



APPENDIX A: FINDINGS

ChangeLab Solutions
The policy solution is the common sense

Model Ordinance Regulating Sales of Sugar-Sweetened Beverages

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Support for this document was provided by a grant from the Robert Wood Johnson Foundation.

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September 2013

Appendix A: Findings

COMMENT: There is a large and growing body of research and evidence linking sugar-sweetened beverages (SSBs) and obesity, overweight, and chronic disease. These findings include some general data about SSBs and obesity/chronic disease, as well as some research specific to the policy options included in the *Model Ordinance Regulating Sales of Sugar-Sweetened Beverages*. Every jurisdiction should tailor the legislative findings to its own community profile (including local data) and should include all relevant information supporting its chosen strategy. The information contained in these findings does not represent the entire universe of information on the health effects of sugary drinks.

WHEREAS, obesity is common and costly. About one-third of U.S. adults (35.7 percent)¹ and approximately 17 percent (12.5 million) of children and adolescents aged 2 to 19 years old are obese.² Childhood obesity has more than tripled in the past 30 years, and obese children are at least twice as likely as non-obese children to become obese adults.^{3, 4} Thirteen states currently have an adult obesity rate above 30 percent, 41 states have rates of at least 25 percent, and every state has a rate above 20 percent.⁵ In [year], [insert local obese population percentage here] of the adult residents in the [City/County] of [_____] and [insert local obese population percentage here] of children in the [City/County] of [_____] are obese.

COMMENT: See <http://healthyamericans.org/states/> and <http://apps.nccd.cdc.gov/brfss/> for state-specific data on overweight and obesity. See www.countyhealthrankings.org/ for county-specific data on overweight and obesity. See <http://apps.nccd.cdc.gov/BRFSS-SMART/index.asp> for data on select metropolitan areas.

WHEREAS, obesity increases the risk of serious health conditions, such as hypertension, type 2 diabetes, coronary heart disease, stroke, sleep apnea, respiratory problems, and some types of cancer (endometrial, breast, prostate, and colon).⁶

WHEREAS, obesity-related health conditions have serious economic costs. Overweight and obesity may account for \$147 billion in annual health care costs nationally, or 9 percent of all medical spending.⁷ In the United States roughly one-half of these costs may be paid by Medicare and Medicaid, meaning that taxpayers foot the bill for much of the costs of obesity.⁸ Medicare and Medicaid spending would be 8.5 percent and 11.8 percent lower, respectively, in the absence of obesity-related spending.⁹ Obesity-related annual medical expenditures in the [city/county] are estimated at [insert city/county's cost of obesity here].¹⁰

WHEREAS, [City/County] of [_____] has invested considerable resources to combat childhood obesity. [Briefly summarize policy and programmatic efforts of city/county to combat obesity.]

WHEREAS, over the past several decades, total calorie intake has increased by about 250 to

300 calories per day. Almost 50 percent of the increase in calories is attributable to sugar-sweetened beverages (SSBs).¹¹ The weight of epidemiologic and experimental evidence reveals that consuming a greater amount of SSBs is associated with weight gain and obesity.¹²

WHEREAS, over the past several decades, SSB portion sizes have increased dramatically. A published study examining American beverage consumption trends and causes concluded that average portion sizes for SSBs has increased from 13.6 ounces to 21 ounces between 1977 and 1996.¹³ Portion sizes for most packaged and restaurant foods, including SSBs, have increased dramatically over the past several decades, and in some cases, a single serving of an SSB is up to ten times larger than a single serving of Coke when it was first introduced.¹⁴ SSBs are the single largest source of added sugars in the American diet;¹⁵ one 20-ounce SSB contains almost 17 teaspoons of sugar.¹⁶ The American Heart Association recommends that a person eating a 2,200-calorie diet should eat no more than nine teaspoons of refined sugar in a day,¹⁷ and more recently that a person eating a 2,000-calorie diet consume no more than 450 calories of SSBs per week.¹⁸ As of 2002, the average American consumed nearly 50 gallons of soda and other SSBs each year.¹⁹

WHEREAS, consumption of calories derived from SSBs ingested during meals doubled between 1977 and 1996.²⁰ Serving a larger portion size of beverages results in increased beverage consumption; for SSBs, this results in substantially increased caloric intake at meals.²¹ Moreover, increasing the portion size of any food often leads to higher consumption levels, and therefore greater consumption of calories.²²

WHEREAS, increasing food prices creates a financial incentive for consumers to avoid unhealthy foods, and both individual consumers and population groups decrease purchases of discretionary foods as prices are increased.²³ Strategies to lower the relative price of healthy foods have proven effective when targeted at altering the type of food that consumers purchase.^{24, 25} Public health research suggests that a 10 percent increase in SSB prices will lead to an 8 percent to 10 percent reduction in SSB purchases.²⁶

