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Zoning For Health? The Year-Old Ban On New Fast-Food Restaurants In South LA:

The ordinance isn't a promising approach to attacking obesity.

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Abstract

A regulation banning new fast-food establishments for one year in Los Angeles, California, was passed unanimously by the city council in July 2008. It was motivated by health concerns and excessive obesity rates in South Los Angeles. However, it might not have had the impact that was intended. This paper reviews the empirical evidence for the regulation and whether it is likely to target the primary levers of obesity. We argue that the premises for the ban were questionable. For example, the density of fast-food chain restaurants per capita is actually higher in other parts of Los Angeles than in South LA. Other changes, such as menu calorie labeling, are likely to have a bigger impact on overweight and obesity.

With obesity in the headlines daily, policymakers want to take quick action, even without clear evidence of what to do. Obesity takes a disproportionate toll on minority populations, especially among African American and Hispanic youth. In media reports on obesity, common themes include blaming a toxic food environment in which poor and minority neighborhoods are overrun with fast-food chains. These outlets are believed to serve unhealthier food than full-service sit-down restaurants and to cause higher obesity rates where they are prevalent. It is also frequently reported that poor and minority neighborhoods are “food deserts” and lack grocery stores, which leads to diets that lack fresh fruit and vegetables and thereby increases obesity rates.

A recent policy influenced by these ideas is the “fast-food ban” in Los Angeles, a one-year ordinance passed in July 2008 that prohibited the establishment of new stand-alone fast-food restaurants in a South Los Angeles area with about 700,000 residents (out of 3.7 million throughout the city of Los Angeles). Articles and guides for planners to address obesity have suggested restrictions on fast-food restaurants.¹ However, the Los Angeles ordinance may be the first regulation in a major city that was influenced by health concerns and aims to attract full-service restaurants and grocery stores. Probably for legal reasons, the ordinance included references to neighborhood aesthetics that parallel existing regulations in other cities. Although the final version did not mention obesity, it stated that there “is an over-concentration of fast-food restaurants in the South Los Angeles region,” resulting in “over-concentration of uses which are detrimental to the health and welfare of the people of the community.”²

The term “fast-food restaurant” conjures up the image of franchises with standardized menus, food preparation, decor, external façade, uniforms, and logos. These characteristics have defined previous limits on “formula restaurants” in several municipalities, mainly for aesthetic reasons or to protect local businesses. As long as zoning ordinances are reasonable in substance and are not arbitrarily enforced, they constitute a justifiable exercise of police power and are upheld by the courts. Typical examples of such restrictions are in Calistoga, California (population 5,000) and Port Jefferson, New York (population 8,000). However, the Los Angeles rule is different in scope and justification; it applies only to a portion of the city (South

Los Angeles). This area has a population of 700,000, which by itself would rank among the largest twenty cities in the United States—between Columbus, Ohio, and Fort Worth, Texas. The ordinance invokes health reasons for preventing new fast-food establishments from opening or existing ones from expanding, not the reason of maintaining the charm of a historic area.

This paper reviews the empirical evidence for the regulation; assesses whether the regulation is likely to target the primary levers of obesity; and discusses the effectiveness of land-use policies to address obesity. We conclude that the data do not support the premises of the Los Angeles ban and that even if the premises had been correct, this type of trade restraint would not address the health problems of the population.

Fast Food And The Business Structure In South LA

Data source

We used 2008 InfoUSA to compare the business environments across areas and in selected businesses by North American Industry Classification System codes. We used franchise codes to identify fast-food restaurants and derive two variables: the number of restaurants of six market leaders per 100,000 residents (McDonald's, Burger King, Wendy's, KFC, Taco Bell, and Pizza Hut) and the number of restaurants of the seventy-eight largest chains per 100,000 residents. There is no specific "fast-food" category in either NAICS or its predecessor.

Population characteristics

The Los Angeles city ordinance applies only to South Los Angeles, comprising the planning areas Baldwin Hills, Leimert Park, South Los Angeles, and Southeast Los Angeles. More than 50 percent of the area's residents are Hispanic, 36 percent are black, and 2 percent are Asian; the median annual household income is \$24,000.

