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Agricultural Policy And Childhood Obesity: A Food Systems And Public Health Commentary

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ABSTRACT For thirty-five years, U.S. agriculture has operated under a “cheap food” policy that spurred production of a few commodity crops, not fruit or vegetables, and thus of the calories from them. A key driver of childhood obesity is the consumption of excess calories, many from inexpensive, nutrient-poor snacks, sweets, and sweetened beverages made with fats and sugars derived from these policy-supported crops. Limiting or eliminating farm subsidies to commodity farmers is wrongly perceived as a quick fix to a complex agricultural system, evolved over decades, that promotes obesity. Yet this paper does set forth a series of policy recommendations that could help, including managing commodity crop oversupply and supporting farmers who produce more fruit and vegetables to build a healthier, more balanced agricultural policy.

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Childhood obesity is epidemic, a problem of current disease but also of future costs. Treatment is expensive, is often ineffective, and fails to address worsening trends.¹ Primary prevention—preventing children from becoming overweight and obese in the first place—is the only long-term solution for this public health problem.

Record childhood obesity was foreseeable, given a modern “obesogenic” (to cause obesity) environment that discourages activity and encourages consumption of calorie-dense, nutrient-poor food,² combined with innate biological mechanisms that appear in many people to confer a propensity to accumulate and conserve energy.³ Many good policy options exist for changing food availability, food prices, or food marketing—thereby influencing the food environment—at the local, state, and federal levels.⁴ Nearly all such policies are aimed at the downstream, consumer end of the food chain. Policy makers and researchers have mostly overlooked the upstream links between obesity and policy determinants of what happens on the farm. Consequently, few have considered how changing

agricultural policy might positively affect the availability and prices of food.

Two recent foundation-supported conferences^{5,6} and a two-volume journal supplement⁷ began to address this policy and research gap. The discussion in this paper reflects some common themes.

Calorie Excess And The American Food Supply

Research now links obesity promotion with the consumption of added fats, sugars, and refined grains and of the snacks, sweets, beverages, and fast foods in which they are prominent.

In 2002, U.S. Department of Agriculture (USDA) researchers said that the prime factor behind soaring obesity rates was a 300-calorie jump, from 1985 to 2000, in how many calories the U.S. food supply delivered to the average eater.⁸ Of the extra calories, 24 percent came from added fats; 23 percent, from added sugars. Grains, mostly refined grains, accounted for 46 percent.⁸

Recently updated, the USDA data for 2007 show that Americans’ average daily calorie in-

take is 400 calories higher than in 1985 and 600 calories higher than in 1970.⁹ Among grains, corn calories (from corn flour, corn meal, hominy, and corn starch) led the way with a 191 percent increase since 1970. Added sugar intake—including cane and beet sugar, honey, syrups, and corn sweeteners—is up 14 percent over 1970 levels, but corn sweetener calories alone rose 359 percent to 246 calories per day.⁹ By 2005–06, the average child drank 172 daily calories from sugar-sweetened beverages, including those sweetened with high-fructose corn syrup.¹⁰

Average daily calories from added fats and oils continue to rise, up 69 percent since 1970; a 260 percent calorie increase from salad and cooking oils is leading the way.⁹ Of the fats and oils Americans eat, 70 percent are soy oil (mostly salad or cooking oils, plus baking and frying fats); another 8 percent are corn oil.¹¹

American farms, not farms abroad, are the source for many of these extra fats, sugars, and calories. The United States is the world's largest corn producer, but it exports only around 20 percent of the total crop.¹² Almost 4.7 percent of the total corn crop gets diverted to produce high-fructose corn syrup.¹³ The United States is also the world's largest soybean producer and exporter. It produced 20.6 billion pounds of soy oil in 2008, of which 93 percent was used domestically.¹¹

