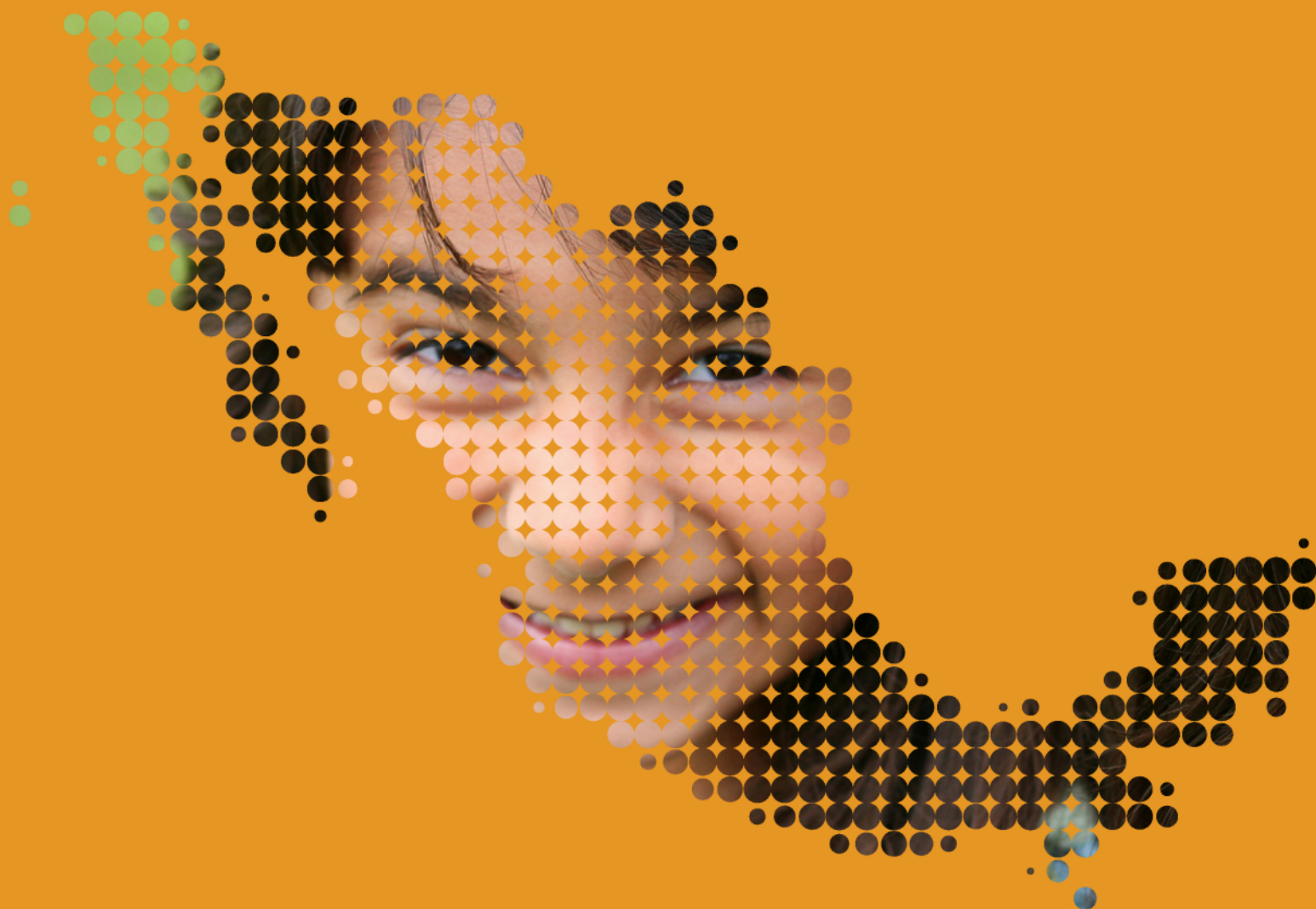


# THE MEXICAN REPORT CARD

## ON PHYSICAL ACTIVITY FOR CHILDREN AND YOUTH

2012



LONG FORM

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## INTRODUCTION

Mexico, like many first world and developing countries, has experienced an important transformation in the lifestyle of its population. The increasingly sedentary nature of work, changes in transportation, increasing urbanization of cities, changes in the types of recreational activities - especially for children and young people - has resulted in a marked decrease in the physical activity levels of Mexicans. Today, according to the latest data from national surveys in Mexico, children and young people get 70% less physical activity than they did 30 years ago (Olaiz Fernández et al., 2006). Simultaneously, the country is experiencing a nutritional transition where both malnutrition and increasing obesity co-exist. The replacement of traditional diets with energy dense foods and beverages high in fat and sugar and low in fiber has contributed to an increase in overweight and obesity above the 70% mark in the Mexican population (Gómez et al., 2006). From a public health perspective, this is contributing to an alarming increase in non-communicable diseases, which at present represent the main causes of disease and death in the country. Failure to address these issues might overwhelm the public health system in the coming years.

An important point in terms of strategy is to recognize that even when the country's population is changing, Mexico's future remains in the hands of its children and youth. There is evidence showing that prevention is more effective than treatment when it comes to obesity. Increasing physical activity levels and promoting healthy diets can be an important investment for a healthier future for the Mexican people. Physical activity habits developed during childhood are associated with physical activity and healthy eating habits in adulthood (Robertson-Wilson et al., 2003).