In contrast, the much wealthier area of West Los Angeles (which includes Brentwood, Bel Air, Mar Vista, Marina del Rey, Pacific Palisades, Palms, Playa del Rey, Playa Vista, Venice, West Los Angeles, and Westchester) has a median annual household income of \$64,000. In West Los Angeles, 17 percent of the residents are Hispanic, 5 percent are black, and 12 percent are Asian.

Density of food outlets

Whether we consider the six fast-food market leaders or seventy-eight major chains, South Los Angeles has a lower density of fast-food restaurants per 100,000 residents than either West Los Angeles or Los Angeles County overall (Exhibit 1). For major chains, there are about nineteen fast-food restaurants per 100,000 residents in the South Los Angeles area that is subject to the new ban. The average per capita density for West Los Angeles is 50 percent higher, and the average per capita density in Los Angeles County is 60 percent higher.

Restaurants—There are fewer restaurants of any type (not just major fast-food chains) per capita in South Los Angeles than in Los Angeles County overall. Los Angeles is not special in this respect, and this holds nationwide: Racially mixed or black neighborhoods nationwide have fewer restaurants and fewer fast-food franchises per resident than other areas do.³ The highest per capita density of fast-food restaurants tends to be in neither "poor" nor "rich" areas, but in middle-income neighborhoods. Compared to these very large differences in fast-food outlet density by income, differences in the mix between fast-food and other restaurants appear small.

Convenience stores—The per capita density of convenience stores such as 7-Eleven or Fast Mart is not very different in South Los Angeles than in West Los Angeles or the county average (Exhibit 1). What is very different is the density of small grocery stores, which is double that of the county average and more than three times the number in West Los Angeles. This is partially offset by a lower density of large supermarkets.

Density per roadway mile—A different way to conceptualize the number of outlets (instead of per capita) is the number per 100 roadway miles (Exhibit 1). Although this is a less common measure, it has emerged in the alcohol-use literature and reflects the odds that any single person would encounter an outlet in his or her daily travel. It also provides a sensitivity analysis.⁴ Examining the data in this way does not change the numbers for West Los Angeles or the county, but it increases the densities for South Los Angeles. Using the roadway-miles measure, we conclude that South Los Angeles has slightly higher densities of fast-food chains, an intermediate number of any restaurant (less than West Los Angeles but more than the county average), and a similar density of large supermarkets as the other areas. However, there is twice the density of convenience stores in South Los Angeles compared to the county average and four times the density of small grocery stores.

Reconciling the numbers with media reports

These numbers are difficult to reconcile with media reports about an “over-concentration of fast-food restaurants in the South Los Angeles region” that is enshrined in the Los Angeles ordinance, at least when we look at the type of fast-food chain it targeted.⁵ On a population basis, the density of fast-food chains per capita and restaurants is much lower than in other areas; on a street-mile basis, it is fairly similar, but big discrepancies exist with other types of food retailers.

One data point that was repeatedly mentioned in the policy debate—a *Los Angeles Times* calculation of the ratio of fast-food restaurants to other restaurants—suggested that South Los Angeles had a higher ratio of fast-food restaurants to other restaurants (44 percent) than other areas had. However, restaurants with seating for ten or fewer were counted as fast-food in the *Times* study, regardless of what type of food they produced.⁶ Many restaurants in South Los Angeles are small, with seating for fewer than ten people and employing either only family members or fewer than four workers. They do not share the characteristics of the restaurants depicted in the news reports: large expanses of surface parking, multiple driveways, and drive-through windows. As Exhibit 1 shows, the ratio of fast-food chains to total restaurants does not differ dramatically between South Los Angeles and the other areas.

Food Purchase And Consumption In Los Angeles

Data source

The data regarding food purchasing and patterns of eating out in South Los Angeles come from a RAND survey that used a multistage random sample of households in densely populated (more than 2,000 residents per square mile) census tracts in Los Angeles County. Interviews were completed with 1,480 adults, with complete data on all variables used in this analysis. With this small sample, we could not calculate numbers for West Los Angeles (only eighteen respondents), but instead we compared tracts in South Los Angeles (202 respondents) with other tracts in Los Angeles County. To provide a stronger contrast, we excluded all other tracts with a median household income of less than \$40,000 in the comparison, resulting in tracts with an average median household income of \$63,000 (similar to West Los Angeles and much higher than the \$24,000 median household income in South Los Angeles). Our results are unadjusted for sociodemographic differences because we selected the tracts so that they would be different. It is not easy to assess diets in surveys, and there are biases toward underreporting,

similar to those existing in alcohol studies. The dietary questions were twenty-four-hour recall, which reduces recall biases compared to longer recall periods or questions about “typical” consumption but increases variances across individuals because of day-to-day fluctuations.