Farmers And Agricultural Policy

Over the long term, what farmers grow is steered by agricultural policy. For more than a century, U.S. policy has promoted U.S. farmers' capacity to increase production, generally of the kind of commodities—corn, wheat, cotton, rice, milk, and later soybeans—that lend themselves to large-scale production, easy storage, and long-distance shipping.^{14,15} Much of the public infrastructure to support farmers at the regional level (such as university research and extension services) came to be dominated by a focus on commodity and production agriculture.¹⁶

Growing the nation's agricultural capacity is generally recognized as a good thing. It serves national security as well as rural development needs, especially with a growing population. But production-oriented agriculture policy also has been promoted as important for nutrition. Early-twentieth-century research suggested that when hungry children were given diets higher in added fats and sugars, they grew. Following World War II, raising production of commodity crops and their associated fats and sugars was seen as an answer to undernutrition in the United States and throughout the world.¹⁷ Ameri-

can commodity farmers continue to be reminded of their putative mission to "feed the world."¹⁸

U.S. farmers responded fantastically to these policies, raising output 2.6 times from 1948 to 2002.¹⁹ In 2009 they planted more than eighty-seven million corn acres, the second-highest total in sixty-two years. Yields of 150 bushels per acre or more are typical—600 percent higher than in 1920.¹⁵

OVERPRODUCTION Because they operate independently, commodity crop farmers have a long-established tendency to overproduce collectively. During the Great Depression, a production glut led to a predictable drop in prices and subsequent farm failures. Although there were fewer farmers, total farmland stayed the same as larger farms swallowed up smaller farms. What ensued were the first federal programs to manage the supply of agricultural commodities, both to stabilize prices and to sustain farm income. These programs largely worked over the next several decades, often at little or no net cost to the federal treasury. From 1965 to 1996, however, supply management programs were dismantled.

Starting in 1974, the USDA began implementing a federal "cheap food" policy that encouraged commodity farmers to produce as much as possible.¹⁴ The case made by then Secretary of Agriculture Earl Butz was that by producing abundant and cheap commodity grains, U.S. farmers would capture growing global markets.

Butz proved wrong. Instead of helping farmers prosper, persistent low prices (once again based on that tendency to overproduce) drove many commodity farmers out of business. When Congress passed the 1996 Farm Bill, however, it stripped away the last remnants of supply management and left all incentives for commodity overproduction in place. But when commodity prices continued to plunge, Congress was forced to pass a series of "emergency" payments to protect farmers from going out of business. By 2001, these payments had tripled to more than \$20 billion per year,¹⁴ and commodity crop prices had dropped 40 percent, on average.²⁰ In 2002, Congress made these subsidies permanent in a variety of different types of subsidies.

It must be noted that the advent of farm subsidies only followed policy failure and low prices. The latter created the need for the former. Cutting commodity subsidies therefore cannot be viewed as a quick fix for overproduction and low prices. Removing these subsidies, since they are not the root reason why commodity crops are overproduced in the first place, will not address the oversupply of cheap calories from these commodities. In the short term, what cutting commodity subsidies likely would do instead is to

Production-led agricultural policy has not kept pace with the science. As a cheap calorie policy, it has been a success.

drive out of farming even more of the farmers who might otherwise have been offered policy incentives to produce a healthier long-term balance of commodities and other, noncommodity crops.

OUTPACED BY SCIENCE A second problem with production-led agricultural policy is that it has not kept pace with the science. As a cheap calorie policy, it has been a success. Many more fats, sugars, and calories have been added to the American food supply. And foods high in fat, sugar, and calories, such as cooking oils, snacks, fast food, and sugared sodas, are some of the least expensive foods in the U.S. food environment. Simply put, sweets and fats cost less, while many healthier foods cost more.²¹ Unhealthy foods also are the most inflation-resistant part of the U.S. diet.²² Our analysis of USDA data shows that from 1985 to 2000, the inflation-adjusted price of carbonated soft drinks sank nearly 24 percent, while the prices of fresh fruit and vegetables rose 39 percent.²³

What has changed since agricultural “cheap food” policies were put in place is that obesity has overtaken hunger as the most prevalent nutritional problem in children—too many calories, not too few. According to today’s science, the quality of the calories produced by U.S. agriculture may be at least as important as their quantity.