One of the first steps that should be taken to promote action on this issue is to have better data that carefully measures the level of physical activity of children and youth. Quality physical activity data would help to establish specific strategies such as the formation of public policies, the promotion of preventive programs and the identification of research priorities. The Mexican Report Card follows a Canadian Report Card Model that has been used successfully as a tool to increase awareness - across many sectors including government, non-governmental organizations, communities, practitioners, and researchers - of the problem of physical inactivity among children and youth (AHKC 2005-2011). Furthermore, the Mexican Report Card will provide a knowledge foundation to inform subsequent interventions and research, and enhance advocacy capacity in the country. Periodic production of the Mexican Report Card will allow trends to be monitored and intervention strategies to be assessed.

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## ACRONYMS

CAMBIO	Canada-Mexico Battling Childhood Obesity
CONADE	National Sports Commission
ENSANUT	National Health and Nutrition Survey
IMSS	Mexican Social Security Institute
MVPA	Moderate- to vigorous-intensity physical activity
PE	Physical Education
PNAF	National Physical Activation Program
SEP	Ministry of Education
SINADE	National Sports System
UNEMES	Medical Speciality Units
WHO	World Health Organization

## WHY IS PHYSICAL ACTIVITY IMPORTANT FOR CHILDREN AND YOUTH IN MEXICO?

Physical activity promotion has become a public health priority worldwide. According to the World Health Organization (WHO), unhealthy diets and physical inactivity are two powerful risk factors for major chronic degenerative diseases such as type 2 diabetes, certain types of cancers and cardiovascular diseases (Berlin et al., 1990; Slattery, 1996; Hu et al., 2001). Sedentary behavior is associated with 1.9 million deaths around the world annually (WHO, 2002). These unhealthy behaviors have reached all segments of the population including children and youth whose levels of physical activity have decreased in both developed and developing countries.

The benefits of physical activity as well as the risk of a sedentary lifestyle are widely documented in all sectors of the population (Centers for Disease Control and Prevention, 2011). Physical activity is a fundamental contributor to achieving and maintaining energy balance and a healthy weight. Regular physical activity has been related to primary and secondary prevention of several chronic diseases, especially coronary heart disease, hypertension, type 2 diabetes mellitus, colon cancer, breast cancer and strokes (Garrard et al., 2004). While cardiovascular fitness and weight control are among the most evident health benefits of physical activity, skill development, improved muscular strength, muscular endurance, flexibility and bone structure are additional benefits (Wankel et al., 1990; Côté et al., 2002).

In addition to the physical benefits of physical activity, an active lifestyle can lead to social, cognitive and emotional benefits. Furthermore, researchers have argued that activities such as sports foster positive psychological and emotional development due to the possibility of experiencing challenges, fun and enjoyment while increasing self-esteem, academic performance and decreasing stress (Tremblay et al., 2000). Physical activity has also been associated with improved psychological well-being, reduced depression and anxiety levels, and increased confidence and a healthy body image (Jorm et al., 2004; Kantomaa et al., 2010). These physical and psychosocial outcomes of physical activity are especially important for children and youth.

Physical activity is essential for optimal development in children and youth as it facilitates normal growth and development in children and adolescents. Finally, physical activity habits developed during childhood are associated with physical activity habits in adulthood, helping to prevent the negative effects of a sedentary lifestyle. The latest data from the National Survey in Mexico shows that our kids are significantly less active than 10 years ago (Olaiz Fernández et al., 2006). They are also exhibiting high levels of overweight and obesity (Barrientos Pérez et al., 2006; Gómez et al., 2008; Morales-Ruán et al., 2009). According to information released by the Presidency of the Republic, about four and a half million children in Mexico between 5 and 11 years old are overweight or obese, which makes us the country with the highest childhood obesity rate in the world. The trend in the adult population is similar; prevalence of overweight and obesity in Mexico has tripled since 1980. This has raised alarms in the Health Sector because if this trend continues, the economic sustainability of the Sector itself is at risk (Calderón, 2010).

Therefore, promoting active lifestyles and healthy eating has become a major issue for Mexicans, especially if it begins with fostering active habits in children and youth, thereby foreseeing a better future in terms of public health for the Mexican people.





## CATEGORIES ANALYZED IN THE MEXICAN REPORT CARD

This Report Card is a comprehensive review of the evidence available on physical activity levels among children and youth in Mexico and of the factors related to promoting physical activity in the country. Because this is a first approach towards compiling the most pertinent existing data, a small number of indicators were chosen for analysis. The primary category, as seen in Figure 1, is the level of physical activity among Mexican children and youngsters. Contributing indicators for this category are screen time (for example: television, computers and video games) and active transportation. Furthermore, in keeping with the Canadian model, those factors that are considered to exert influence as physical activity facilitators and promoters, such as schools, the community and built environment as well as public policy, were explored.

A key finding is the significant lack of information about this important public health issue and its associated factors. The indicators have not been extensively explored in Mexico and most of the available data are from samples of children and youth from Mexico City. Little data were found at the national level with direct measurement methodology or large sample sizes. Nevertheless, the available data have been used in this Report Card to provide a general picture of the levels of physical activity in Mexican children and youth.

The Report Card's main finding is that physical activity levels are far from the desired levels suggested in international guidelines (World Health Organization, 2010). The opportunity to be active inside and outside school is limited by infrastructure and economic challenges/barriers. The priority for physical education spaces in public schools seems to be low and in many cases the recommended time set aside for this kind of activity is not respected.

