

What do we know about the effectiveness of policies and interventions? How can their impact and benefit be best estimated and modeled?

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CHOICES cost-effectiveness studies

To reduce population obesity levels:

- We need to move beyond simply asking “what is effective?” and also consider costs of interventions and their likely impact on population health
- CHOICES¹ has examined over 40 obesity programs and policies high on the national agenda
- Conducted systematic reviews of 130,000 peer-reviewed publications for evidence of effect
- Estimated costs following standard guidelines
- Microsimulation model using “big data” to project population impact of interventions and cost-effectiveness over 10 years in the United States

¹Gortmaker SL, Wang Y, Long MW, Giles CM, Ward ZJ, Barrett JL, Kenney EL, Sonneville KR, Afzal AS, Resch SC, Cradock AL. Three Interventions That Reduce Childhood Obesity Are Projected to Save More Than They Cost to Implement. *Health Affairs*, 34, no. 11 (2015):1304-1311.

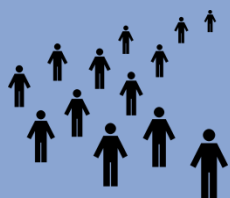
CHOICES microsimulation model

INTERVENTION SCENARIO

Start: 2015

Simulate to:
2025

VIRTUAL POPULATION



From 2010 U.S. Census Data

POPULATION FACTORS



Population Growth



BMI Trends
BRFSS
NHANES

INDIVIDUAL FACTORS



Body Growth



Personal Characteristics
(e.g. dietary intake)



Smoking

INTERVENTION Dietary Intake/Physical Activity

HEALTH STATUS



Obesity

OUTCOMES



Obesity



Healthcare Costs



Mortality

Example interventions to reduce childhood obesity

NET COST SAVINGS AFTER 10 YEARS

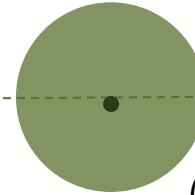
CASES OF CHILDHOOD OBESITY PREVENTED IN 2025

SSB Tax¹



\$14.2 billion

(\$2.65, \$47.1)²



576,000

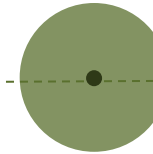
(132,000, 1,890,000)²

Smart Snacks



\$792 million

(\$251, \$1,340)²



344,649

(163,000, 522,000)²

NET COST AFTER 10 YEARS

Bariatric Surgery



\$303 million

(\$209, \$401)²

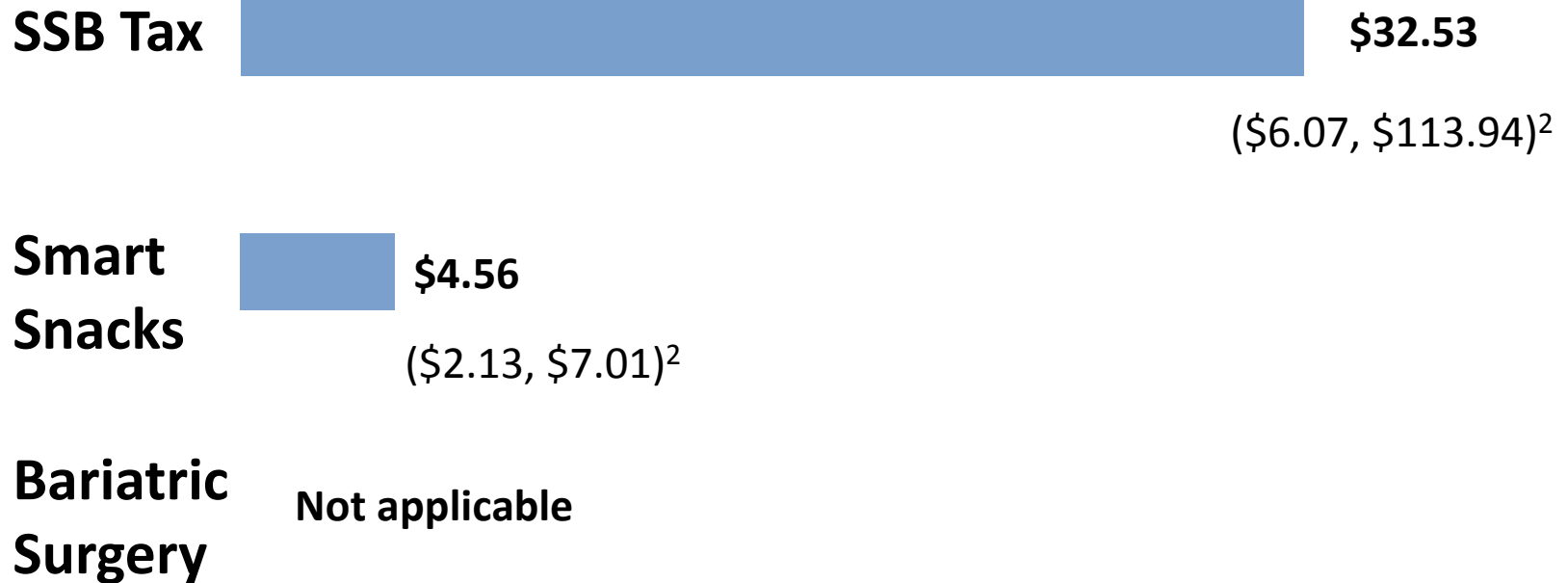
No cases

¹The SSB Tax intervention would also produce an estimated \$12.5 (2015) billion/year in tax revenue. This is not included in the cost-effectiveness analysis

² 95% uncertainty interval

Example interventions to reduce childhood obesity

HEALTH CARE *COST SAVINGS* Per \$1 INVESTED¹



¹Gortmaker SL, Claire Wang Y, Long MW, Giles CM, Ward ZJ, Barrett JL, Kenney EL, Sonnevile KR, Afzal AS, Resch SC, Cradock AL. Three Interventions That Reduce Childhood Obesity Are Projected to Save More Than They Cost to Implement. *Health Affairs*, 34, no. 11 (2015):1304-1311.

² 95 percent uncertainty intervals

Summary: cost-effective interventions

- Some interventions are projected to prevent future obesity and save more in health care costs than they cost to implement
- A Sugar Sweetened Beverage excise tax and Smart Snacks (part of the Healthy Hungry Free Kids Act) are two examples
- Many interventions will not be cost saving – for example, we need to invest in children’s healthy development – but we can identify best value for money strategies
- One single preventive strategy will not solve the obesity epidemic - multiple strategies are needed in multiple settings
- We cannot expect to treat our way out of the obesity epidemic: treatment makes a relatively small impact on obesity prevalence – too little too late.
- Preventive strategies – to slow the rise in excess weight gain over the life-course – are key