

Menu Labeling as a Potential Strategy for Addressing the Obesity Epidemic: A Health Impact Assessment

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Presenter Disclosures

Dr. Tony Kuo

- (1) The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:**

“No relationships to disclose”

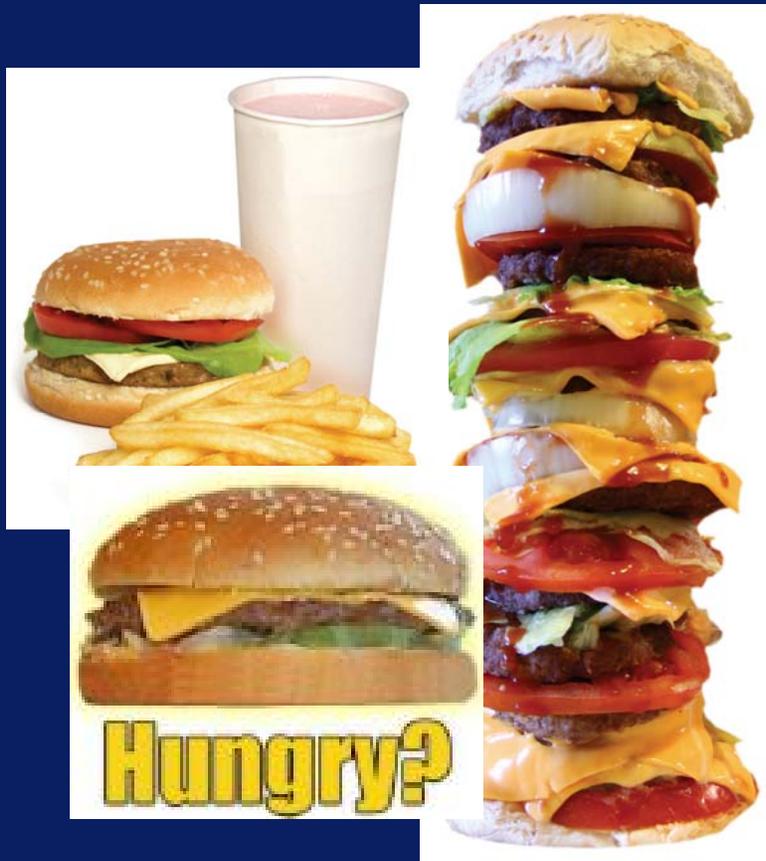


Why the Interest in Menu Labeling?

- Americans are eating out more than ever before--in LA County, one in four children 2-17 years of age ate fast food in the past day (2005 LA County Health Survey).
- Supersizing of restaurant food and beverage portions has become widespread.
- Fast food consumption linked with increased caloric intake and excess weight gain.
- Studies have shown that most people (even nutritionists) greatly underestimate the caloric content of restaurant menu items.
- Calorie and other nutritional information not generally available at the point of purchase in restaurants (in contrast to packaged food products which are required by the FDA to include nutrition information).



Menu Labeling = Changing the Cues



Old cues from food advertising



New cues from Subway in New York City



Menu Labeling Initiatives

- **Most of the action has been at the local level (e.g., New York City, Seattle-King County, San Francisco, Santa Clara County, San Mateo County, and Los Angeles County).**
- **California recently passed the first statewide menu labeling law (SB 1420)**
 - **will include restaurant chains with 20 or more outlets**
 - **will include menu boards and menus in the restaurant but not drive-thru's**
 - **will preempt local action**



But What is the Potential Impact of Menu Labeling on the Obesity Epidemic?

- **Limited information in the published literature.**
- **To address this gap, LA County's Department of Public Health conducted a health impact assessment (HIA) of menu labeling, as specified in the original version of SB 1420,* on the obesity epidemic in Los Angeles County.**
- **HIA is a combination of procedures, methods, and tools by which a policy, program, or project may be judged in terms of its potential effects on the health of a population (WHO, 1999).**

* The original version of bill included restaurant chains with 15 or more outlets statewide (not 20 or more as specified in the final version).