Important gaps in research emerge from this first attempt to compile all the national data. National-level surveillance data on physical activity and a range of health indicators are needed to determine the overall prevalence of physical inactivity in Mexican children and its impact on related health outcomes. A summary of the main information obtained for each indicator is shown in the above figure and is elaborated on in the following pages.



**Figure 1. Main Indicators Reviewed in the Mexican Report Card.**



## PHYSICAL ACTIVITY PARTICIPATION

### Key Findings

The indicator with the most available information at the national level is the physical activity levels of children and youth. According to the 2006 National Health and Nutrition Survey (Olaiz-Fernández et al., 2006), many Mexican children and youth are inactive. As can be seen in the chart below, 35.2% of adolescents in Mexico are active, 24.4% are moderately active and 40.4% are inactive (Figure 2). According to the survey criteria, those adolescents who reported doing moderate-to-vigorous intensity physical activity (MVPA) at least seven hours a week were classified as active, those who reported doing less than seven hours and at least four hours a week were classified as moderately active, and those performing less than four hours per week of MVPA were classified as inactive. Another national survey that provides important information about physical activity levels of young Mexicans is the National Youth Survey (2005). Its data show that 60% of Mexican youth (between 12 and 29 years old) do not practice physical activity in contrast to the 38.9% that do. Boys perform more physical activity than girls. Therefore, almost 40% of youth perform some physical activity, 23.6% do it everyday, 36.6% three times a week and 32.7% at least once a week, so around 60% of young Mexicans do some kind of physical activity at least three times a week. On the other hand, a study by Colin et al., (2009) of 1,239 children aged 8-10 years from Mexico City observed that only 14.5% of the sample reported participating in MVPA the day before. In another study using 24-hour recall data, children aged 10-14 years from Mexico City reported performing approximately 3.2 hours per day of MVPA, 0.5 hours a day of vigorous physical activity and 1 hour a day walking (Hernández et al., 2000). Similar results were found by Hernandez, et al. (1999) with 712 children between the ages of 9 and 16 years from a low and middle-income town in the Mexico City area. This study discovered that the average time spent doing MVPA was 1.3-1.8 hours per day; which was further broken down as 0.9-1.1 hours a day of vigorous physical activity and 0.6 - 0.7 hours a day of moderate activity. Most of the time children were performing activities with low energy expenditure.

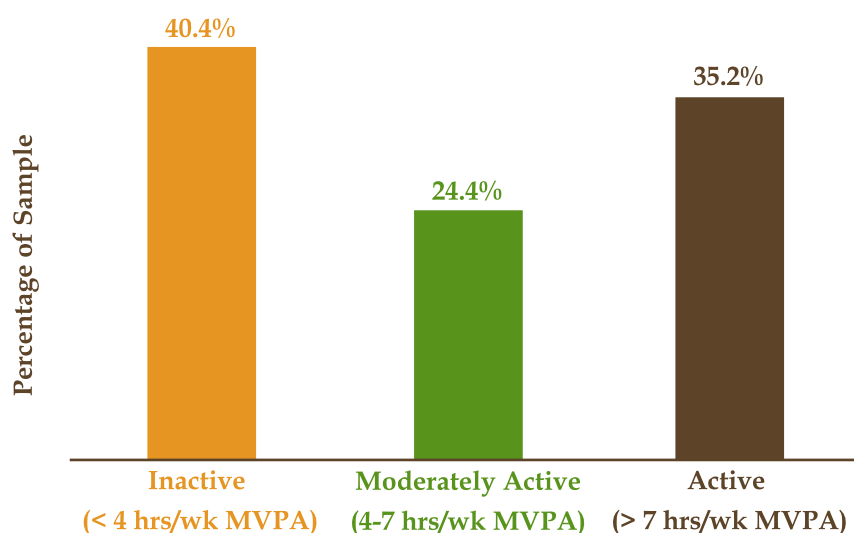


Figure 2. Proportion of Mexican Children and Youth Inactive, Moderately Active and Active (Source: Olaiz-Fernández et al., 2006).

In the agricultural region of the Valley of Oaxaca in southern Mexico, 270 students from 4th, 5th and 6th grade of elementary school and some from middle schools were analyzed to measure their physical activity levels. The results show that between 21 - 25% of the students in elementary schools participate in vigorous physical activity outside the school, especially on weekends. Meanwhile 17 - 29% of middle school students report levels of vigorous physical activity (Malina et al., 2008).

Based on the gathered information, we can conclude that physical activity levels in Mexican children and youth seem to be, on average, lower when compared to other everyday activities such as doing homework, watching TV and sleeping.

### Gender Differences

Some studies show differences between genders. Data from the 2006 ENSANUT survey of a sample of adolescents aged 10 to 19 years shows that more boys are active (63.4%) than girls (58%). In the study by Morales and colleagues (2009), 32.9% of the girls were classified as active whereas 36.6% of the boys of the sample were considered active. The same trends were found in a study of Mexican children and youth living in the United States (Hernández-Valero et al., 2007). While 16.2% of boys were active, only 7.5% of girls were considered active. In children aged 9-16 years from middle and lower socioeconomic areas of Mexico City, the boys averaged 2.1 hours per day of MVPA while girls averaged 1.6 hours (Hernández et al., 1999).

### Age Differences

Data from other countries show that physical activity levels tend to decrease with age (AHKC 2005-2011). There is a lack of data examining the age-related changes in physical activity in Mexican children and youth. A national study of females aged 12-49 years showed that as age increases, the population becomes less active. In those aged  $\leq 20$  years, the percentage who report playing sports is 34.2%, decreasing significantly to 15.4 % in the following age range (21 to 30 years), and to 14.1% in the range older than 31 years. The conclusion of this study is that physical activity declines with age, especially during the transition to adulthood (Hernández, 2003).







