

ADDRESSING CHILDHOOD OBESITY IN MEXICO: A CASE NARRATIVE

The mid-afternoon bell rings at a local high school in the sprawling Coyoacán district of Mexico City, signaling the beginning of the recess period. There are no designated areas for physical activity during recess, though some young boys have put together a makeshift soccer game in an empty lot across from the school campus. Many students, like Hector Gonzalez, rush to the campus snack bar to grab chocolate candy bars, bags of chips, fried *empanadas*, all washed down with sodas or sweetened fruit drinks. After school, students head home, confronted by several sidewalk vendors selling cakes, ice cream, french fries, and other snacks.

Hector, like many of his classmates, is quite heavy for his age. Tall and round, he is technically considered obese, but he doesn't really think much about this. He doesn't even know what the word means, though he's heard it once or twice. His mother tells him that he is a "growing boy", and his peers don't say anything about his weight. Although Hector is sometimes embarrassed by his size, he knows that he will one day grow tall and his weight will "disappear" naturally. In the meantime, it is just too hard to resist all of the snacks offered at school. After all, they taste great! And it just a few harmless snacks, anyway. No big deal.

ADDRESSING CHILDHOOD OBESITY IN MEXICO: CASE SUMMARY

The Ministries of Health and Education in Mexico have joined together in an effort to address the rising trend of obesity in their country. The joint campaign is part of a national strategy aimed at combating obesity announced by President Felipe Calderón in early 2010 in response to the alarming increase in rates of obesity in Mexico over the past 30 years.¹ This initiative, known as the National Agreement for Nutrition and Health, broadly outlines ten public health priority objectives designed to mitigate the escalating obesity epidemic in the country (**Appendix A**). Objectives include promotion of physical activity in school, home, and the workplace; decreased consumption of saturated fats, trans fats and sodium; increased intake of fruits and vegetables; promotion of exclusive breastfeeding for infants up to 6 months of age; increased access to and promotion of water; and provision of educational programs to understand food labels and portion sizes.¹

Included as part of the national strategy are specific policies meant to decrease rates of obesity in primary and secondary school-age children. There are plans to restrict access to certain foods, including soft drinks, sweets, and other processed snacks, in schools or on school grounds. Also, school kitchens will no longer be able to serve fried foods and instead must offer low-fat versions of popular dishes like tortas and tacos. While these new regulations represent a step in the right direction, there are numerous challenges to their implementation. In addition, corporate interests are likely to leverage their power and influence against the widespread implementation of such strategies. Public opinion on these issues is mixed, with some groups calling for immediate implementation of such strategies while others actively oppose such drastic lifestyle changes.

The National Public Health Institute in Mexico (INSP) has been chosen as the coordinating agency for the implementation of the new regulations, and your team has been assigned to an childhood obesity taskforce for Mexico City, Mexico. Your assignment as members of the task force is to determine the best strategy to reduce the health and socio-economic burdens of obesity among children in the capital of Mexico City and to determine the costs and tradeoffs involved. Each team member of the task force brings different expertise and skill sets from his or her individual discipline,

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which will contribute to the range of perspectives ultimately presented in the group's final recommendations.

Your team's target time frame is to demonstrate the success of your strategy over a period of 5 years. The maximum amount you are permitted to request is 0.01% of Mexico City's annual Gross Domestic Product (\$390 billion in 2008). Thus your total budget for this project is 39 million U.S. dollars (~ 468,727,000 Mexican pesos). You may choose to divide your budget equally amongst the five-year period or as a single sum to accomplish your goals. You may choose present your budgetary figures in U.S. dollars or Mexican pesos. Requesting the maximum budgetary allotment is not obligatory. You may choose to propose a set of recommendations that require lower or no costs.

On Saturday, February 19, 2011, you will present your proposal to a group of representatives from city government, school officials, and representatives of Mexico City's business community. Your response must take into account the various groups and stakeholders affected by your decisions, including business interests, educators, health experts, and the concerns of the population as a whole.