Step 1:

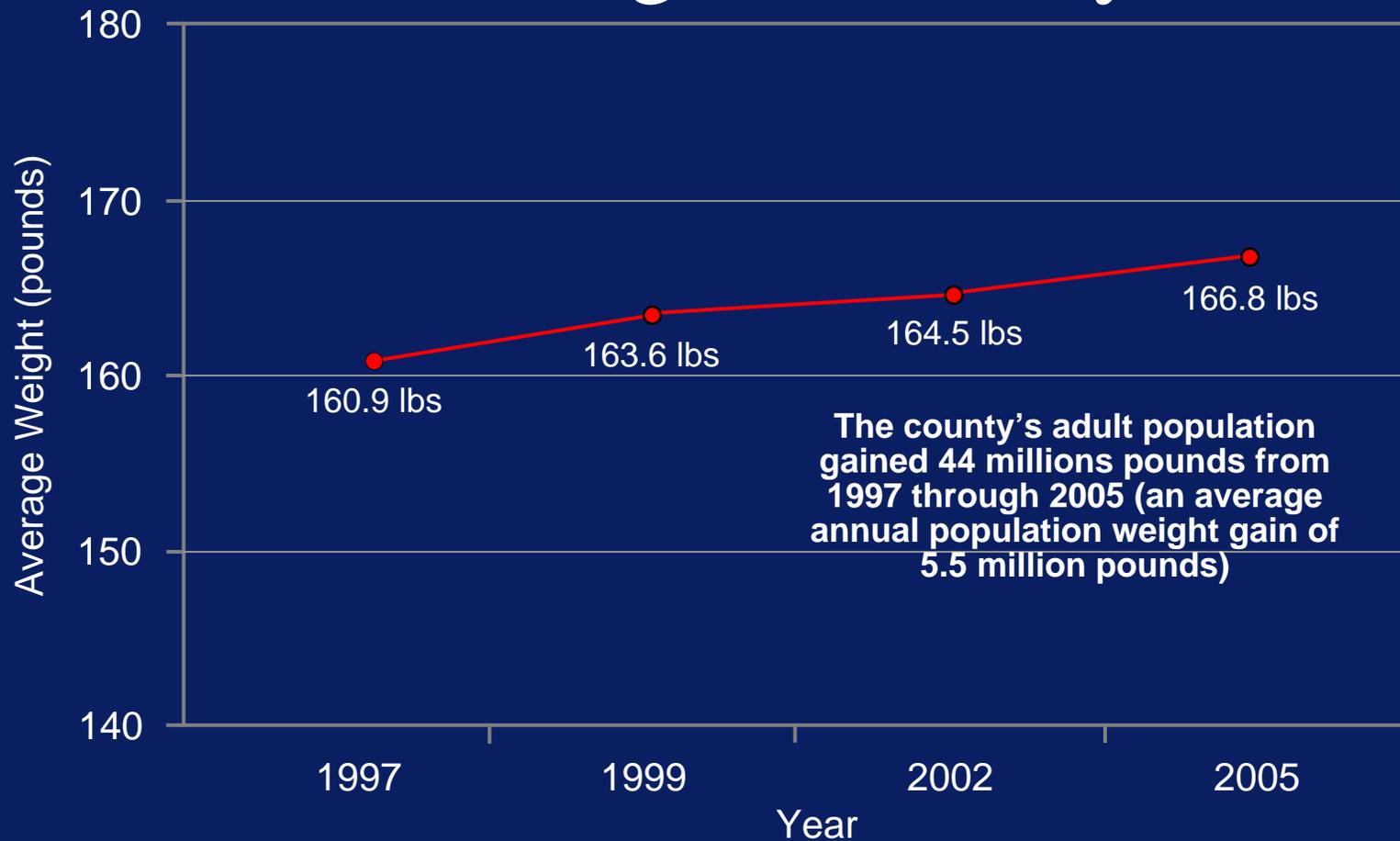
Quantifying the Obesity Epidemic



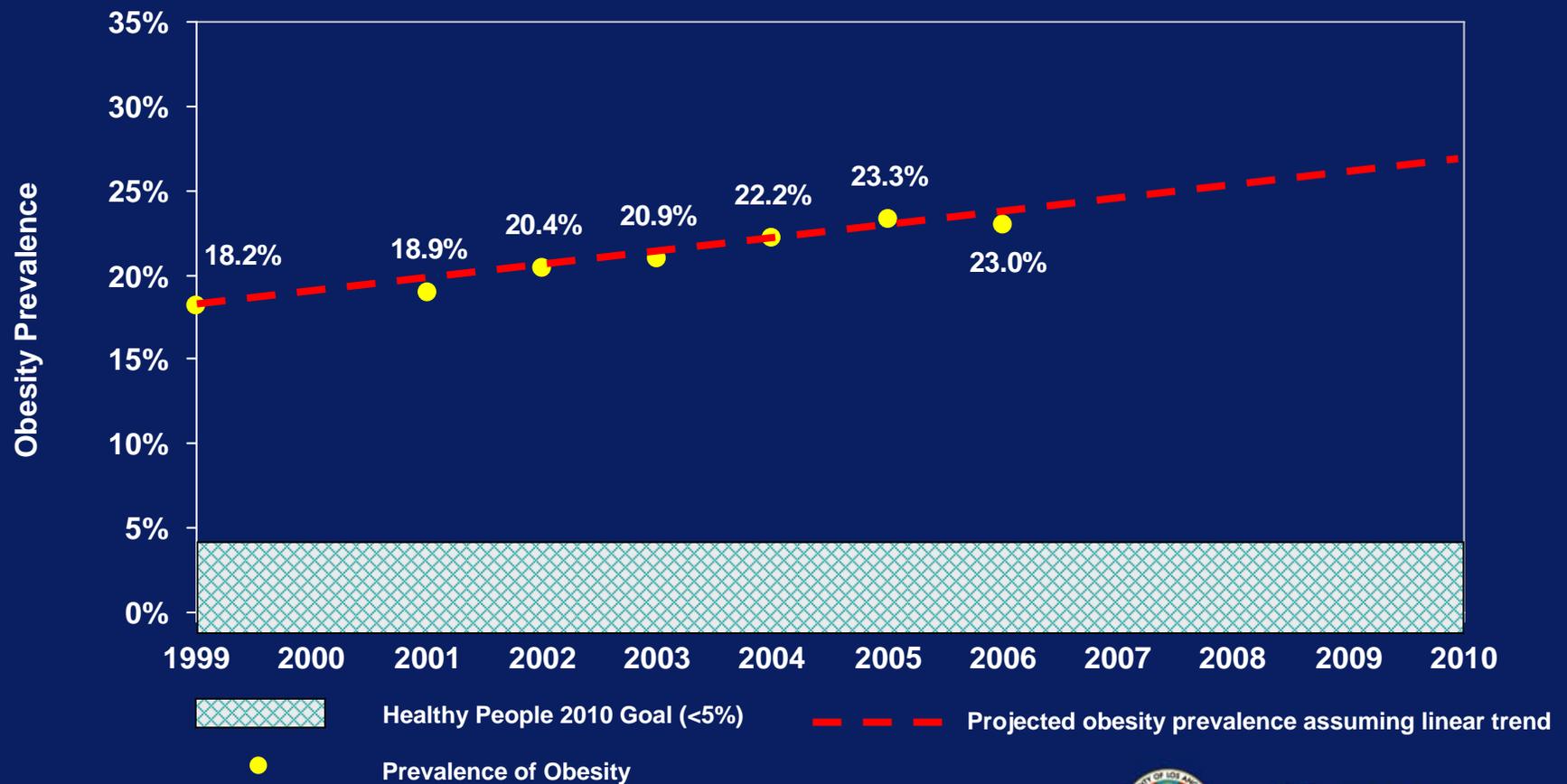
Prevalence of Obesity Among Adults in Los Angeles County, 1997-2005



Average Weight Among Adults in Los Angeles County



Prevalence of Obesity Among 5th, 7th, and 9th Graders in Public Schools, Los Angeles County, 1999-2006



Weight of Children Attending Los Angeles County Public Schools by Grade Level

Grade Level	1999		2006	
	n	Mean weight (lbs)	n	Mean weight (lbs)
5th	70,864	95.5	119,578	99.7
7th	57,824	119.1	111,109	123.1
9th	44,626	137.2	102,961	142.0
All three grades	173,314	114.1	333,648	120.5



Child Population Weight Gain Calculation

- Assumed that weight gain across all grade levels (K-12) comparable to the 5th, 7th, and 9th graders' weight gain.
- Children <5 years old excluded from the analysis.
- Data adjusted for grade level because 5th graders accounted for a higher percentage, and 9th graders a lower percentage of students in 1999 compared to 2006.



Average Annual Population Weight Gain in Los Angeles County

Metric	Estimate	Data Source
Average annual weight gain, ages 18 years and older (pounds)	5,500,000	Los Angeles County Health Survey
Average annual weight gain, ages 5 to 17 years (pounds)	1,250,000	California Physical Fitness Testing Program
Average total annual weight gain, ages 5 years and older (pounds)	6,750,000	



Step 2:

Quantifying the Impact of Menu Labeling on Population Weight Gain



Estimated Impact of Menu Labeling: Study Assumptions

- **Restaurant patrons who order reduced calorie meals will not compensate by increasing their food and beverage intake at other times during the day.**
- **These patrons will also not alter their physical activity levels in response to their dietary changes.**
- **Their resting metabolic rate will not change as a result of the small reduction in caloric intake.**