## SCREEN TIME

### Key Findings

A variety of different data sources suggests that Mexican children and youth accumulate considerable amounts of screen time each day. International recommendations suggest that school-aged children and youth should accumulate no more than 2 hours of recreational screen time per day (Tremblay et al., 2011). The main results obtained from different studies carried out at national and local levels related to screen time are shown in Table 1. According to the information provided by ENSANUT in 2006, over 50% of adolescents spent more than two hours per day watching television; this translates into more than 14 hours a week in front of screens. Furthermore, approximately a quarter of adolescents sampled spent more than three hours per day in front of screens. These data are similar to studies carried out in Mexico City where the average screen time (e.g., watching TV, videogames, and videos) is even higher (Colin et al., 2009; Hernández et al., 2000; Hernández et al., 1999).

### Gender Differences

The gender differences in screen time in Mexico are not very clear. The National Survey reports a larger percentage of boys spending more hours of screen time than girls (Olaiz-Fernández et al., 2006). The same trend is seen in the Hernández et al. studies (1999, 2000). Nevertheless, opposite results were reported by Colin-Ramírez et al. (2009) where the proportion of girls spending more time watching TV or playing videogames is higher than the proportion of boys.

### Socioeconomic Differences

There is some evidence suggesting that socioeconomic factors are related to children's type of screen time (Hernández et al., 1999). In a Mexico City sample, Hernández et al. (1999) found that children from low income towns spend more time watching TV programs (2.5 hours per day) than children from middle-income towns (2.2 hours per day). On the other hand the same study shows that children in middle-income towns present higher mean time dedicated to total video (4.3 hours per day) and playing video game (2.1 hours per day) than low income towns (3.8 hours per day and 1.3 hours per day respectively). There is a very strong TV culture in Mexico and most families have at least one TV, even those who are struggling financially. (Video games and computers are considered a privilege for people from low socioeconomic situations.)

### Urban vs. Rural Differences

We also found differences in screen time trends between urban and rural communities. Data from indigenous communities in the southern state of Oaxaca (Malina, et al., 2008) show that time watching television by youth is slightly less than television time for youth 9-16 years old in Mexico City (Hernández, 2000). Only 5 boys and no girls in the indigenous community reported playing video games, and viewing videos was not reported at all. This is in contrast to the time spent viewing videos and playing video games by Mexico City youth. Screen time of rural indigenous youth was thus about half that of Mexico City youth. The lifestyles in rural communities, especially among indigenous populations, are still agricultural-based and more physically demanding. This and the lower socioeconomic status of rural communities might be reasons for this difference when compared to children and youth from cities that have more access to technology and screens. These differences are important to be aware of when designing and delivering public health messages on how to reduce screen time in children and youth.

**Table 1. Results Obtained From Different Studies Carried Out at National and Local Levels Related to Screen Time in Mexican Children and Youth.**

STUDY	AGE	SCREEN TYPE	SCREEN TIME	
Ensanut 2006. (Olaiz-Fernández et al., 2006)	10-19 years	TV	≤ 12 hours per week (49% adolescents)	
			> 12 hours per week (23.4% adolescents)	
			≥ 21 hours per week (27.6% adolescents)	
Valley of Oaxaca, Southern Mexico (Malina et al., 2008)	8-17 years	TV	2.1 hours per day Indian youth	
Mexico City (Colin et al., 2009)	8-10 years	TV	≥ 3 hours per day (32.9% adolescents)	
			≥ 3 hours per day (31.8% boys)	≥ 3 hours per day (34% girls)
		Video games	≥ 3 hours per day (22.8% boys)	≥ 3 hours per day (24.% girls)
Mexico City (Hernández et al., 2000)	10-14 years	TV	2.8 hours per day	
Mexico City (Hernández et al., 1999)	9-16 years	TV	2.4 hours per day 2.3 hours per day (boys)	2.4 hours per day (girls)
		Viewing videos	4.1 hours per day 4.3 hours per day (boys)	3.8 hours per day (girls)
		Playing video games	1.7 hours per day 2.0 hours per day (boys)	1.4 hours per day (girls)



## ACTIVE TRANSPORTATION

### Key Findings

According with the Canadian Report Card, active transportation is defined as any kind of human-powered transportation to school, such as walking, bicycling, etc. (AHKC, 2010). Only a few studies were found in Mexico with data related to this indicator. An investigation in the urban region of Chilpancingo, Guerrero found that 63.6 % of the overall sample walks to school. On the other hand Villarreal et al., (2002) found that many school-aged children from the south of Mexico City who walk to public schools: 76% used these means to get to school while only 34% of middle school students walked to school. Public transportation was used most often by elementary and middle school students; however, no school buses are available to public school children in Mexico (See Figure 3).

