



# "Diabetes" Prevention via Promoting Healthy Habits in School and at Home: a Public-Private Partnership

C. Guthreau, A. Castaneda, M. Arce, D. Velazquez, A. Avila, J. Mora

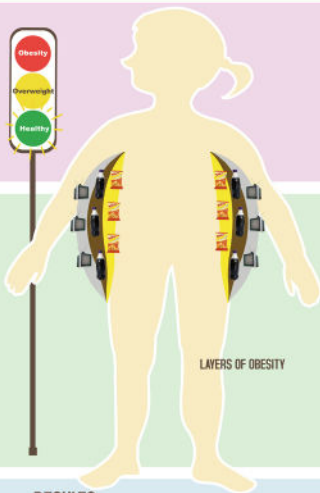
Johnson & Johnson

ISEM  
INSTITUTO MEXICANO DE SEGURIDAD E HIGIENE



SerBien

PROJECT  
WIDE  
FOUNDED IN 1998



## BACKGROUND

Type 2 diabetes is the leading cause of mortality in Mexico, with falling age of onset. Mexico is also the global leader in childhood obesity and national studies report entering puberty obese leads to an 80% likelihood of life-long obesity.

Project HOPE developed "Healthy Habits for a Healthy Weight" to prevent, detect and treat obesity and type 2 diabetes in children, raising awareness among teachers, parents, and government health workers, with support from Johnson & Johnson.

## METHODS

Four generations of 3rd graders (9-10 yrs old) have been targeted/tracked over four years (3,445 total). Baseline included self-reported status on 3 habits and clinical data collected in a 2-tier process: BMI and BP for all; FBG and triglycerides for only overweight/obese or hypertensive/pre-hypertensive kids.

Children participated in an educational intervention during 3rd grade, with annual follow up on indicators to gauge effect. The intervention encouraged them to "peel away" 3 layers of unhealthy habits (see image) replacing high fat "junk food" with 5 fruits and vegetables/day; replacing sugary sodas and juices with 2 liters of water/day; and replacing excess TV and video games with 60 minutes of exercise/day. Traffic lights depicting red, yellow and green levels of habits and BMI facilitated communication and goal setting among children, teachers, parents and health workers.

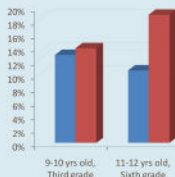
## RESULTS

In Year 1, no one in the initial cohort (of 1248 children) drank water daily or was active for 60 minutes per day at baseline. After 2.5 years, 42% reported exercising at least 1 hour and 77% reported drinking at least 1 liter of water per day. Over the same period, rates of obesity decreased from 13 to 10.7% while a federal screening initiative by the National Institute of Nutrition found average obesity rates rose in the same region, among same aged children from 14 to 19% (see graph). Similarly, 138 cases of pre-diabetes detected at baseline fell to 30 cases over 2.5 years. All remain in clinical control at local health centers along with 3 diagnosed cases of type 2 diabetes.

Intervention activities changed structural conditions in schools, improving access to healthier food, drink and exercise options. Students shared what they learned at home through guided assignments and parents reported family habits and BMI similarly improved, especially among mothers and siblings.

### Child Obesity Rates

Project HOPE participants vs General population  
Ciudad Nezahualcoyotl, Mexico



■ Intervention Group ■ General Population

## CONCLUSIONS

Children can be effective educators and catalysts for change – in school and at home.

Targeting children is key to addressing growing obesity and diabetes rates, engaging both health and education sectors to provide families, teachers and health workers with effective prevention, detection and treatment tools.