CASE RATIONALE & BACKGROUND

Once considered a problem that existed almost entirely in the developed world, childhood obesity has increasingly become more prevalent in lower and middle income countries as well. It is estimated that globally, 200 million school aged children are either overweight or obese, with 40-50 million of those children classified as obese.²

Health Consequences of Childhood Obesity

The consequences of childhood obesity encompass both medical and psychosocial problems that not only have an immediate impact on a child's health but can also have significant bearing on health in adulthood. Medical complications from childhood obesity include increased insulin resistance, hypertension, Type 2 diabetes, dyslipidemia, sleep apnea, osteoarthritis, cancer, and progressive and chronic endothelial damage, which can develop into atherosclerosis.³ Psychosocial problems associated with childhood obesity include low self-esteem, depression, and eating disorders. Additionally, studies have shown that overweight and obese individuals face more societal discrimination.⁴

CHILDHOOD OBESITY IN MEXICO

With the exception of the last two decades, malnutrition was a much larger concern in Mexican school children than obesity. However, over the past two decades, there have been dramatic rises in obesity rates across all age groups in Mexico. The last National Nutrition and Health Survey administered in 2006 to school-age children (aged 5-17) found that 29% of girls were either overweight or obese and 28.1% of boys were either overweight or obese.⁵ Overweight and obesity were defined according to Body Mass Index (BMI) standards established by the International Obesity Task Force.⁶

Mexico at a Glance⁷

- Federal republic governance structure (31 states and 1 federal district)
- Population of 112,468,855 (July 2010 est.)
- Urban population accounts for 77% of total population
- Roman Catholic 76.5%, Protestant 6.3% (Pentecostal 1.4%, Jehovah's Witnesses 1.1%, other 3.8%), other 0.3%, unspecified 13.8%, none 3.1%
- Mexico's economy is the 11th largest in the world, yet there are still significant gaps in income equality

Mexico City at a Glance

- Federal district and capital of Mexico
- The population of Mexico City proper is estimated at 8.84 million people. Including the TTMexico City metropolitan area, the population is 19.8 million people, making it the largest metropolitan area in the Americas⁸
- Mexico City is the 8th richest city in the world, with a \$390 billion Gross Domestic Product (GDP) for 2008, accounting for 21% of Mexico's GDP⁹

Economic Costs of Obesity

Economic studies done in Mexico suggest that the health consequences of obesity are already straining the Mexican health care system considerably. It is estimated that between 2000 and 2008, spending on medical care for diseases associated with overweight and obesity in Mexico increased by 61%, accounting for 33.2% of federal spending in 2008 on health services per person.¹⁰ There are also indirect costs related to obesity that are incurred due to lost worker productivity, lost wages, and future earnings lost because of premature death. One analysis estimated that in 2005, the direct and indirect costs for diabetes alone was \$317 million USD.¹¹

CHILDHOOD OBESITY IN MEXICO CITY

Childhood Obesity Trends in Mexico City

According to the 2006 Mexican National Health and Nutrition Survey, the highest rates of childhood obesity are found in Mexico City with 33.2% of children (aged 5-11) being classified as either overweight or obese. This represents a significant increase in overweight and obesity from the 1999 Mexican National Health and Nutrition Survey that found 26.6% of children (aged 5-11) in Mexico City to be either overweight or obese.¹²

Obesogenic Environment

To provide the most feasible and sustainable set of recommendations for Mexico City, it is important to examine the factors driving childhood obesity. Over the last twenty years, socio-cultural conditions in Mexico have shifted to favor an “obesogenic” environment, defined as an “environment that promotes increased food intake, unhealthy foods, and physical inactivity”.¹³ In the 1999 National Nutrition Survey, dietary intake for school-aged children was evaluated using a 24-hour dietary recall. Results from the survey indicate that less than 8% of children are eating the recommended servings of fruits and vegetables. Additionally, the survey found that children living in Mexico City and the northern region of Mexico had the highest levels of fat intake and the lowest levels of fiber intake.¹⁴ See **Appendix B** for region-specific estimates of overall caloric intake as well as macro and micronutrient intakes according to the 1999 National Nutrition Survey.¹⁴