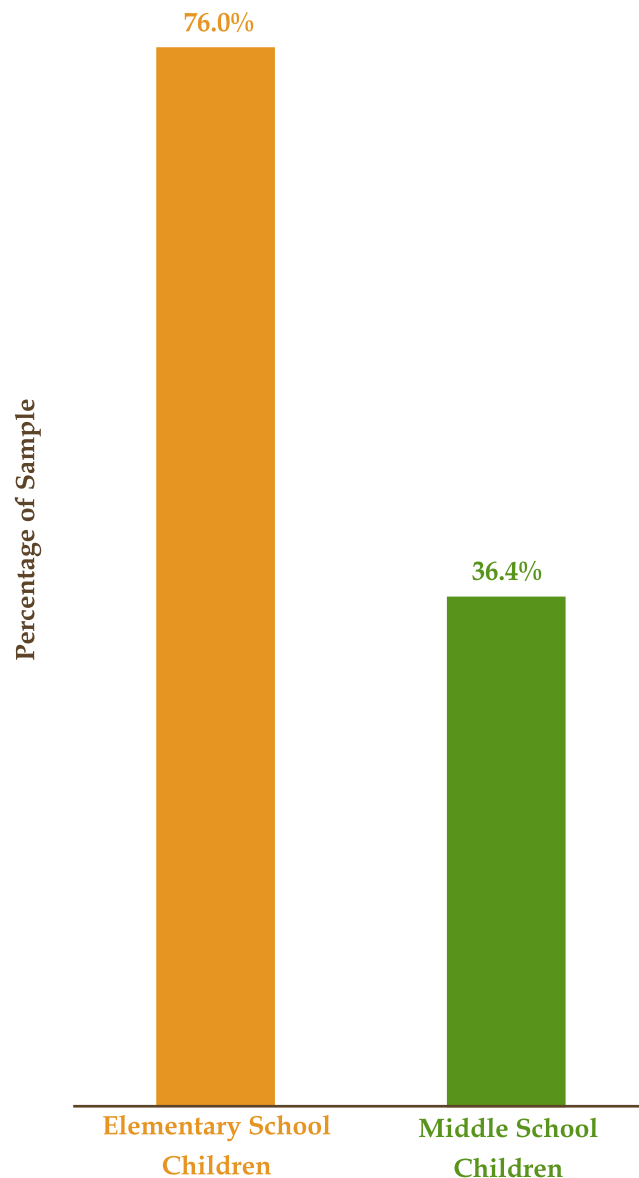


Figure 3. Proportion of Mexican Children and Youth Who Walk to School (Source: Villarreal et al., 2002).



## PHYSICAL ACTIVITY IN SCHOOLS

### Key Findings

The information available for this category is quite limited and few studies can be found at the national level. Some observational data are reported in Mexico City; for example, patterns of physical activity during Physical Education (PE) sessions and during recess were recorded. Even when a PE specialist gives the PE classes, the data available do not allow us to be sure if the desired curriculum is respected and followed in the schools. Furthermore, no data from private schools were found; all the data compiled are from public schools mainly from the elementary and middle school levels. A lack of data from younger children (e.g. under 6 years old) or higher grades (e.g. over 15 years old) was found. Finally, analyses of the infrastructure and equipment available in schools for promoting physical activity or sports were almost non-existent. Some studies suggest that these kinds of resources are limited (Jennings et al., 2009), suggesting that this might be an important factor that reduces the levels of physical activity during school time.

### PE Inside the School

Research conducted by Villarreal et al., (2002) in Mexico City of 4th through 9th graders who attend public elementary and middle schools shows that public elementary and middle school students are engaged in a variety of mostly light to moderate physical activities. These results are similar to the ones reported by Jennings et al., (2009) in a sample of public elementary schools in Mexico City where they observed that most of the students participated in little physical activity during the school day (on average, about 12 minutes of MVPA per week). In the same study they observed that the time designated to PE classes did not respect the policy established by the Ministry of Education (SEP) that mandates that PE classes should take place twice a week and last 50 minutes. In fact, the study showed these classes met only once a week on average with less than 40 minutes per session. In addition, there was no organization of physical activity during recess. Boys and girls participated in more MVPA during recess than during the PE classes; most of the activity during the recess was walking around the patio visiting food vending machines.

Some data from the states, specifically from the city of Torreon, Coahuila, shows that kids between 6 and 8 years have a more passive than active conduct during school recess as measured by the number of steps taken per minute. This investigation also showed gender differences; boys obtained a step average of 44.1 +/- 16.2, per minute and girls obtained a step average of 35.7 +/- 10.5 per minute (Kordas et al., 2007). This gender difference was attributed to the observation that boys participate more in physical activities.

On the other hand, according to Malina et al. (2008), in the indigenous region of the Valley of Oaxaca, levels of physical activity at school for elementary school students were: 53% of the students participate in MVPA and 78% of the students participate in vigorous physical activity; meanwhile 50 - 79% of middle school students participate in moderate, moderate to vigorous and vigorous physical activities (Malina et al., 2008). Difference by sex and age were also present in this analysis, showing that boys participate in more physical activities (inside or outside the school) than girls, and middle school students were more active than elementary school kids. Finally, Alves de Moraes et al., (2007) in a sample from the City of Chilpancingo Guerrero, found that children with healthy body weights participate in physical activity an average of 1.9 times per week outside school.