Discretionary calorie intake

Residents of South Los Angeles have a significantly higher body-mass index (BMI) and are more likely to be obese than residents in higher-income tracts of Los Angeles County (Exhibit 2). The first variable in this analysis, “snack” calories, looks at discretionary calories from cookies, candy, salty snacks, soda, and alcohol. According to the U.S. Department of Agriculture dietary guidelines, discretionary calories are calories “left over” to achieve energy balance after people satisfy their nutritional needs (other than energy balance) from recommended food items.⁷ Thus, foods that do not satisfy other nutritional needs, such as candy, alcohol, and soda, always count as discretionary calories.

We estimated energy intake assuming that a serving of salty snacks averaged 140 calories; a serving of cookies, 140 calories; a serving of candy, 200 calories; and a 12-ounce can of soda, 150 calories for people who said they usually drink regular soda and zero calories for people who said they usually drink diet soda. We counted only 50 percent of calories from cookies and salty snacks as discretionary calories, since some of their ingredients (such as grains and nuts) could satisfy some recommended food intake needs. Calories associated with alcohol use in the past twenty-four hours were estimated from responses to average frequency, the amount consumed on a typical drinking occasion, and the respondent’s report of the name of the drink most frequently consumed in the past ninety days, using 150 calories per drink for beer, 100 calories per glass of wine, and 200 calories for mixed drinks.

Consumption of these sources of discretionary calories is significantly higher in South Los Angeles than in higher-income tracts in Los Angeles County, and about half of that difference is attributable to soda consumption, which itself is statistically significant. Compared with residents of the wealthier neighborhoods, South Los Angeles residents consumed significantly more calories from candy (122 versus 87 calories) and cookies (49 versus 32 calories) in the prior twenty-four hours than residents in higher-income tracts did. The maximum number of discretionary calories that can be consumed while still allowing for recommended nutrients and maintaining energy balance takes into account age, sex, size, and physical activity levels and is typically less than 15 percent of total calories needed daily. Although there are many additional sources of discretionary calories, residents in South Los Angeles already exceed the maximum advisable discretionary calories just from the snack categories we assessed (Exhibit 2).

Other healthy behavior

In contrast to these highly significant differences in obesity and snacking, there are essentially no differences in fruit and vegetable consumption between South Los Angeles residents and others—in the proportion of the population having five servings of fruit or vegetables a day, average daily servings of fruit, or average daily servings of vegetables (Exhibit 2). There is no difference in the proportion of the population with at least 300 minutes of moderate or vigorous physical activity per week, although there is a bigger difference when using the lower threshold of 150 minutes (which is not quite statistically significant). However, there is one highly significant difference between the two areas: Residents in South Los Angeles watch more television.

Eating out

Residents in both areas report similar number of times eating out (Exhibit 3). We do not know the share of each type of outlet they patronize, only whether they eat at a particular type at least

once a week. There are two significant differences: Residents in South Los Angeles are significantly more likely to purchase food from a food cart or mobile vendor, and they are less likely to go to a sit-down restaurant. Most likely, more of their meals away from home are at fast-food outlets, but the measure is not sensitive to that. We also do not have measures of how often residents use vending machines or the frequency of visits to convenience and grocery stores, which commonly sell salty snacks, cookies, candy, and sweetened beverages (for which we see significant differences in consumption patterns).

Grocery shopping

Residents in higher-income tracts and South Los Angeles do not seem to shop at different types of stores, despite differences in the density of food outlets (Exhibit 3), which is consistent with the similarity in their fruit/vegetable consumption (Exhibit 2). However, there is a dramatic difference in how they get to the store, with far more residents in South Los Angeles walking or using public transportation; the latter is virtually unreported in higher-income areas.