WHEREAS, the U.S. food industry frequently uses “value” marketing – a technique used to increase profits by encouraging the consumer to spend a little extra money to purchase larger portion sizes while leaving the consumer with the feeling that s/he has “gotten a deal.”²⁷ However, the actual effect of value marketing on consumers is a substantial increase in caloric and saturated fat intake.²⁸ Large-sized packages, containers, and restaurant portions imply that it is more appropriate, typical, reasonable, and normal to consume more food and beverages than smaller packages, containers, and restaurant portions would instead suggest.²⁹

WHEREAS, proportional pricing, where the price of goods is based on the quantity sold, leads overweight and obese fast food patrons to exercise portion control by selecting and consuming

more reasonable portions of unhealthy food and beverages.³⁰

WHEREAS, as of August 2008, 93 percent of children's meals at the 25 largest chain restaurants failed to meet a set of nutrition standards developed by a panel of nutrition experts and based in large part on key recommendations from the *Dietary Guidelines for Americans*. On average, children consume nearly twice as many calories from a restaurant meal (770) as they do from a home-cooked meal (420).³¹

NOW THEREFORE, [*municipal legislators* (e.g., *city council*)] intend, by adopting this Model Ordinance Regulating Sales of Sugar-Sweetened Beverages, to diminish the human and economic costs of obesity in the [City/County] of []. This Act is intended to reduce the demand for, and discourage excessive consumption of, SSBs.

¹ Centers for Disease Control and Prevention. *Obesity and Overweight for Professionals: Data and Statistics: Adult Obesity*. Available at: www.cdc.gov/obesity/data/adult.html.

² Centers for Disease Control and Prevention. *Obesity and Overweight for Professionals: Childhood: Data: DNPAO / CDC*. Available at: www.cdc.gov/obesity/data/childhood.html.

³ Centers for Disease Control and Prevention. *CDC – Obesity – Facts – Adolescent and School Health*. Available at: www.cdc.gov/healthyyouth/obesity/facts.htm.

⁴ Serdula MK, Ivery D, Coates RJ, et al. “Do Obese Children Become Obese Adults? A Review of the Literature.” *American Journal of Preventive Medicine*, 22(2): 167–177, 1993.

⁵ Trust for America’s Health. *F as in Fat: How Obesity Threatens America’s Future*. 2012, available at: <http://fasinfat.org/obesity-rates-trends-overview/>.

⁶ National Institutes of Health: National Heart, Lung, and Blood Institute. *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report*. Bethesda, MD: National Institutes of Health, 1998. Available at: www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.pdf.

⁷ Finkelstein EA, Trodron JG, Cohen JW, et al. “Annual Medical Spending Attributable to Obesity: Payer- and Service-Specific Estimates.” *Health Affairs*, 28(5): w822–w831, 2009. Available at: www.obesity.procon.org/sourcefiles/FinkelsteinAnnualMedicalSpending.pdf.

⁸ *Id.*

⁹ *Id.*

¹⁰ For state-specific health care spending data, see: Finkelstein EA, Fiebelkorn IC, and Wang G. “State-Level Estimates of Annual Medical Expenditures Attributable to Obesity.” *Obesity Research*, 12(1): 18–24, 2004. These state-level data are for 2003. State health agencies may have more recent spending data.

¹¹ Brownell KD and Frieden TR. “Ounces of Prevention – The Public Policy Case for Taxes on Sugared Beverages.” *New England Journal of Medicine*, 360(18): 1805–1808, 2009. Available at: www.nejm.org/doi/full/10.1056/NEJMp0902392.

¹² Malik VS, Schulze MB, and Hu FB. “Intake of Sugar-Sweetened Beverages and Weight Gain: A Systematic Review.” *American Journal of Clinical Nutrition*, 84: 274–288, 2006. Available at: www.ajcn.org/content/84/2/274.full.pdf.

¹³ Nielsen SJ and Popkin BM. “Changes in Beverage Intake Between 1977 and 2001.” *American Journal of Preventive Medicine*, 27(3): 205–210, 2004. Available at: www.cpc.unc.edu/projects/nutrans/publications/Beverage%20trends-BP-Samara%202004.pdf.

¹⁴ Young LR and Nestle M. “The Contribution of Expanding Portion Sizes to the US Obesity Epidemic.” *American Journal of Public Health*, 92(2): 246–249, 2002; Young LR and Nestle M. “Expanding Portion Sizes in the US Marketplace: Implications for Nutrition Counseling.” *Journal of the American Dietetic Association*, 103(2): 231–234, 2003.