## COMMUNITY AND THE BUILT ENVIRONMENT

### Key Findings

Little information is available related to this indicator although the National Sports Commission (CONADE) is one of the main data sources. A CONADE database shows the number of sports facilities available by state and municipality (e.g. public parks, soccer fields, tennis courts, gyms, swimming pools, etc) (see Figure 4). From these data one can see a disparity in the number of public sports facilities by state and municipality. Some states such as Aguascalientes report a high number of sports facilities, 2647, which is higher than the number in larger and more prosperous states such as Nuevo León, State de Mexico and Jalisco. It is relevant to see that some states such as Zacatecas, Tamaulipas, Quintana Roo, Guerrero, Coahuila, Campeche, Oaxaca and Sinaloa each report fewer than 10 sports facilities in their entire territory. The important message is that the data are not well documented and we need better systems to allow us to have a more robust and accurate picture of where deficits in sports facilities exist. Nevertheless, the data collected show that the distribution of sport facilities is not adequate or equitable. Some municipalities show no sports facilities to enable its population to be active or participate in any sports program, even when the state where they belong reports an important number of sports installations. Most of the sports facilities are concentrated in the state capitals, which is logical when thinking about denser population, even though every municipality should have some space earmarked for recreational and physical activity.

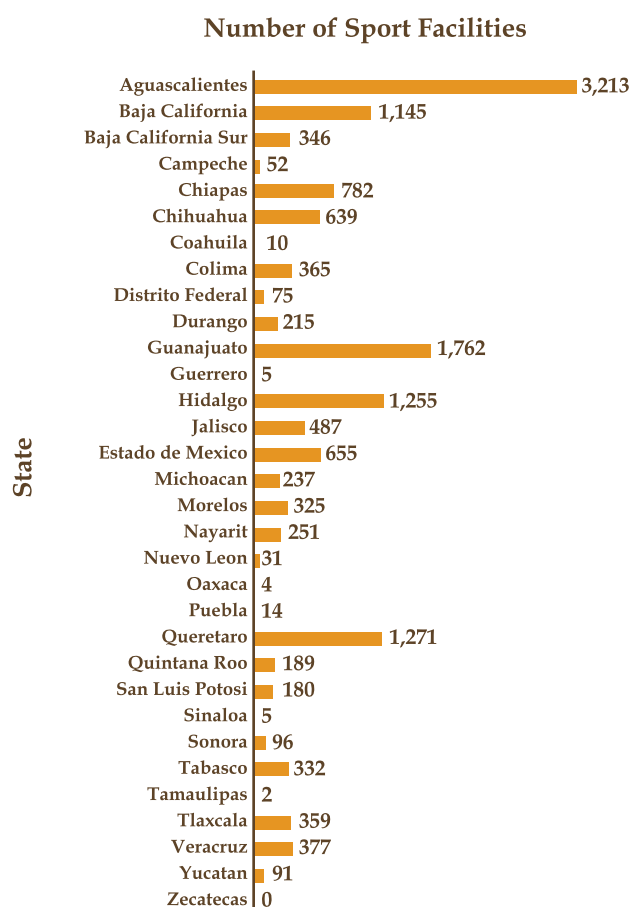


Figure 4. Number of Sport Areas by State in Mexico (Source: CONADE, 2011).



## POLICY AND PROGRAMS

### Key Findings

In terms of laws and policies, Mexico has the General Law on Physical Culture and Sports plus its Regulations (2003) whose purpose is to establish the general bases for coordination and collaboration among the Federal State and Municipal governments as well as create agreements for the participation of the social and private sectors in Physical Culture and Sports matters. Some of the major points covered by the law are an optimal and fair development of all expressions of physical culture and sports as well as to foster them as a means to prevent sickness. Pursuant to this Law, each of the country's States has its State Physical Culture and Sports Law that strives to enforce the general law at the State level. Moreover, the Presidency of Mexico and the State Governments establish at the beginning of their respective administrations guidelines and major strategies for the most significant issues such as policies, economics, environment, social issues, health and so forth (Presidency of the Republic, 2007). These actions and guidelines are published in a document known as the National Development Plan at the federal level and are replicated in each of the States in their State Development Plan. One of the goals included in the most recent National Plan is to "Develop a culture of physical recreation that encourages all Mexicans to perform physical exercise or sports on a regular systematic basis." The National Physical Culture and Sports Commission (CONADE), as the lead entity for sports on the national level, also carries out its own action program during the respective presidential administration and in keeping with the National Development Plan that establishes the goals to attain and strategies to follow during the 6-year administration. During the present government (2007-2012) the National Plan for Physical Culture and Sports (2008) drafted by CONADE has set forth as its main goal to promote that the general population performs some kind of physical activity or practices a sport so that on the one hand it achieves a better quality of life and on the other that Mexico continues to develop high-performance athletes. In this regard and as the program itself points out, this is a tool to turn sports and a physically active culture into public policy, a tool that impacts the federal, state and municipal levels.

### Examples of Physical Activity Programs and Initiatives

Pursuant to these policies and faced with the compelling need to carry out concrete actions to slow down the growing increase of overweight and obesity in children, youngsters and the population in general, since 2010 the Mexican government has developed additional specific policies and programs to fight obesity as one of its priorities in the public health sector.

The following programs stand out:

- The **"Five Steps for your Health"** Program headed by the Ministry of Health with the support of different public and private sectors. The main objective of the "Five Steps" program is to encourage behavioral changes by the public and for it to adopt healthy habits through 5 major acts: 1) be active, 2) drink water, 3) eat fruits and vegetables, 4) be moderate and 5) share. The program identifies five settings in which it can work directly and promote behavioral change among the public; i.e., the municipal environment, park and public spaces, work, school and the family environment.

Linked to the "Five Steps" program is a campaign in effect known as "Soccer against Obesity", an alliance of the National Commission for Grassroots Health, the Mexican Soccer Federation and a sports equipment company. The campaign takes advantage of major league soccer matches to promote the five steps message, with special emphasis on the "Measure Yourself" step. The Five Steps program has had an impact at the

state as well as municipal level. By 2011, five of the country's states had officially become "Five Steps States", meaning that the State Governor has declared obesity as one of the top priorities of his/her administration (Barriguete, et al., 2011).