Discussion

Regulating the food environment may be a promising direction for preventing obesity. However, based on our research findings, the one-year ordinance restricting fast-food outlets is not the right application. On a per capita measure, the South Los Angeles area has fewer, not more, fast-food chains than other areas. On a roadway-mile basis, the density in South Los Angeles is slightly higher (19 percent), but this is minor compared to the two- and fourfold differences in the density of convenience and small grocery stores. Media coverage, however, continues to focus on fast-food chains, which is a misleading picture of actual differences.⁸

Portion sizes

Of course, it is plausible that fast-food restaurants can contribute to obesity. Over time, the competition among fast-food outlets has led to the serving of increasingly larger portions of food (known as supersizing), although there has been some retreat from this practice more recently. However, the increase in portion size is not unique to fast-food establishments.⁹ A study of 300 restaurant chefs found that although 76 percent thought that they served “regular” portions, they actually served portions of steak and pasta that were two to four times larger than serving sizes recommended by the U.S. government.¹⁰

Fast-food versus sit-down restaurants

One of the stated goals of the ban was the hope that sit-down restaurants would replace fast-food outlets, reflecting the misconception that sit-down restaurants provide “healthier” food. At Romano’s Macaroni Grill, for example, the average lunch sandwich has 1,680 calories—more than the combined calories of three Big Macs; many dinner choices have more than 2,000 calories and cover the energy needs of a full day; the appetizers average 800 calories, and the desserts average 1,000 calories.¹¹

It is unlikely that food is healthier at the large number of chains that refuse to provide nutritional information. One independent food database shows that appetizers at Outback Steakhouse and Chili’s Bar and Grill exceed 2,000 calories—far in excess of anything offered by major fast-food chains.¹²

How much people eat is governed by portion sizes and time spent at the dinner table.¹³ If people stay longer at a sit-down restaurant, especially those that offer free baskets of bread or taco chips and free refills of sweetened beverages, they are bound to consume more calories.

Influence of external cues

Fast-food restaurants are not the only source—and are not even the major source—of too many convenient and cheap calories. For the most part, people are unaware of how much external cues influence what and how much they consume.¹⁴ Cues include anything associated with food (pictures, ads) and, of course, food itself.

Nonperishable candy, cookies, and sodas are also sold widely in nonfood establishments such as car washes, bookstores, hardware stores, laundromats, and office buildings, which do not need special food licenses nor are subject to health regulations or inspections.¹⁵ The ubiquitous availability of food can be overwhelming and artificially stimulate hunger and cravings for food, regardless of physiological needs.

Promising directions

Regulations on the horizon may be more likely to address the problem of overconsumption than the action in Los Angeles. Menu labeling is one such provision that provides information consumers need to make informed choices (the economist's view) as well as cues that help people restrain themselves from ordering portions that have too many calories (the psychologist's interpretation). Some localities have recently implemented such rules, and California passed a menu-labeling law in September 2008 that will take effect in 2011.¹⁶

Reducing the exposure to food cues and the immediate availability of snacks is likely to reduce consumption of discretionary calories, which constitute one of the nutritional differences between South LA and other areas in our data. If regulations of business density were desirable at all, a focus on convenience stores and small grocery stores would seem to be more directly related to differences between South LA and other parts of the city than the ban on fast-food restaurants.

But limiting the number of stores might not be a desirable policy, because of lack of transportation among residents, among other many factors. However, making sales of discretionary calories from snacks less profitable appears to be a promising direction. This underlies the City of San Francisco's proposed idea to levy fees on stores that sell sugar-sweetened beverages and the proposed beverage tax in the executive budget of the State of New York for 2010.¹⁷ The main argument against such taxes—namely, that they are regressive, given current consumption patterns—would be easily overcome by linking them to the needs of populations. In San Francisco, the money generated from the fees would recoup the public-sector costs of treating the effects of obesity.

The Los Angeles ordinance may be an important first, but it is not the most promising approach if obesity is the concern. Other interventions such as portion control or counteradvertising may be more likely to lead to change as far as diet and obesity are concerned. Evidence-based regulations that enable people to avoid poor diets and choose healthy ones are needed, but first there must be some changes that can be evaluated for effectiveness. Few exist, because the conceptualization of the obesity epidemic has so far focused on individual choice rather than on the role of environmental influences on diet and physical activity.

