HOW MUCH CAN OBESITY AND DIABETES DECREASE DUE TO THE TAX TO SUGAR-SWEETENED BEVERAGES?*

10% of the calories consumed in Mexico come from sugar sweetened beverages

34% of the population in Mexico is obese and 9.2% had been diagnosed with diabetes

Drinking sugar-sweetened beverages causes obesity and diabetes

In 2008, the total cost of obesity-related diseases was 4,000 million USD per year

In 2014, México implemented a 10% excise tax to industrialized sugar sweetened beverages, which decreased consumption by 6.1%

Researchers from the National Institute of Public Health in Mexico and the University of Michigan used mathematical models and estimated that:

\[
\frac{dF}{dt} = \frac{(1-p)}{\rho_F} \left( IE - EE(t) + \rho_G \frac{dG}{dt} \right)
\]

\[
\frac{dL}{dt} = \frac{p}{\rho_L} \left( IE - EE(t) + \rho_G \frac{dG}{dt} \right)
\]

The tax should reduce obesity by 2.5%

The tax should prevent 86 to 134 thousand new cases of diabetes

Young adults and low-income people will experience larger health benefits

Increasing the tax to 20% should at least double these benefits

*To know more, go to: “Expected Population Weight and Diabetes Impact of the 1-peso-per-litro Tax to Sugar Sweetened Beverages in Mexico” PLOS ONE http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0176336

*\(\mathcal{I}_E \rightarrow \mathcal{I}_E - \mathcal{E}_E(t) + \rho_G \frac{\mathcal{D}_G}{\mathcal{V}}\)

*\(\mathcal{I}_L \rightarrow \mathcal{I}_L - \mathcal{E}_L(t) + \rho_G \frac{\mathcal{D}_G}{\mathcal{V}}\)