► **"The National Healthy Food Agreement: Strategy against Overweight and Obesity"** launched by President Felipe Calderon in January 2010 (Ministry of Health, 2010). The strategy commits the Federal Government and the State Governments to work together with the private sector and different government agencies to reach 10 goals:

1. Encourage physical activity among the public in school, work, community and recreational settings with the collaboration of the public, private and social sectors.
2. Increase the availability, accessibility and consumption of safe drinking water.
3. Reduce sugar and fat consumption in drinks.
4. Increase daily intake of fruit and vegetables, legumes, whole grain cereal and fiber in diets, increasing their availability and accessibility and fostering their consumption.
5. Improve informed decision-making by the public regarding proper diets through easily understandable labeling, and foster nutrition and health literacy.
6. Promote and protect breastfeeding for infants up to six months old and encourage proper complementary food after six months.
7. Reduce the intake of sugar and other caloric sweeteners added to food products among others, by increasing the availability and accessibility of food with no or reduced caloric sweeteners added.
8. Reduce daily intake of saturated fats in diets and reduce industrialized trans-fat production as much as possible.
9. Advise the public about controlling portion sizes when cooking at home, making allowable processed food available and accessible to them as well as reduced portion sizes at restaurants and food stands.
10. Reduce daily sodium intake by reducing the amount of sodium added and by increasing the availability and accessibility of low sodium content products.

Based on this nationwide initiative and due to the major role of physical activity in the National Strategy against Overweight and Obesity, the Federal Government has earmarked substantial economic resources for State Governments having a physical activity coordinating office and a physical activity promoter for each jurisdiction for a total of about 300 promoters in the entire country.

Clearly, this strategy gives priority to nutrition over physical activity. This raises the question of why there is no complimentary strategy that focuses on physical activity.

- Actions taken by the **National Physical Culture and Sports Commission (CONADE)**: During the Vicente Fox presidential administration (2000-2006), the National Physical Culture and Sports Commission (CONADE), the National Sports System (SINADE) and the Ministry of Public Education (SEP) launched a National Physical Activation Program (PNAF) that tried to promote physical activity as a life habit. The program consisted of 20 minutes of physical exercise three times a week, where the idea was to increase people's fitness (strength, resistance, coordination, flexibility) (Ministry of Public Education, 2001). The lack of clear results of this program's impact and the need for a new approach led the current administration (2007-2012) to restructure the objectives and strategies to that of promoting physical activity among Mexicans. Therefore, the previous message that aimed more at physical exercise was changed to a message underscoring the importance of doing 30 minutes of physical activity daily in people's everyday settings (at home, work, school, free time, etc). The main strategy has been to carry out massive nationwide events through the different state sports institutes. Some of the massive events sponsored by CONADE include the Physical Activity Fair, Challenge Day and World Physical Activity Day.



In 2010 CONADE reported that 444 cities participated in the “Dia del desafio” (“Challenge Day”) event; 72 cities more than in 2009. Furthermore, the number of people active in this event increased by 39% over the previous year. CONADE also reported that during the 2010 Physical Activity Fair, whose purpose is to promote physical activity at the national, regional and municipal levels, 284 municipalities from 32 states participated with a total of 2,198,952 people involved in the event (CONADE, 2011).

Promotional strategies have also aimed at establishing strategic alliances with private companies. In 2007, CONADE, SEP and the Coca Cola Company launched the “**Movimiento Bienestar**” (Well-being Movement) Program that looked for 271 schools in 23 states to open after classes for physical activities and sports (Barrientos et al., 2008). That same year PepsiCo together with CONADE and SEP launched “Vive Saludable Escuelas” (Live Healthy Schools) that used interactive software to teach students the importance of physical activity and a healthy lifestyle. The program reports that currently more than 4,000 public and private schools are participating throughout the nation (PepsiCo, 2011).

A recent CONADE program that began to show success in 2010 is a program known as the Active Municipality whereby the institution offers economic stipends to municipalities that are certified as physical activity promoters under 4 major programs that train promoters to work at schools, sports parks, companies and recreational streets.

Besides these programs, important efforts are being made by other governmental and no-governmental institutions. In the education sector, public schools specifically carry out the “**Action in the School Setting Program**” (2010) whose pivotal elements are health education and promotion, fostering regular physical activity and regulating the access to and availability of healthful food and drinks. It aspires to achieve this with concrete actions such as promoting healthful lunchboxes, 30 minutes of physical exercise daily on the school ground, by offering food low in sugar, sodium and fats, and facilitating access to drinking water instead of refreshments or sweetened drinks, and offering courses to teachers and parents to make them the main promoters of healthful behavior. Also the “1-2-3 for me” (2010) campaign was recently implemented at schools, targeting children between 6 and 12 years old. It tries to make children and adolescents aware and motivate them to adopt healthy lifestyles based on three habits: proper eating, drinking water, and physical activity.



Within the health sector, the Mexican Social Security Institute (IMSS) has a program known as PrevenImss. Through its program, the IMSS has incorporated proposals to have a more physically active population. The program provides material to teach the importance of physical activity. IMSS also has spaces and programs for sports open to the general population and a physical therapy activity program for patients with diabetes and/or hypertension (Mexican Social Security Institute, 2011). One health sector project that has had strong support during this administration has been the creation of UNEMES (Medical Specialty Units). They are specialized clinics whose mission is to decelerate the growing trend of chronic degenerative diseases through a clinical care model. There are specific UNEMES offering comprehensive multidisciplinary care to those suffering from overweight, cardiovascular risks and/or diabetes mellitus. As part of their architectural design, UNEMES clinics have spaces earmarked for physical activity that is prescribed as a basic part of patients' treatment.