The Los Angeles ordinance is the first to explicitly recognize the need for regulations to create environments that facilitate better diets and to acknowledge that people's behavior is not independent of their environment. Although the actual policy was based on questionable premises, this represents an important conceptual step forward. Research has made it clear that frequency and saliency of food cues in the environment, the types of food available, and the portion sizes served are key issues that effective policies need to address.

Acknowledgments

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EXHIBIT 1

Density Of Food Outlets In Los Angeles, 2008

Type of establishment	Establishments per 100,000 residents				Establishments per 100 miles of streets				
	South Los Angeles	West Los Angeles	Los Angeles County average	South Los Angeles	West Los Angeles	Los Angeles County average	South Los Angeles	West Los Angeles	Los Angeles County average
McDonald's, Burger King, Wendy's, KFC, Taco Bell, Pizza Hut	8	8	10	16	8	8	10	8	10
Any fast-food chain	19	29	30	38	28	28	32	28	32
Restaurant	111	247	185	228	238	195	195	238	195
Ratio, line 2 to line 3	17%	12%	16%	17%	12%	16%	16%	12%	16%
Convenience store	8	7	7	17	7	8	8	7	8
Small food store	58	14	29	115	14	28	28	14	28
Medium-size food market	5	3	4	10	3	4	4	3	4
Large supermarket	3	10	8	7	9	8	8	9	8

SOURCE: Authors' calculations based on U.S. census and InfoUSA data.

NOTE: Because this is a full census, not a sample, no statistical test was performed.

EXHIBIT 2

Body Mass Index, Snack Calories, And Fruit/Vegetable Consumption Among Residents Of West Los Angeles And South Los Angeles, 2005/06

	Los Angeles County census tracts with median household income >\$40,000 (n = 598)	South Los Angeles (n = 202)	p value for difference
Percent obese	18.4%	25.5%	0.036
Body mass index (kg/m ²)	26.0	27.5	<0.001
No. of discretionary snack calories	239	330	<0.001
Calories from soda	67	112	0.003
Calories from salty snacks	53	47	0.42
Calories from cookies	32	49	0.002
Calories from candy	87	122	0.017
Calories from alcohol	52	42	0.29
Ratio of discretionary snack calories to recommended discretionary calories	0.98	1.31	0.003
Five servings of fruit/vegetables	49.6%	48.0%	0.70
Servings of fruit daily	2.6	2.5	0.44
Servings of vegetables	2.2	2.1	0.46
Percentage with at least 300 minutes of moderate/ vigorous physical activity weekly	28.2%	26.7%	0.69
Percentage with at least 150 minutes of such activity weekly	50.4%	43.1%	0.07
Hours of TV per day	2.6	3.2	<0.001

SOURCE: Authors' calculation based on RAND survey.

NOTES: Variables that differ significantly between residents in South Los Angeles and higher-income tracts in Los Angeles county ($p < 0.05$) are in boldface type.

EXHIBIT 3

Eating-Out Habits And Grocery Store Use Among Residents Of Los Angeles County And South Los Angeles, 2005/06

Eating out	Los Angeles County census tracts with median household income > \$40,000 (n = 598)	South Los Angeles (n = 202)	p value for difference
Number of times eating out in typical week	3.7	3.5	0.46
Percent eating at			
Food cart, food truck	3.3%	7.7%	0.02
Cafeteria	11.9	13.7	0.51
Fast-food restaurant	41.4	47.3	0.17
Other restaurant	58.4	31.3	<0.001
Supermarket	11.3	8.8	0.35
Convenience store	5.3	4.4	0.66
Grocery store use			
Neighborhood store	8.4%	8.5%	0.99
Supermarket	63.2	70.3	0.067
Specialty store	10.3	6.9	0.16
Superstore	16.6	13.9	0.36
Other	1.5	0.5	0.29
Transportation to store			
Car	94	74	<0.001
Public transportation	1.1	11.4	<0.001
Walk/bike	4.1	14.4	<0.001

SOURCE: Authors' calculation based on RAND survey.

NOTES: Variables that differ significantly between residents in South Los Angeles and higher-income tracts in Los Angeles county ($p < 0.05$) are in boldface type.