¹⁵ Johnson RK, Appel LJ, Brands M, et al. “Dietary Sugars Intake and Cardiovascular Health: A Scientific Statement From the American Heart Association.” *Circulation*, 120: 1011–1120, 2009. Available at: <http://circ.ahajournals.org/content/120/11/1011.full.pdf>.

¹⁶ Harvard School of Public Health Nutrition Source. *The Nutrition Source: Time to Focus on Healthier Drinks*. Boston: Harvard School of Public Health. Available at: www.hsph.harvard.edu/nutritionsource/healthier-drinks/focus.

¹⁷ Johnson RK, Appel LJ, Brands M, et al. on behalf of the American Heart Association Nutrition Committee of the Council on Nutrition, Physical Activity and Metabolism and the Council on Epidemiology and Prevention. “Dietary Sugars Intake and Cardiovascular Health: A Scientific Statement from the American Heart Association.” *Circulation*, 120: 1011–1020, 2009. Available at: <http://circ.ahajournals.org/cgi/content/full/120/11/1011?ijkey=856cda3d8f34ccf7dff9a00a20598d22a58b115a>.

¹⁸ American Heart Association. *Frequently Asked Questions About Sugar*. 2012. Available at: www.heart.org/HEARTORG/GettingHealthy/NutritionCenter/HealthyDietGoals/Frequently-Asked-Questions-About-Sugar_UCM_306725_Article.jsp.

¹⁹ Duffey KJ and Popkin BM. “Shifts in Patterns and Consumption of Beverages Between 1965 and 2002.” *Obesity*, 15(11): 2739–2747, 2007. Available at: <http://onlinelibrary.wiley.com/doi/10.1038/oby.2007.326/full#f1>.

²⁰ Nielsen SJ and Popkin BM. “Changes in Beverage Intake Between 1977 and 2001” [published correction appears in *American Journal of Preventive Medicine*, 28: 413, 2005] *American Journal of Preventive Medicine*, 27(3): 205–210, 2004. Available at: www.cpc.unc.edu/projects/nutrans/publications/Beverage%20trends-BP-Samara%202004.pdf.

²¹ Flood JE, Roe LS, and Rolls BJ. “The Effect of Increased Beverage Portion Size on Energy Intake at a Meal.” *Journal of the American Dietetic Association*, 106(12): 1984–1990, 2006.

²² Rolls BJ, Roe LS, and Meengs JS. “Larger Portion Sizes Lead to a Sustained Increase in Energy Intake Over 2 Days.” *Journal of the American Dietetic Association*, 106(4): 543–549, 2006.

²³ Thow AM, Jan S, Leeder S, et al. “The Effect of Fiscal Policy on Diet, Obesity and Chronic Disease: A Systematic Review.” *Bulletin of the World Health Organization*, 88: 609–614, 2010. Available at: www.who.int/bulletin/volumes/88/8/09-070987/en/#.

²⁴ French SA, Jeffrey RW, Story M, et al. “Pricing and Promotion Effects on Low-Fat Vending Snack Purchases: The CHIPS Study.” *American Journal of Public Health*, 91: 112–117, 2001.

²⁵ Horgen KB and Brownell KD. “Comparison of Price Change and Health Message Interventions in Promoting Healthy Food Choices.” *Health Psychology*, 21(5): 505–512, 2002.

²⁶ Andreyeva T, Long MW, and Brownell KD. “The Impact of Food Prices on Consumption: A Systematic Review of Research on the Price Elasticity of Demand for Food.” *American Journal of Public Health*, 100(2): 216–222, 2010. Available at: www.yaleruddcenter.org/resources/upload/docs/what/economics/FoodPricesElasticity_AJPH_2.10.pdf.

²⁷ The National Alliance for Nutrition and Activity, *supra* note 14 at 1.

²⁸ The National Alliance for Nutrition and Activity, *supra* note 14 at 2.

²⁹ Wansink B and Ittersum KV. “Commentary: Portion Size Me: Downsizing Our Consumption Norms.” *Journal of the American Dietetic Association*, 107(7): 1103–1106, 2007. Available at: http://mindlesseating.org/lastsupper/pdf/portion_size_me_JADA_2007.pdf.

³⁰ Vermeer WM, Alting E, Steenhuis IHM, et al. “Value for Money or Making the Healthy Choice: The Impact of Proportional Pricing on Consumers’ Portion Size Choices.” *European Journal of Public Health*, 20(1): 65–69, 2009. Available at: <http://eurpub.oxfordjournals.org/content/20/1/65.full.pdf>.

³¹ Zoumas-Morse C, Rock CL, Sobo EJ, et al. “Children’s Patterns of Macronutrient Intake and Associations with Restaurant and Home Eating.” *Journal of the American Dietetic Association*, 101(8): 923–925, 2001.