While there is limited empirical evidence supporting this claim, there is anecdotal evidence supporting that overweight children are seen as healthy children in some areas of Mexico. Given that prior to the last two decades, the primary pediatric concern was malnutrition, it is not surprising that parents might not perceive an overweight or obese child as unhealthy.¹⁵ In a study done in Xalapa, Veracruz, researchers found that half of parents that had obese children did not perceive their children to be obese or unhealthy.¹⁶ Due to the role of family values in determining eating patterns, involving the family should be an important component in any strategy to reduce childhood obesity.

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Another major contributor to childhood obesity in Mexico is the school environment, particularly in urban areas such as Mexico City. In Mexico, basic education is divided in three stages: primary school (*primaria*), comprising grades 1-6; junior high school (*secundaria*), comprising grades 7-9; and high school (*preparatoria*), comprising grades 10-12. The following issues have been identified as contributing to an obesogenic school environment in Mexico City:

- Lack of potable water in schools
- Bottled water and sugar-sweetened beverages sold at schools are priced similarly
- Availability of unhealthy foods on school grounds as well as the street food vendors surrounding the schools
- Physical education is mandated by the government twice a week, but often does not happen due to lack of space, equipment, and low motivation of teachers to promote physical activity; a recent study found that primary school students in Mexico City exercised, on average, less than 1 hour per week during school hours ¹⁷
- Many schools do not have cafeterias, instead relying on street vendors to provide the food for the children

FEDERAL FOOD ASSISTANCE PROGRAMS IN MEXICO

The Mexican government offers several food assistance programs, including:

- Progresa (Programa de Educación, Salud y Alimentación)
- DICONSA (Distribuidora Compañía Nacional de Subsistencias Populares (CONASUPO))
- FIDELIST (Fideicomiso para la Liquidación al Subsidio de la Tortilla)
- LICONSA (Leche Industrializada CONASUPO)
- DIF (Sistema Nacional para el Desarrollo Integral de la Familia)

As of 2000, approximately one in five Mexican citizens were being supported by at least one federal food assistance program. ¹⁸ These programs were created to ensure that children, in particular, have access to nutritious foods.

SUMMARY OF ASSIGNMENT

The objective of each team is to propose feasible, effective and culturally appropriate strategies to address the challenges of the new regulations and to provide an evidence-based plan for moving forward with the implementation of the new regulations in Mexico City. You are permitted to request a maximum 0.01% of Mexico City's GDP (\$390 billion in 2008) to accomplish your goals. The strategy should be sustainable, financially justifiable, and acceptable. You may propose any combination of obesity prevention programs, media campaigns, school-based and/or family-based interventions, etc. You should define and justify your choice of target population, i.e., are you only focusing on adolescents or on all children as well as your choice of intervention(s). On Saturday, February 19, 2011, you will present your proposal to representatives of city government, school officials, and representatives of Mexico City's business community. This group will determine which of the strategies proposed will be most suitable for city-wide implementation throughout Mexico City beginning in January, 2012.

Specific questions you might consider:

What group(s) might you link with to implement your proposed program(s)?

How will you monitor and evaluate your program components?

How would you respond to powerful corporate interests which may lose money and/or consumers when these policies go into effect?

How will you get teachers, parents, kids, and food vendors on board with your proposed program(s)?

How would you convince parents who do not perceive that their child is overweight/obese or do not consider their dietary habits as unhealthy?

How would you scale-up any pilot projects or programs that work well?

How to sustain effective programs beyond the proposed budget period?

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