Fruit And Vegetable Deficits And The U.S. Food Supply

Diets rich in fruit and vegetables can help manage weight and can lower risks for cancer and other chronic diseases, especially when they replace calorie-dense, nutrient-poor foods. Yet fewer than one in ten Americans meet the levels of fruit and vegetable consumption recommended under the latest calorie-specific healthy eating guidelines.^{24,25} Despite the focus on nutrition education, fruit and vegetable consumption

has stagnated or even declined in recent years.

USDA data indicate that the U.S. food system supplies 24 percent fewer servings per person than the five daily vegetable servings recommended for a standard 2,000-calorie diet. Subtracting out starchy vegetables, the shortfall looks even worse. Only half of the recommended servings of dark green vegetables are available, along with one-third of the orange vegetables and one-quarter of the recommended legumes.²⁶ There is a supply shortfall in fruit as well. To meet recommended levels, Americans would need to increase daily fruit and vegetable consumption by 132 percent and 31 percent, respectively. But where that produce would come from is equally important, and largely determined by agricultural policy.

For supply to match an increase in consumption of any one fruit or vegetable group would require some combination of the following: (1) a rise in imports; (2) diversion of current exports to domestic consumption; and (3) an expansion of domestic production. One-quarter of fresh fruit consumption already is imported, and that percentage keeps rising. Raising imports does not seem to be an ideal long-term solution from several policy perspectives, including food safety worries, the carbon and costs embedded in shipping produce over long distances, and the national security concerns if other countries should prove unable or unwilling to ship their fruit and vegetables to the United States.

On the other hand, for U.S. farmers to produce more fruit and vegetables nearer to consumers will require an agricultural policy that offers incentives to do so. The average American farmer is fifty-five years old, however, and fast approaching retirement.²⁷ Midscale farmers who cultivate 100–500 acres are the ones best positioned to offer a more diverse set of foods, including fruit and vegetables, to a more local market and have the flexibility to increase production to a larger scale.²⁸ Midsize farms are disappearing most rapidly. As farm numbers shrink, remaining farms get bigger. In the Farm Belt especially, larger farms generally produce one or two commodities, such as corn or soybeans, and nothing else. Their entire experience and capital investment is devoted to that single purpose.

U.S. agricultural policy generally has not offered incentives or supported farmers to grow fruit and vegetables. Their production does not qualify for direct payments under Title I of the Farm Bill. In fact, farmers who would like to receive support under these programs have been explicitly prohibited from planting fruit and vegetables.²⁹

Agricultural Policy And The Food Environment

Childhood obesity is a problem growing three times faster than adult obesity.³⁰ The specter of ever-rising future costs, death, and disease from today's ever-worsening trends demands bold action. Yet policy makers have had a blind spot with respect to the links between U.S. farm policy and worsening obesity. America spends \$147 billion a year on obesity-related illness. Policy makers fail to connect this spending, for example, to \$21 billion in Farm Bill spending to support commodity crop production in one year (2005) alone. Expected Farm Bill spending over the next decade will total in the hundreds of billions of dollars. The next Farm Bill is in 2012. Policy decisions made now will determine whether these public investments are to be effective at helping to reverse, rather than to worsen, obesity trends.

The complex, messy, obesogenic U.S. food environment has been decades in the making. Changing it will not be easy, because the "set point" or defaults are woven so tightly and broadly into the fabric of our food system and its policies. Policy makers would be prudent to guard against putative quick fixes—such as the elimination of subsidy payments to commodity farmers—to the system's longstanding, multi-dimensional problems.

As noted earlier, doing away with these particular subsidies would not address the underlying reasons—including a national "cheap food" policy—why farmers overproduce commodity crops and underproduce healthy fruit and vegetables in the first place. Further, because farmers' livelihoods and decisions have been predicated on these policies, a quick reversal would exact considerable harm and likely would further erode the already too limited supply of U.S. farmers essential for growing the fruit and vegetables needed for healthier diets in the future.

