**Quantifying the potential US health and economic effects of the FDA voluntary salt reformulation proposal**

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Word limit: 400 words (no figures/tables allowed), currently 398

**Abstract**

**Background**

Salt consumption is a major modifiable risk factor for cardiovascular disease (CVD), the leading cause of mortality and morbidity in the US. Voluntary reformulation policies targeting salt have been deployed in several countries with varying effectiveness - high in Finland and the UK, low in Australia. The US Food & Drug Administration (FDA) has proposed voluntary salt reduction goals targeting processed and commercially prepared foods. We aim to quantify the potential CVD and economic impact of the FDA reformulation policy.

**Methods**

We extended the previously validated US IMPACT Food Policy Model. We then estimated the CVD cases averted, Quality Adjusted Life Years (QALYs) generated and cost-effectiveness from 2017-2036 of the proposed FDA reformulation policy. We used datasets including the National Health and Nutrition Examination Survey, cost information from the National Sodium Reduction Initiative and meta-analysis for salt consumption effects upon blood pressure and CVD.

Costs included government costs to administer and monitor the policy and industry reformulation costs, under the assumption that estimated 75% of food products would be applicable for the salt reduction targets. Savings included healthcare and productivity costs. All costs were inflated to 2017 dollars and outputs were discounted at 3%.

We modelled the 10-year reformulation targets under 2 scenarios:

1. Full industry compliance in all applicable food groups
2. 50% compliance in applicable food groups

We then conducted a rigorous probabilistic sensitivity analysis.

**Results**

Achieving the salt reduction targets under a full compliance scenario could prevent approximately 516,000 CVD cases (95% uncertainty intervals 300,000 - 752,000) and gain some 2.7 (2.4 – 3.1) million discounted QALYs between 2017 and 2036. The policy could produce discounted cost savings of approximately $62bn ($35.3bn - $86.2bn), with total net costs of approximately +$15.7bn (policy), -$37.6bn (healthcare), and -$41.3bn (indirect costs) over the same period.

Under the 50% compliance scenario, health gains would be approximately half as large, approximately 1.4 (1.3 – 1.7) million QALYs with discounted savings of $33bn ($19.4bn - 45.9bn).

From a societal cost perspective, both scenarios would have an 80% chance of being cost effective after 4 years (Willingness to pay of $50,000/QALY) and cost saving after 10 years.

**Conclusions**

Achieving the FDA salt reduction targets in processed foods could generate substantial health gains and cost savings in the US, assuming industry compliance. Policy makers should therefore focus on encouraging high compliance by industry to ensure that the powerful effects of salt reformulation are realised.