CVDs), the leading cause of death globally. The Government of Canada has taken measures to reduce average dietary sodium intakes, such as setting voluntary sodium reduction targets for processed foods in 2012 and recently approving regulations mandating 'high in' front-of-pack labeling (FOPL).

We estimated the number of avoidable ischemic heart disease (IHD) and stroke incidence cases, and their associated healthcare cost and Quality-Adjusted Life Year (QALY) savings resulting from these two sodium reduction strategies in Canada.

1. Meeting sodium reduction targets for processed foods:

- Fully meeting Health Canada's sodium reduction targets was estimated to prevent 219,490 cases of IHD, and 164,435 strokes.
- Approximately, 63% of prevented IHD cases were estimated in males and 37% in females, and 57% of prevented strokes were estimated in males and 43% in females.
- These health gains result in an overall gain of 276,185 QALYs, with 62% attributed to males and 38% to females.
- This translates into CAD\$ 4,212 million in healthcare cost savings (69% in males, 31% in females) over the lifetime of the 2019 Canadian cohort.

If sodium reduction targets were met, we could prevent

219,490 cases of IHD, and **164,435** strokes.



2. Implementing mandatory 'high in' front-of-pack labelling:

a. Sodium reduction intake through the implementation of 'high in' front-of-pack labelling (FOPL) regulations

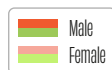
- Implementing mandatory 'high in' FOPL has the potential to prevent 52,023 incident cases of IHD, and 41,794 strokes.
- Approximately 64% of prevented IHD cases were estimated in males and 36% in females, and 58% of prevented strokes were estimated in males and 42% in females.
- These health gains result in an overall gain of 74,499 QALYs, with 63% attributed to males and 37% to females.
- This translates into CAD\$ 1,149 million in healthcare cost savings (71% in males, 29% in females) over the lifetime of the 2019 Canadian cohort.
- This policy scenario was based on initial evaluations of FOPL regulations in Chile. Therefore, this scenario most likely captures consumer behavior change and initial industry-driven food reformulation.

b. Sodium intake reduction through consumer food substitution

- Specifically, when consumers choose food products with fewer 'high in' FOPL symbols (at least 30% of consumers), it has the potential to prevent 35,930 incident cases of IHD and 26,869 strokes.
- Approximately 64% of prevented IHD cases were estimated in males and 36% in females, and 59% of prevented strokes were estimated in males and 41% in females.
- These health gains result in an overall gain of 45,492 QALYs, with 63% attributed to males and 37% to females.
- This translates into CAD\$ 695 million in healthcare cost savings (71% in males, 29% in females) over the lifetime of the 2019 Canadian cohort.
- This policy scenario only captures potential consumer behavior change.

RESULTS

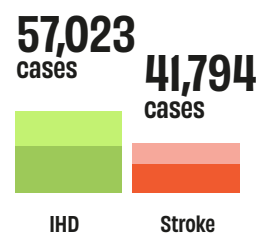
Prevent Cases of IHD and Stroke by Sex



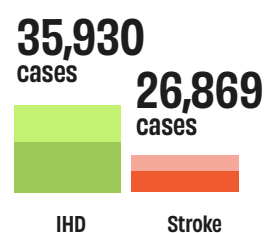
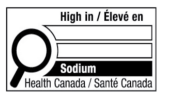
Sodium Targets



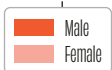
a. FOPL - mandatory 'high in'



b. FOPL - food substitution



Health Gains by Sex



276,185
total QALYs

74,499
total QALYs

45,492
total QALYs

Healthcare Cost Savings



CAD\$ 4,212
million
total healthcare
cost savings

CAD\$ 1,149
million
total healthcare
cost savings

CAD\$ 695
million
total healthcare
cost savings

CONCLUSIONS

- All sodium reduction strategies tested in this study were cost saving from the public health-care system perspective.
- From the interventions tested most health and healthcare costs gains were attributed to fully meeting sodium reduction targets for processed foods, which highlights the importance of changing the voluntary nature of these targets to mandatory.
- A combination of strategies, mandatory sodium reduction targets and implementation of the 'high in' FOPL regulations would be of most benefit from a public health standpoint.