A successful redesign of the food environment will likely require a long-term commitment to mutually supportive interventions, at multiple levels (local, state, and federal) from farm to plate, to effect change in food availability, relative prices, and marketing, complemented by nutrition education.²⁴ One component of this redesign could include reinstating programs to manage the oversupply of commodity crops and calories, combined with support for new farmers as well as for existing farmers who want to transition away from exclusive production of commodity crops. Upstream changes to agricultural policy are critical, but in the end are only one among many needed changes.

Near-Term Policy Changes

Yet small, incremental changes to the calorie-dense food supply could have outsized impacts. Over ten years, an extra 130 calories per day (less than what is in a twelve-ounce can of sugared soda) can spell the difference between a young child on her way to obesity and one who is not.³¹ We suggest the following as doable, near-term policy steps.

SEEK EXECUTIVE LEADERSHIP At another critical juncture in the nation's nutritional health, the 1969 White House Conference on Food, Nutrition, and Health was convened. This landmark effort ultimately gave rise to expansion of the food stamp, food labeling, and school lunch programs.³² The time may be now for renewed executive-branch leadership to bring together disparate health and agriculture communities around food policy, among other upstream determinants of childhood obesity.

INTEGRATE FOOD AND HEALTH ANALYSIS Obesity is a systems problem, inexorably related to the equally complex and problematic food system. There is no single entity to inform policy makers broadly about the health impacts, including on childhood obesity, of the entire food system.

With fragmented authority and expertise across a dizzying number of federal agencies (USDA, Food and Drug Administration, Environmental Protection Agency, Centers for Disease Control and Prevention, Health and Human Services, Consumer Product Safety Commission, National Institutes of Health, and so on), this perhaps is no surprise. Something like the United Kingdom's Food Commission is needed. That commission is a nongovernmental organization that looks beyond "stable to table" analyses to link food production policies with nutrition and health policies.³³

SUPPORT FARMERS AS ANTI-OBESITY PARTNERS American farmers have proved adept at responding to the policy conditions determined for them. Indeed, farmers are essential allies in the fight against obesity. If the nation is to get serious about making fruit, vegetables, and other healthy food more accessible, policy makers need to offer at least as much research, financial, and other support to domestic farmers of these crops as has been done for commodity crop growers for decades. Policy interventions could include recruiting and training new farmers; grants or financing on favorable terms for new farmers, including for land acquisition and for farmers moving from commodity to other production; and allowing fruit and vegetable farmers to participate in any commodity programs of the Farm Bill.

INVEST IN FORWARD-LOOKING RESEARCH The critical research program ("title") of the 2012 Farm

Bill will set the direction of agricultural health and innovation for years to come. Given the challenges of greater climate uncertainty, coming water scarcity, development pressure on prime croplands, and obesity, America needs a research agenda to inform what diverse mix of crops and farming methods can best meet the nation's health and other needs, sustainably. The National Institutes of Health and other health agencies' research programs could better complement USDA research initiatives in realizing this goal.

CODIFY HEALTHIER COMMODITY FOOD PROGRAMS
Many surplus commodities produced under Farm Bill programs make their way into federal child nutrition programs, such as the National School Lunch and Breakfast Programs, where they often have not conformed to the USDA's own dietary guidelines for healthy eating. The most effective policy for better aligning com-

modities with students' nutritional needs is to raise nutrition standards for all food served in these programs. Already positive USDA steps in this direction should be codified and incorporated into this year's reauthorization of the Child Nutrition Act.

Conclusion

Agricultural production affects nutrition, obesity, and health. Agricultural policy helps determine not only what farmers grow, but what people eat, how easy it is to access that food, and what they pay for it. All too soon, the nation will confront the need for a new Farm Bill. Its contents ought to be as great a concern for urban eaters as for rural farmers, and as much a priority for health policy makers as for agriculture policy makers. We need much more than another Farm Bill. We need a Healthy Food, Healthy Farm Bill. ■

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