On the other hand, an important example at the municipal level is “**Via RecreActiva**” that the municipality of Guadalajara, Jalisco has operated for eight years and that has spread to the neighboring municipalities of Zapopan, Tlaquepaque and Tonalá. It allows the public to use the city's major arteries once a week for walking, cycling, jogging or any other kind of physical activity (Zapopan Municipal Government, 2011). The program has been particularly successful and has been replicated in other cities across the nation such as Mexico City and Ciudad Juárez in the State of Chihuahua.

On a smaller scale, two efforts carried out in the country have been documented that foster physical activity in Mexican children. One of them is referred to by Perichart et al. (2008), where a 16-week program was implemented for students between 8 and 14 years of age in the city of Querétaro for the purpose of measuring the impact of physical activity on cardiovascular risk indicators (Perichart et al., 2008), with results showing lower systolic blood pressure, cholesterol and triglycerides. A similar result was reported in Tamaulipas where the program “Por tu salud muévete” (Get a move on for your health's sake) was implemented in 6 schools, combining nutrition education and physical activity for elementary students. Satisfactory results were reported from the program but no data were found that specifically measured its impact on students (Cornejo et al., 2008).

Lastly, an important non-governmental effort has been the creation of the Activate Mexico Federation that has a government subsidy to develop and implement programs promoting physical activity. It consists of a group of experts from different disciplines who provide advice on implementing physical activity programs and organize informational events about its importance for people's physical and emotional health.



## GENERAL RECOMMENDATIONS FOR ACTION

- **Design and implement programs that foster active lifestyles in children and youth.**
- **Promote policies to increase the number of green spaces available where children can play.**
- **Provide parents with information about the importance of and how to reduce screen time at home.**
- **Encourage government and private organizations to carry out campaigns promoting physical activity outside school in proper secure settings.**
- **Develop and promote physical activity guidelines for Mexican children and youth.**
- Inform the public about the risk of engaging in excessive sedentary behavior and limited physical activity.
- Develop programs that promote physical activity outside of school.
- Increase the amount of time dedicated to physical activity and Physical Education during the school day.
- Create more opportunities to be active through access to free programs.
- Ensure outdoor public spaces are safe and meet the needs of the communities that surround them.
- Ensure that road design and transportation policies support safe participation in active transportation.
- Devise public policies that help companies to implement programs in benefit of active lifestyles for children and youths.
- Promote physical activities in the family setting.
- Develop programs for special demographics (indigenous populations, lower income families, children with disabilities, etc.).
- Encourage health professionals in public and private health institutions to promote physical activity.
- Insist that the curriculum for physical education teachers includes physical activity as a priority course of study.
- Increase spaces for compulsory education in schools and universities.
- Promote public spaces at the municipal and district level to facilitate outside physical activities for children and youngsters.
- Promote extracurricular programs enabling space for physical activity outside the compulsory physical education class.
- Encourage universities to give academic credit for physical activities and/or sports.
- Teach traditional games as part of the curriculum to motivate activities implying movement by children and youngsters.

## RESEARCH GAPS

- ▶ More data are needed at the national and state level about physical activity levels and related factors.
- ▶ More data are needed at the national level about the time spent by children and youngsters in sedentary activities.
- ▶ More research is needed with better methodologies and where possible, using direct measurement (e.g. pedometers and accelerometers).
- ▶ More research examining the impact of existing programs and policies is needed.
- ▶ Research studies to assess the levels of active transportation, active play and organized sports in Mexican children and youth is needed.
- ▶ Investigations about the influence of family and peers on physical activity are needed.
- ▶ Investigation of the levels of physical activity in special demographic groups is needed (e.g., indigenous communities, children with disabilities, etc.).
- ▶ More studies evaluating the role of socioeconomic status on the levels of physical activity are needed.
- ▶ More gender and age-related studies are needed.
- ▶ Researchers should publish their findings in peer-reviewed journals.
- ▶ Research is needed to establish the relation between physical activity and children's and youngsters' mental health.
- ▶ The reasons Mexican children and youngsters have for participating in or dropping out of physical activities and/or sports must be examined.
- ▶ Information is needed to establish the relation between physical activity and academic performance.
- ▶ Data are needed to establish the kind of physical activity or sports practiced the most by Mexican children and youngsters according to their socioeconomic level and region.







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## THE GRADING SYSTEM

A numerical assessment system from 0 (very poor) to 10 (excellent) was used in this Report Card to provide readers with a quick picture of the physical activity levels, and some related factors, in Mexican children and youth. A comprehensive review of Mexican data was completed between 2009 and 2011, including peer-reviewed literature, government reports, federal and state laws and programs, and any websites with relevant information and/or data. A panel of experts in Mexico discussed and confirmed the grades based on a set of specific criteria and existing grading scheme from similar Report Cards in Canada, South Africa and the United States of America. Oversight to the grading procedure for this Report Card was provided by the Scientific Officers of Active Healthy Kids Canada.

GRADING TABLE	
9 to 10	Excellent
7 to 8	Good
5 to 6	Average
3 to 4	Poor
0 to 2	Very Poor

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