Estimated Impact of Menu Labeling

Item No.	Metric	Estimate	Basis
1	Total annual restaurant revenue, Los Angeles County	\$14,600,000,000	Statewide estimate from the National Restaurant Association pro-rated by Los Angeles County's percentage of the state population.
2	Large chain restaurant market share, 15 or more stores in California	51%	Extrapolated from NPG Group, 2005.
3	Large chain restaurant revenue, Los Angeles County	\$7,446,000,000	Calculated from items 1 and 2
4	Average price per meal in large chains (sit-down and fast food)	\$7.80	Based on 1992 national meal price estimates, adjusted for inflation
5	Annual number of meals served, Los Angeles County	954,615,385	Calculated from items 3 and 4
6	Annual number of meals served, ages zero to four years	36,500,000	Los Angeles County Health Survey (2005)
7	Annual number of meals served, ages five and older	918,115,385	Calculated from items 5 and 6
8	Percentage of reduced calorie meals selected as a result of menu labeling	10%	Extrapolated from data published by Burton, et al, American Journal of Public Health (2006)
9	Annual number of reduced-calorie meals	91,811,538	Calculated from items 7 and 8
10	Average amount of calorie reduction per meal	100	Extrapolated from data published by Bassett, et al, American Journal of Public Health (2008)



Estimated Impact (continued)

Item No.	Metric	Estimate	Basis
11	Total annual number of reduced calories attributable to menu labeling	9,181,153,846	Calculated from items 9 and 10
12	Calories per pound of weight	3,500	American Dietetic Association Complete Food and Nutrition Guide, second edition (2002)
13	Total annual pounds of weight loss attributable to menu labeling	2,623,187	Calculated from items 11 and 12
14	Average annual weight gain, ages 18 years and older (pounds)	5,500,000	Calculated using data from the 1997 and 2005 Los Angeles County Health Survey
15	Average annual weight gain, ages 5 to 17 years (pounds)	1,250,000	Calculated using data from the 1999 and 2006 California Physical Fitness Testing Program
16	Average annual weight gain, ages 5 and older (pounds)	6,750,000	Calculated from items 14 and 15
17	Percentage of population weight gain averted due to menu labeling	38.9%	Calculated from items 13 and 16



Results (Sensitivity Analysis)

Average Amount of Calorie Reduction	Percentage of Patrons Who Purchase a Lower-Calorie Meal as a Result of Menu Labeling				
	10%	20%	30%	40%	50%
25	9.7%	19.4%	29.1%	38.9%	48.6%
50	19.4%	38.9%	58.3%	77.7%	97.2%
75	29.1%	58.3%	87.4%	116.6%	145.7%
100	38.9%	77.7%	116.6%	155.4%	194.3%
125	48.6%	97.2%	145.7%	194.3%	242.9%
150	58.3%	116.6%	174.9%	233.2%	291.5%
175	68.0%	136.0%	204.0%	272.0%	340.0%
200	77.7%	155.4%	233.2%	310.9%	388.6%

Green — population weight gain averted (net weight gain still exceeds net weight loss)
Yellow — population weight gain averted (net weight loss now exceeds net weight gain)



How Feasible Are These Calorie Reductions?

- Analysis of available data from three fast food chains indicate that changing:
 - from a large to medium soft drink would save 95 calories
 - from a large to medium order of french fries would save 163 calories
 - from a double meat to single meat patty hamburger would save 244 calories



Conclusions

- Small reductions in calories consumed at large chain restaurants by a relatively small percentage of patrons have the potential to significantly reduce the obesity epidemic, as measured by population weight gain.
- Impact on population weight gain could potentially be greatly enhanced with public education, pricing incentives, or other strategies to increase the percentage of patrons that order reduced calorie meals.
- Potential indirect benefits
 - increased public awareness regarding portion size, potentially leading to social norm change toward smaller portions
 - create incentives for large chain restaurants to offer lower calorie menu options



Reflections on the California Legislative Experience

- Passage of the state menu labeling law required sustained, focused, and strategic public health advocacy to overcome powerful opposition by the restaurant association and other business interests.
- Even with these efforts, compromises were made at the end that displeased some local jurisdictions.
- The passage and proposal of local menu labeling ordinances in cities and counties created significant pressure for state level action.
- HIA was a critically important tool for demonstrating the potential sizeable public health benefits of a menu labeling law; timing of the release of the HIA report was critically important.



Thanks!

- Report:

Simon, P, Jarosz CJ, Kuo T, Fielding JE. Menu Labeling as a Potential Strategy for Combating the Obesity Epidemic. A Health Impact Assessment. Los Angeles County Department of Public Health, 2008.

Link:

http://publichealth.lacounty.gov/docs/Menu_Labeling_Report_2008.pdf

